
Intonation and Information Structure in Banawá

1. Introduction

1.1 General Introduction

Intonation and information structure are becoming of increasing interest in linguistic research. So far, studies have predominantly focussed on European languages, and in particular, languages of the Indo-European family. This study investigates intonation and information structure in Banawá, an Arawan language spoken by approximately 80 people in the south-west in the state of Amazonas, Brazil. No similar research has ever been done before on Banawá, and all ideas and results are thus an original contribution to our knowledge of Banawá and the understanding of language and intonation in general.

As the time given for this study was very restricted, it was not possible to include a vast amount of data from various different sources. It is therefore not meant to be a detailed prosodic study of Banawá, but rather a preliminary investigation, which can be used as a guide for future research.

1.2 Aims and Organisation

The aims of this dissertation are twofold: Firstly, I will give a phonological analysis of particular intonation patterns in narrative and conversational discourse in Banawá. The analysis will mainly be based on a conversation between two male speakers of Banawá, which was recorded during our fieldwork in the village.

The second aim, based on the same data, is to highlight particular points of interest for future research on the language.

This is one the first studies on intonation in Amazonian languages in general and in particular, in Arawan languages. I therefore deliberately avoid adopting any

theoretical framework such as the ToBI system (Tone and Break Index) (Silverman, Beckman, Pitrelli, Ostendorf, Whiteman, Price, Pierrehumbert & Hirschberg, 1992) as much more research needs to be done on the language before such a system can be applied. Furthermore, the ToBI system, which was originally developed for the transcription of the intonation of English, has so far only been applied to European languages and much more work needs to be done on the system itself to make it a universal representational framework (Cruttenden 1997: 65). This study will therefore be largely descriptive.

The dissertation is organised as follows. After a section on the methodology used for the research undertaken for this paper, I will put the research into the cultural context and give some cultural information on the Banawá language and the people. The following chapter will deal with the theoretical background, where several different views of intonation will be presented as well as relevant definitions and concepts. The chapter will furthermore include a summary of the research done on Banawá and related languages thus far.

In chapter 3, I will apply the ideas of the previous chapter to the data and describe various intonational phenomena in Banawá, including demarcation, questions, quotes and information structure. I will concentrate on the analysis of pitch contour but will also include features such as pitch range and pauses where appropriate. Furthermore, I will attempt to compare the different patterns found in Banawá to English intonation following mainly Bolinger (1986, 1989) and Cruttenden (1997).

In addition, I will include a section on suggestions for further research and summarise my findings in the conclusion.

A full phonemic transcription of the corrected version of the conversation will be included in the appendix.

1.3 Methodology

The data for this project were collected during a two week fieldtrip to the Banawá village in July 2004. During those two weeks several short narrative texts and a dialogue were recorded and transcribed, using a professional minidisk player (Marantz). I worked mainly with one male informant, who had previous experience as a language consultant and who was sufficiently bilingual in Banawá and Portuguese to be able to communicate with us and assist us with our work as well as to provide us with a translation of the texts into Portuguese. In the first week I worked with him for an average of two hours a day, during which the texts were recorded. The texts were then transferred to a computer and transcribed using standard IPA notation. In the second week, the transcriptions were corrected with the assistance of the informant, who afterwards translated them into Portuguese.

The free translation into English was provided by Professor Daniel Everett. For the morphemic translation I used a bilingual dictionary (Banawá - English, English - Banawá) compiled by Ernest Buller.

In addition to the digital minidisk recordings, some of the texts were also videotaped for additional paralinguistic information and observation of articulatory features. This included the recording of the conversation.

For the analysis I focussed on the conversation, as it is, due to the length and the nature of the discourse, the richest source of intonational features in the corpus. Furthermore, since two speakers are involved, it is easier to compare and identify language specific, rather than speaker specific, intonation features.

The other texts, as well as data elicited by Prof. Everett and Keren Everett, were used as an additional source of supporting material to test hypotheses.

The acoustic analysis of the pitch contour was carried out using the software Praat.

1.4 Cultural Background

Banawá is an Arawan language spoken by approximately 80 people in the Brazilian Amazon. The Arawan family consists of six languages; Arawa, which became extinct in 1860, Paumari, Kulina/Madija, Deni, Suruwaha and Madi, which is subdivided into three closely related dialects; Jamamadi, Jarawara and Banawá. Until recently, the Arawan family was believed to belong to the Arawakan group, as Greenberg and others claimed. However, as several studies have shown (e.g. Everett, D., 2003) there is not sufficient evidence to support this claim. The Arawan family is therefore now considered unclassified.



figure 1 linguistic map of Brazil - www.ethnologue.org



figure 2 map of the State of Amazonas with approximate location of the Banawá village

The Banawá live in a single community in the south-western part of Brazilian Amazonia. Before they were first contacted in the 1960s, they were fully nomadic. However, over the past thirty years, they have settled down and, especially after the advent of missionaries in the mid 1980s, they have become semi-agricultural hunter-gatherers (Everett, D. personal communication, July, 2004).

Their political system seems to be fairly egalitarian. There is a strong social division between the sexes, but this has not resulted in an equally strong division of labour. The roles of the sexes in society are clearly separated but the social separation is even more pronounced. This is reflected, for example, in the fact that both men and women go hunting, but they do not hunt together, and they use different hunting techniques. Whilst the men are more solitary and largely use shotguns, the women hunt in groups and use dogs.

Although the tribe is fairly isolated and the community is still largely monolingual in Banawá, with only a few Portuguese speakers among the male members, Banawá language and culture are highly endangered as the community is becoming increasingly integrated into broader Brazilian culture.

This is primarily reflected in their demand for material belongings but also in their adoption of football as one of their favourite sports and pastimes. Especially the young people, of both sexes, in the community play football almost every afternoon.

The village community itself is also disintegrating and several people have split from the main village and started a new community downriver. This community, which is referred to as ‘Ressaca da Onça’ by the Banawá, is a mixed community of Banawá (primarily Banawá women) and Brazilians. The main language spoken in Ressaca da Onça is Portuguese and many of the Banawá women deny the fact that they speak Banawá when asked, although we observed that they communicated in Banawá when they were in the village. This shows that Banawá clearly has low prestige in the new mixed community, something which often leads to language endangerment and language loss, as children stop learning the language due to the social values associated with it.

This is also reflected in the language use of the former chief Bidu, who now lives in the Ressaca da Onça community and who also worked as an informant for us. During the analysis of the data, I noticed that he often switches between Portuguese and Banawá, and replaces many Banawá terms with Portuguese words. This includes basic terms such as *boa* instead of the Banawá word *sibara* for ‘good’.

Moreover, Portuguese loanwords have entered the Banawá vocabulary as speakers have come into contact with western culture. Examples include *moto* ‘motor’, *habeta* ‘Rabeta motor’, *motoseha* ‘chainsaw’, *katusu* ‘shotgun shells’ or *afiao* ‘aeroplane’.

The aeroplanes and the airstrip (which was built by missionaries) seem to play a central role in Banawá life. Most houses in the village are arranged around the airstrip (see figure 3) and the children play with model aeroplanes made out of wood and palm thorns. The airstrip symbolises their connection to the outside world and thus their access to certain material belongings, medicine and various other goods they

otherwise would not have access to. Material goods and technology have evidently become very important to the Banawá people, and this also becomes clear during the conversation which forms the main source for the analysis.



figure 3 view of the Banawá village from the plane

(Foto: Clive W. Dennis)

1.5 The Data

The conversation¹ is approximately 18 minutes long and consists of two different kinds of discourse. The first one is a conversational part, in which both participants have equally long speech parts, with speaker A being slightly more dominant; the other one can be considered a narrative with speaker B as the narrator, in which he talks about his encounter with a jaguar when he went out to hunt.

The conversational part is particularly interesting within the cultural context and especially for the study of ethnography of communication. In the course of the

¹ The participants of the conversation were Sabatao and Bidu. For the remainder of the work they will be referred to as speaker A (Sabatao) and speaker B (Bidu)

conversation it becomes clear that the entire discourse between the two participants is actually directed at Prof. Everett, who was present during the recording of the conversation, and more importantly, who was their key to material western culture. Within the context of relations with the outside world, they highlight whom the community likes and whom they do not like and the reasons why. It seems that they define the quality of a relationship by the material benefits the community gets. This becomes evident from the way they emphasise how happy they are to have us here, and the way they talk about other people and organisations that did not fulfil their promises to give certain things to the community. It would thus be interesting to investigate further how they communicate their needs to outsiders.

2. Theoretical Background

Before starting with the description and analysis of the data, it may be useful to give some background information on the subject. In this section, I will first give an outline of the main ideas and the concept of intonation and information structure in general and then present the research that has been done on Banawá prosody up until now.

I would like to emphasise that the review on the literature on intonation and information structure is not meant to be exhaustive rather it is intended to give a general idea of the subject and to put the work into context, as the amount of time for this project was too limited to provide a full account of the literature. I will therefore concentrate on the works that have proved most useful to my research.

I will furthermore ignore a discussion of Pierrehumbert's PhD thesis (Pierrehumbert, 1980/1987), which is often considered the most influential work on intonation in

modern phonology (e.g. Ladd, 1996: 3), as I do not intend to apply the autosegmental framework, or the ToBI system which resulted from this dissertation to the analysis.

2.1 Intonation

2.1.1 *Definitions and Approaches* Intonation has many different characteristics and different people have different views and different approaches to it. It therefore seems difficult to find a clear-cut definition of what intonation is. Ladd (1996: 6ff.) mentions three defining characteristics of intonational features, which are:

- 1) suprasegmental, including fundamental frequency (F_0), intensity and duration
- 2) post-lexical or on the sentence-level, and thus distinguished from lexical pitch in tone languages
- 3) linguistically structured and thus differ from paralinguistic features.

The third one is the most problematic one as it is often difficult to draw the line between linguistic features of intonation and auditory effects which are used paralinguistically. The reason for this is their interaction with each other. In fact, Bolinger does not draw the distinction between linguistic and paralinguistic features. He argues that the relationship between intonation and grammar is contributory rather than defining (1989: 380) and that the primary function of intonation is to express emotions and attitudes. According to his view, intonation has strong links to facial expressions and gestures, which are paralinguistic rather than linguistic features. He describes intonation as ‘a non-arbitrary, sound-symbolic system with intimate ties to facial expressions and bodily gestures, and conveying, underneath it all emotions and attitudes’ (1989: 1).

Cruttenden has a similar view of intonation to Bolinger but formulates his viewpoint more cautiously. In *Intonation* (1997: 8) he states:

‘Intonation may convey several types of meaning. It may indicate a discorsal meaning like inviting a listener to make a contribution to the conversation, or an attitudinal meaning like being condescending. [...] In some languages (not English) the meanings associated with intonation may come nearer to being grammatical: this is the case where statement, yes/no-question, and command regularly involve certain tunes. From most of the descriptions of intonation in languages other than English, one might imagine that this was the principal use of different tunes in languages. It may indeed be true that many languages do use intonation less for attitudinal purposes than English, but the suspicion exists that the correlation of tunes with sentence types is merely an easy way to investigate intonation and often more sophisticated attitudinal and discorsal uses remain undocumented.’

The different views and approaches introduced here represent the main differences within intonational research. Whilst Ladd emphasises the phonological and grammatical function of intonation, Bolinger denies any grammatical links to intonation and highlights the iconic nature of it. The motion of up and down is for him a metaphor which applies to intonation as well as paralinguistic expressions; he thus considers it a human trait rather than a linguistic device to mark certain grammatical functions.

Cruttenden leans in principle towards Bolinger’s view but accommodates the possibility that intonation is not totally universal and that other languages may have different uses of intonation.

2.1.2 Cross-linguistic Comparisons The different approaches outlined above have obvious implications for cross-linguistic comparisons. Bolinger clearly supports the universalist view with his standpoint, as he argues that since intonation has such close ties with human physiology, it must be universal. Ladd, on the other hand, is more

sceptical and states this view that ‘most of its generalisations are so broad or so vague (‘high or rising pitch’) that it is virtually impossible to falsify them’ (1996: 115). He furthermore uses the differences in English and Hungarian question intonation as an example against the universalist view. He points out two important differences, which he argues, pose a problem to for universalists: differences in tonal sequences and differences in the location of neutral accents (1996: 118). He argues that if intonation was universal, these differences should not exist.

However, the same example is discussed in Bolinger (1989: 55ff.). Bolinger points out that the only noticeable difference in intonation between English and Hungarian is found in yes/no-questions, whereas everything else is extremely similar in the two languages. Moreover, he argues that though it is rarely found, the same profile as is the norm for this kind of question in Hungarian is also found in English, which somewhat weakens Ladd’s argument.

Cruttenden is yet again cautious and points out that that more research on non-European languages is required before any intonational universals can fully be verified. He lists several potential universals. One of which is declination, whereby the fundamental frequency at the end of an intonation group is on average lower than at the beginning. He also lists several tonal universals, where he compares the implications of falling tones with those of rising tones across languages. He argues that falling tones are cross-linguistically used to mark neutral statements, sentence finality, neutral question word questions and commands, whereas rising tones are used to indicate implicational or tentative statements, non-final sentences, sympathetic questions, word questions and requests. (1997: 163).

Bolinger (1989) also includes a chapter on dialectal and cross-linguistic variation of intonation. In this chapter he discusses the similarities and points out the differences between English and several other European and non-European languages. He also

lists several universals, which are, however, all based on English and only concentrate on the comparison of various aspects of question intonation, which he claims later on, do not exist (1989: 98).

The question of whether or not intonation is universal cannot be resolved at this stage. However, I am hoping to contribute to our further understanding of the concept and nature of intonation with this study.

2.1.3 Representation of Intonational Features The main components of intonation are accented syllables. Accent in this case refers to prominence, which is achieved by various means of suprasegmental features, such as pitch, loudness, length, pauses, and tempo (Cruttenden, 1997: 2ff). For Bolinger and Cruttenden, pitch is by far the most important feature to indicate prominence and therefore they both use representational systems that mainly concentrate on the representation of pitch. The representation of pitch varies tremendously in the different systems, however.

Cruttenden distinguishes four basic varieties of pitch accent: step up, step down, movement down from, and movement up from the accented syllable. He furthermore pays special attention to the movement of the nucleus, which is the most prominent accent in an intonation group, since he argues that the intonational meaning is usually conveyed in the obtrusion of the nucleus and the following syllable. The scope of a nuclear tone stretches from the beginning of a nucleus to the end of the intonation group (1997: 141).

For English, he distinguishes seven nuclear tones: high rise, low-rise, high-fall, low-fall, and mid-level.

These nuclear tones are represented using the ‘tonetic stress’ marking system, which indicates ‘the presence of stresses and at the same time indicate the pitch movements

following them' (1997: 50). The tonetic stress marks for the seven nuclear tones are thus accordingly: / (high rise), / (low-rise), \ (high-fall), \ (low-fall), > (mid-level).

Bolinger, on the other hand, distinguishes several different shapes of pitch jumps, which he refers to as profiles; each profile has a different form and function. Bolinger furthermore argues that each profile has metaphorical transformations related to the notions of ups and downs and they are often accompanied by particular gestures and facial expressions. The three basic shapes are described below:

Profile A is defined as 'accent at a relatively high pitch followed by a jump down' (1986: 142), where the position of the left of the accented syllable is irrelevant to the meaning of the profile. It is the most common profile and signals assertion and finality.

It's ^{Jó}_{hn.}

Profile B on the other hand is characterised by a jump up. It usually implies incompleteness and high emotivity. This includes excitement, anger, surprise or curiosity. It is also the profile which is usually associated with complementary questions.

It's ^{Jóhⁿ.}

Profile C as the third of the primary profiles is described as 'the mirror image of A' (1986: 148). The accent is low and the preceding syllable is always higher. The direction of the syllable immediately following the accent varies from going up, being level and slightly falling (1986: 150).

It's _{Jóhⁿ.}

Profile C is often said to have a politeness function, as it de-emphasises, soothes, and reassures (1986: 178). As profile A it can be used to bring new information in, but it always implies some familiarity.

In addition to these three basic shapes, Bolinger furthermore defines four more profiles, which are made up of combinations of these (CA, CB, AC, CAC). I will not discuss these, however, as the three primary profiles are sufficient for the purpose of this paper.

In the following discussion of the data, I will adopt Bolinger's notion of profiles and define the most important shapes of accents for Banawá.

Following Cruttenden and Bolinger, I will mainly focus on the description of pitch contours for the analysis but will also include other features, such as pauses, breath etc. where appropriate. Although one could argue that Cruttenden's 'tonetic stress' marking system is more convenient than a full representation of the pitch contour, I nevertheless prefer a contour representation, as the visual representation of pitch is clearer than the iconic marks, which furthermore do not show the particular movement of the word they are associated with.

2.2. Information Structure

2.2.1 *The Definition of Information Structure* The term information structure was first introduced by Halliday (1967: 200):

'Any text in spoken English is organized into what may be called 'information units'. (...) This is not determined (...) by constituent structure. Rather could it be said that the distribution of information specifies a distinct structure on a different plan.'

Generally, information structure has been defined by two things: 1) the general concept of information units and 2) the correlation to intonational phrasing (Heusinger 1999: 101).

The definition I will use for the purpose of this dissertation is given by Lambrecht as ‘that component of sentence grammar in which propositions as conceptual representations of states of affairs are paired with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret these structures as units of information in given discourse contexts.’ (1994: 5).

This definition also includes the concept of information units, but replaces intonational phrasing with lexicogrammatical structures, which includes morphosyntax as well as prosody. Lambrecht furthermore adds another component – the mental state of the speaker and the hearer. This refers to the different ways referents are marked according to their activation states, and thus their accessibility. Following Chafe (1987) he distinguishes three different activation states that a concept (or mental representation of referents) can have: active, semi-active and inactive. An active concept according to Chafe is one ‘that is currently lit up, a concept in a person’s focus of consciousness at a particular moment’ whereas a semi-active one is one ‘that is in a person’s background awareness, but one that is not being directly focused on.’ An inactive concept then is lastly one ‘that is currently in a person’s long-term memory, neither focally nor peripherally active.’ (Chafe, 1987: 22ff., cited in Lambrecht, 1996: 94). These activation states are structurally marked in a sentence.

Generally speaking a spoken sentence is organised into two parts: one which the sentence is about, and one containing what is said about it. The dichotomy is usually marked either syntactically by means of constituent order, or prosodically, or both.

The main functions of prosody in information structure are the indication of activation states and the establishment of relationships between referents and their propositions, which is directly linked to the categories of topic and focus. Both these functions are prosodically realised as differences in pitch prominence, in other words, whether a constituent is accented or not.

2.2.2. *Topic* In the previous section I mentioned the two units of information a spoken sentence usually contains. The topic is, in this case, that part of the sentence which the sentence is about. Lambrecht's definition of the term is:

‘TOPIC: A referent is interpreted as the topic of a proposition if in a given situation the proposition is construed as being about this referent, i.e. as expressing information which is relevant to and which increases the addressee's knowledge of this referent.’

Topic expression is furthermore defined as:

‘TOPIC EXPRESSION: A constituent is a topic expression if the proposition expressed by the clause with which it is associated is pragmatically construed as being about the referent of this constituent.’

(Lambrecht 1994: 131)

Other terms for the same notion are background, theme, or given information.

Topics have to be accessible to the hearer in order to be processable and interpretable.

The well-formedness of a sentence can be measured according to Lambrecht's acceptability scale:

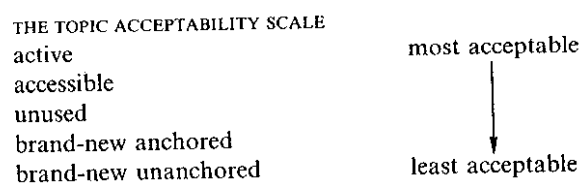


figure 4 topic acceptability scale (Lambrecht, 1996: 165)

The higher the topic referent on the scale the more acceptable the sentence will be. The preferred topic expressions are therefore unaccented pronominals (Lambrecht, 1994: 172). Pronouns are always active referents and lack of prominence also implies that the referent is active in the hearer's mental state.

2.2.3. *Focus* The focus of a sentence is often marked syntactically with a special position in the sentence. Prosodically, the focussed constituents usually receive pitch prominence but this depends on the prosodic and grammatical restrictions of the language. In English any syllable can in principle be focussed and focus is predominantly marked prosodically.

Typical elements in focus include new information (as opposed to old or given information), contrastive elements, and wh-question words. Most languages distinguish between broad and narrow focus, whereby broad focus refers to the whole sentence being in focus (as for example in answer to the question 'What happened?'), and narrow focus to one particular element of the sentence being in focus.

The focus of a sentence is the counterpart to the topic. I will again adopt Lambrecht's definition of the term:

FOCUS: The semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition.

FOCUS DOMAIN: The syntactic domain in a sentence which expresses the focus component of the pragmatically structured proposition.

(Lambrecht 1994: 213, 214)

2.3 Previous Research on Banawá Prosody

Literature on Banawá is scarce and nothing has ever been written on intonation or information structure before in Banawá. Several papers on Banawá phonology have been published, including a phonemic statement (Buller & Buller, 1989), and several papers on Banawá syllable structure and stress rules which I will look at in more detail, since the stress rules are an important prerequisite for the description of the intonation of a language, as generally only stressed syllables receive prominence.

The main works on Banawá prosody have been carried out by Buller, Buller & Everett (1993) and Ladefoged, Ladefoged and Everett (1997). Whilst these works studied stress in isolated words, Wiltshire (2004) described stress in connected speech and found that the stress assignment rule established for words in isolation by Buller, Buller and Everett (1993) and confirmed by Ladefoged, Ladefoged and Everett (1997) does not always correlate with stress in connected speech.

In Buller, Buller & Everett (1993) and Ladefoged, Ladefoged & Everett (1997), it is argued that only CV and CVV syllables are allowed in Banawá, not allowing codas and consonant clusters. Using the metrical grid framework by Halle and Vergnaud (1987), the authors derived that word stress is binary and trochaic (every odd-numbered syllable is stressed from left to right following the pattern strong-weak, 1993: 287). The only exception to this rule is due to extraprosodicity, of which there are two types in Banawá: word initial vowels and word final /i/ are extraprosodic and therefore excluded from stress assignment. This means that if the word starts with a vowel the second syllable, instead of the first one, will be stressed and every other syllable thereafter.

As Wiltshire's study (2004) shows, connected speech also often follows this rule, ignoring word and morpheme boundaries.

However, other factors such as extrametricality, position of the syllable and vowel length also play a role and interact with this rule, so that the stress placement cannot always be predicted correctly. Wiltshire investigated several acoustic correlates and found that there is a strong correlation between stress assignment and vowel length, but amplitude and pitch also play a role. She furthermore argues that stress assignment in Banawá in connected speech results from phonological rather than acoustic features. Using the Optimality Theory framework (Prince & Smolensky 1993, McCarthy & Prince 1993) she formulates several phonological constraints that seem to influence the stress placement in connected speech.

3. Description and Analysis of the Data

3.1 Profiles

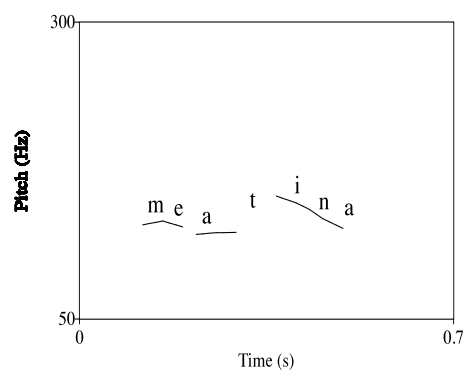
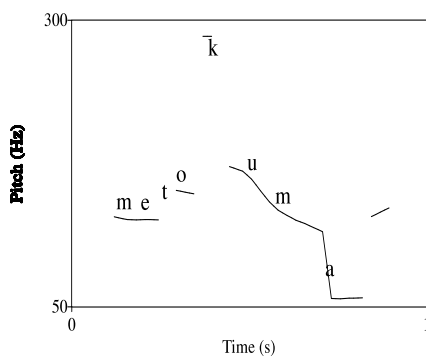
As previously mentioned, intonation consists of different patterns of accented syllables. In this section I will describe the basic patterns that occur in Banawá. I will adopt Bolinger's term 'profiles' for these shapes. Bolinger defines the scope of a profile as '...the limit of intonational movement that can occur on a one-syllable word' (1986: 141). However, the limited amount of data does not allow me to restrict myself to monosyllabic words and I will instead base the description of the shapes on the general pitch movement that can be observed.

The overall pitch contour in Banawá shows very little variation in profiles. Syllables, whether accented or not, usually have falling pitch or in some rare cases stay level or rise. Accented syllables with pitch prominence are always high, never low, which allows us to predict the following two pitch movements: one with a jump up to the accented syllable and one with a jump down from the accented syllable. According to Cruttenden, these two accent patterns are the most common ones across languages

(1997: 45). The data seem to confirm this hypothesis. By far the most frequent profile is a jump down from the accented syllable, which I will refer to as profile 1.

The accented syllable is often preceded by an upskip, but clause initially a high fall without an upskip is also possible. The accented syllable starts with an initial high pitch and is followed by a downmotion, which usually occurs in the same syllable, as shown in the examples below:

(1) Profile 1

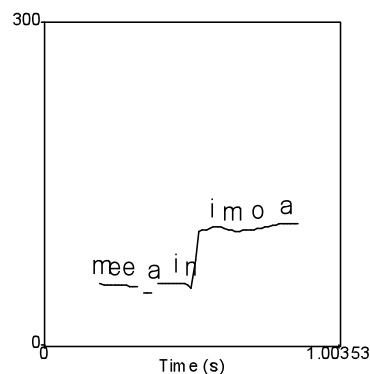


The range between the accent and the fall varies. The downmotion usually takes the form of glides but jumps also occur occasionally.

A second profile, which does not occur very often, is a jump up to the accented syllable, referred to as profile 2.

Apart from the rising pitch movement, the characteristic feature of profile 2 is that the syllables following the accent stay level or high. An example is shown below:

(2) Profile 2



Profile 1 seems to have an assertive function and indicates completion; it can thus be compared to Bolinger's profile A. The meaning of profile 2, on the other hand, is not so clear yet. So far, it seems to be used for certain kinds of yes/no-questions (see section 3.4), but also for emphasis. In Bolinger's terms it would best be compared to profile B.

The two profiles sometimes occur in combination, but it yet has to be determined whether the combinations are separate profiles or not.

3.2 Final and Medial Clauses

With respect to intonation, two basic types of clauses can be distinguished: initial or medial clauses, and final clauses. Campbell (1977: 15) claims that in Jamamadi medial clauses are characterised by an upglide, whereas final clauses can be described with a downglide.

The Banawá data, however, do not confirm this. Upglides in general are very rare, although most clauses are medial clauses. Relative height or lower falls, which is also often argued to be a differentiating factor between the two types of clauses in English, also does not seem to apply to Banawà. If anything the opposite is true, as medial clauses are often accompanied by key changes into creaky voice. Instead, it seems that the distinguishing factor of the two different kinds of clauses is not the pitch movement but the speed with which the last syllables of the clause are spoken. Final syllables in medial clauses are typically lengthened, whereas the last syllables of final clauses are characterised by greater speed than their surrounding syllables. Cruttenden makes a similar observation in English, where the first unstressed syllables in an utterance are produced with greater speed than the following stressed syllables. He refers to such syllables as 'anacrusis' (1997: 21). The difference to

Banawá is that the phenomenon occurs at the end of an utterance and that it is not restricted to unstressed syllables, but can also apply to stressed syllables.

My hypothesis is that Banawá is a stress-timed language like English, where the rhythm groups in an utterance are approximately of equal length regardless of the number of syllables they contain. The list intonation described in section 3.3.3 is another example in favour of this hypothesis.

Sentences usually consist of several clauses, which sometimes, but not always, are separated by pauses. Particular clauses are distinguished from the rest of the sentence by a higher pitch, particularly quotes, but also parenthetical remarks, questions (see section 3.4), and certain types of subordinate clauses. Within the sentence, medial clauses are used to separate the different clauses, whilst the end of a sentence is marked by final clause intonation. Furthermore, differences in the length of pauses between clauses and sentences can also be observed and seem to indicate the different levels. Pauses can be filled or silent.

3.3 Demarcation

One of the main functions of intonation is the demarcation of meaningful units. This applies to English as well as to Banawá. This section will therefore deal with this function and describe in detail the manner in which different devices interact with each other to demarcate the different levels of units. Banawá discourse usually consists of several smaller units, such as paragraphs, sentences and clauses. Units below the clause are also marked as separate intonation groups.

Prosodic boundary markers in Banawá are predominantly pauses and lengthening of the final syllable. In addition to these, there are also various lexical markers which indicate the end of a particular unit.

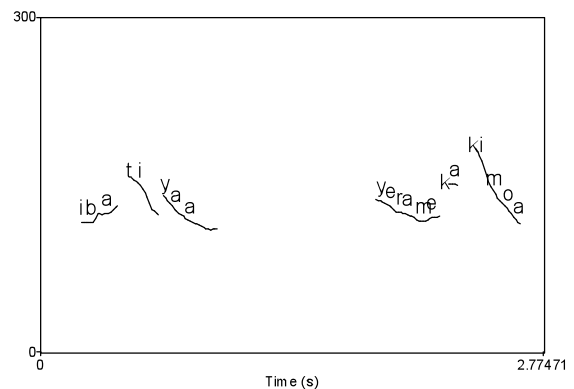
Most intonation groups demarcate a clause but there are certain constituents which form a separate intonation group. These include adverbials, which modify a whole clause, topicalised subjects or objects, and listed items. This is to be expected, as similar phenomena occur in many other languages, including English. Some of these intonation groups will be presented below.

3.3.1 *Adverbials* The adverbial can occur at either end of the clause. However, only in initial position can it form a separate intonation group, as the comparison of the following examples shows:

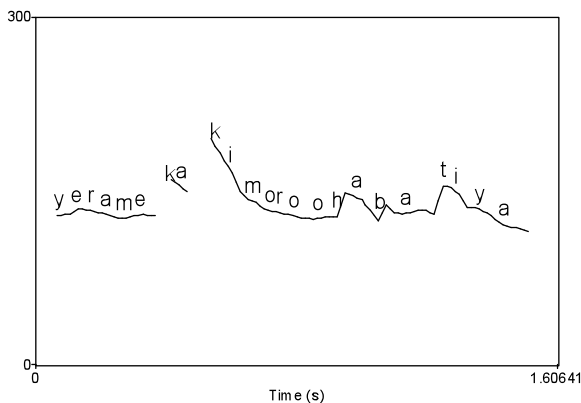
(3)

(a) Speaker A (appendix, l. 12):

IBATIYA / yera-me KAKI-moa
 Long ago foreigner-PL came-AUX
 ‘A long time ago, the foreigners
 arrived.’



(b) Speaker A (appendix, l. 13)



yera-me KAKI-moa mo-ru habatiya
 foreigner-PL came-AUX ? long ago
 ‘The foreigners arrived a long time ago.’

The two sentences only differ with respect to the position of the adverbial and the choice of auxiliary, and one immediately follows the other. Prosodically, they show

several differences. The first sentence is clearly divided into two intonation groups, which are separated by a pause of 0.75 s, whereas there is no pause between the main clause and the adverbial in the second sentence. Furthermore, final syllable lengthening, which also often serves as a phrase boundary marker, is also only found in (a) but not in (b). The accent jump is the same in both sentences, which is a fall-rise (profile 1) on *ki*. Interestingly, this violates the normal stress pattern, which would predict *ka* to be the accented syllable (see section 2.3).

All other postpositioned adverbials found in the conversation behave in the same way.

Apart from the differences mentioned above, it is noteworthy that the repeated sentence has nearly exactly the same pitch values as the first sentence. However, the length of the utterance is shorter in (b).

3.3.2 Quotes Direct quotes are marked by various means, including lexical and prosodic features. Pauses demarcate the beginning and the end of the quote and the quote itself is typically spoken at a higher pitch level than its neighbouring environment. A reporting clause helps in addition to prosody, although this is not always necessary. Bolinger argues that intonational marking is not efficient enough to demarcate the quote, and therefore other lexical means are needed additionally (1989: 84).

Since I am not familiar enough with the Banawá morphology I cannot say whether this applies to Banawá or not. According to Campbell (1969: 8), Jamamadi direct quotes are morphologically marked and distinguished from indirect quotes by the presence of theme suffixes on both the quote and the reporting clause, whilst indirect quotes lack a theme suffix on the quote. If this also applies to Banawá, then one could argue that Bolinger's argument is correct. However, there are also clear prosodic

differences between direct and indirect quotes. Everything else being equal, a direct quote is separated from its reporting clause (if applicable) by longer pauses; and whilst indirect quotes are spoken at more or less the same pitch level as their neighbouring clauses, direct quotes are clearly demarcated in the characteristic high tone.

It should furthermore be noted that in contrast to English, reporting clauses, whether direct or indirect quotes, form a separate intonation group with their own pitch accent. The examples (4) and (5) illustrate the different pitch levels.

(4) Speaker A (appendix, l. 171):

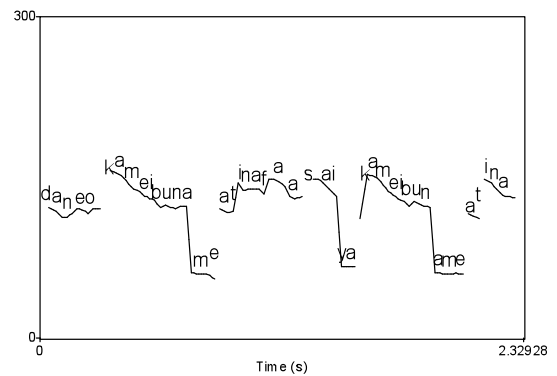
danieo kamai-bona me atina

daniel arrive-INT 3PL say

faasaiya kamaibonamee atina

water-go out arrive-INT 3PL say

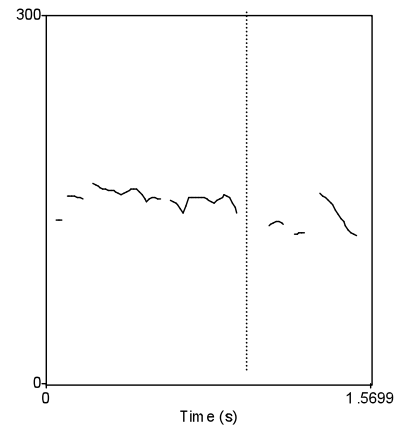
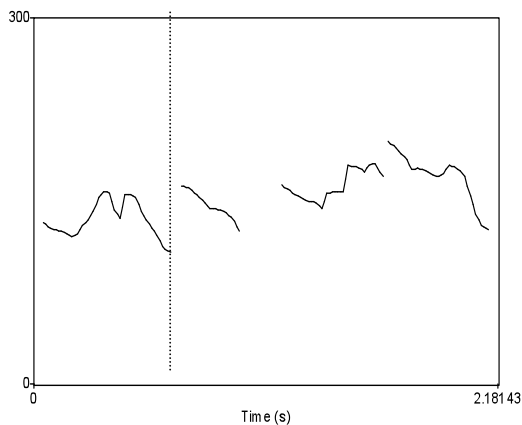
‘They say that Daniel will arrive
when the water is low.’



(5) Speaker A

a) *beginning of the direct quote* (l. 30)

b) *end of the direct quote* (l. 32)



Speaker A

- (a) mee ati tamina ere-me-hiyara taa taa / de kanika-ba ama-ri
3PL voice pretty us-they-talk what what 2PL Buy-INTERR.FUT. EQU-QU.?
'With a pretty voice they say to us: 'What do you want?'
- (b) daa da-nei-bona deni / me atina /
give ?-AUX-INT 2PL-to 3PL say
'Yes, okay, we will give you a motor,' they said.'

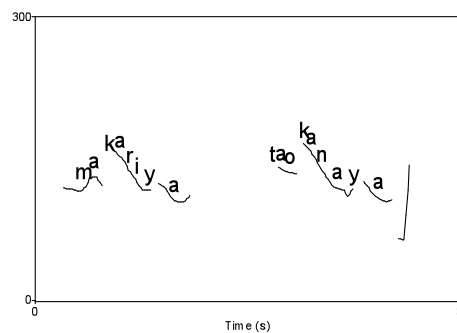
A look at the pitch values of both examples shows that there are no unusual pitch jumps in (4), whereas the pitch contour in (5) shows big differences in pitch at either end of the quote. Before the quote the pitch level is at 105.37 Hz, whereas the beginning of the quote has a pitch level of 161.44 Hz. At the end of the quote, the difference is significantly smaller, from 150 Hz at the end of the quote, to 130.85 Hz at the beginning of the main clause *mee atina* 'they said'. This is still a significant difference of 20 Hz. It is not quite clear why the difference at the beginning of the quote is so much larger, but it could be hypothesised that the beginning position is more important in order to facilitate parsing of the utterance. Declination is, as previously mentioned, a very common phenomenon in languages across the world, and is often even considered to be universal. The causes have not sufficiently been accounted for yet.

3.3.3 List Intonation In lists, every item carries the same profile, which seems to be mainly profile 1. The items are furthermore separated by pauses, although this is not always the case. The pitch is usually the same for all items in a series. Whilst the repetition of the profile in what Bolinger calls 'series intonation' (1989: 207) is to be expected from cross-linguistic comparisons, it is interesting that there seems to be a stress shift in Banawá on certain syllables. As mentioned in section 2.3, according to

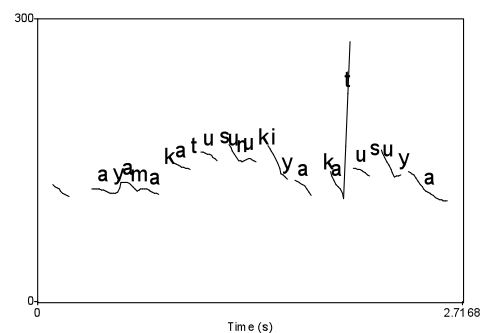
Buller, Buller and Everett (1993), normal word stress in Banawá is trochaic with every odd-numbered syllable stressed. This would predict that in the following example the highest pitch would be on the first or third syllable of each listed item. As the example shows, however, this is not always the case, as for example on *makariya*, where the peak is on the second syllable *ka*.

(6) Speaker A:

(a) (appendix, l.17)



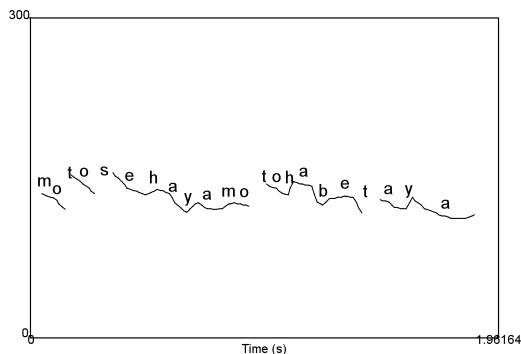
(b) (appendix, l. 19)



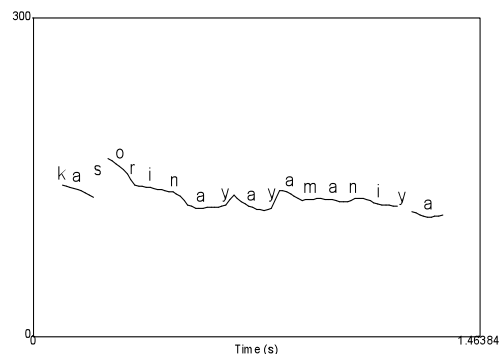
In the second part of the list, *katusunukiya* seems to stand out from the regular pattern. The higher pitch level on *nuki* indicates that this is an insertion, which is not part of the normal list. After the interruption, the speaker continues with the list pattern.

(7) Speaker B (appendix, l. 114)

(a)



(b)



It should be noted at this point, however, that the highest pitch does not always coincide with the primary stress of the word. This is particularly clear in examples (7a) and (b) above.

In (7) the pitch indicates the syllables *se*, *ha*, *so*, and *ya* as the syllables with the primary accent. Auditorily though, the syllables *se*, *be*, *ri*, and *ma* are the most prominent syllables in each item in the list. The syllable length seems to be more important here for stress marking than pitch. This seems to confirm Wiltshire's findings (2004). There are other examples in the conversation, where the same phenomenon of stress shift can be observed. It seems that it is more important to follow the rhythm of the intonation in the list than to follow a regular stress pattern. This would also confirm the hypothesis that Banawá is a stress-timed language.

The data seem to suggest that the rhythm of the word and the syllable to be accented are determined from the right rather than the left of the word. The most prominent syllables in the example above are always the penultimate of the item (not counting the clitic *-ya*). This hypothesis also works for example (6) above, where the syllables *ka*, *ka*, and *tu* are the most prominent syllables.

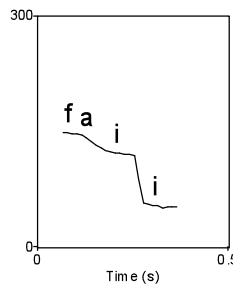
3.3.4 Paragraphs Division into paragraphs is particularly noticeable in the conversational part of the discourse, whereas the narrated part was not so easily divided into paragraphs. Presumably, this is due to the nature of the discourse. In a conversation, topics change rather frequently, whereas a narrative often is about one particular topic which often stays the same for the whole discourse.

Formally, paragraphs are usually separated by long pauses, which can be filled but often are empty. The beginning of a new paragraph typically coincides with the introduction of a new topic (see section 3.5.2).

Sometimes the new paragraph is preceded by a transitional sentence, in which parts of the preceding paragraph are repeated; the conjunction *faiyama* ‘and so there’ or the adverbial *faiyama maniha* ‘now, nowadays’ are in addition to this used to mark the transition. The conditions which determine which transitional phrase is used are not clear yet and require further investigation.

The conjunction *fai* ‘and so’ and sometimes its variant *hai* indicate the beginning of a new topic. The pitch contour is usually profile 1 with final syllable lengthening and a following pause, before the new topic is introduced.

(8) *fai* – topic transition



3.3.5 *Discourse* Apart from the above described divisions into smaller units, the beginning and end of the entire discourse are also marked. As I mentioned in section 1.5, the conversation can be divided into two larger units, which I labelled conversational discourse and narrative discourse, respectively. The beginning and end of each type of discourse is specifically marked, by both morpho-syntactic and prosodic means.

All the texts in my data start with a short introduction describing what the text is about. The form and length of this introduction varies between one word, a sentence, and a whole paragraph. In the conversational part of the text, the introduction seems to stretch over a whole paragraph.

The introduction of the conversational part of the text is given by speaker A, who explains the purpose of the conversation ('let us talk in our language, they like our language', appendix, l. 3, l. 5) and also announces the embedded story ('You are going to tell another story', appendix, l. 8). The transition between the embedded discourse and the conversation is marked with *faiyama maniha* and a following introductory sentence, which is again given by speaker A (see below). *Faiyama maniha* has medial clause intonation with final syllable lengthening and a low-fall to the lower end of the speaker's pitch range. It thus not only indicates the end of the first part but also the beginning of the following part. The beginning of a new part is – apart from the content of the introductory sentence – furthermore prosodically marked by a resetting of the pitch at a higher value.

(9) Speaker A:

me ee nofame **faiyama maniha**

3PL 1PL like-PL now

'We like them much. Now, the jaguar.'

yumei tao-ti-kanei nu ti-kami-nei-buna / faiya yama yete ti-na

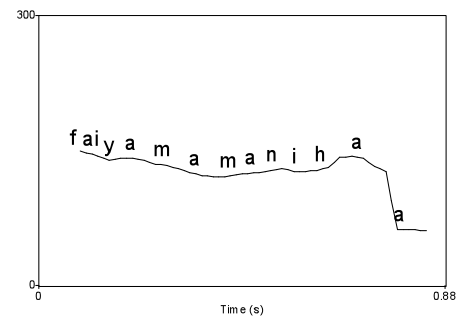
Jaguar shoot-2S-? ? 2s-tell-AUX-INT now jungle hunt 2S-AUX

'You are going to tell, how you shot the jaguar. You went to the jungle to hunt.'

yumei / yamayete ti-na ti-ka ni awine

Jaguar jungle hunt 2S-AUX 2S-go ? apparently

'Did you go hunting in the jungle?'



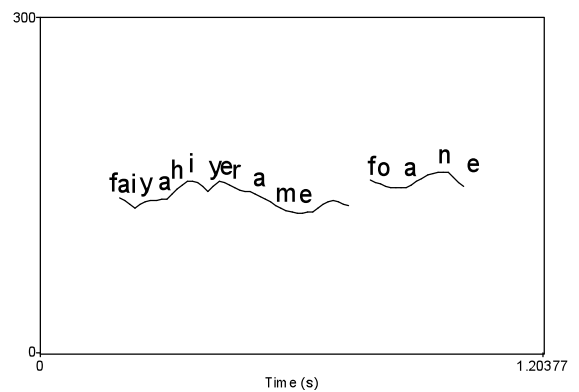
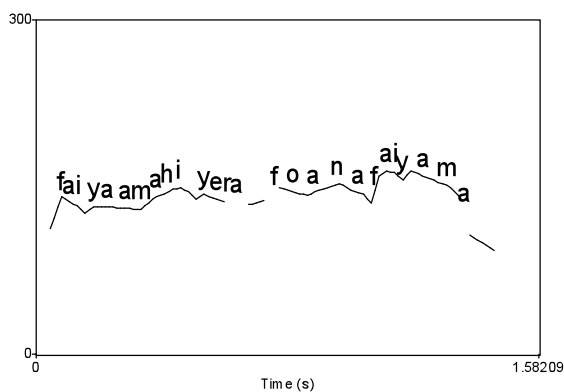
The end of the narrative discourse is not as clear as other texts in my data. Usually, the conjunction *faiyama*, 'and so' clearly indicates the end of a text. However, in this case, the transition between the narrative and the second part of the conversation is continuous, the end of the narrative is the beginning of the conversation. The

transitional phrase, starting with *faiyama*, which is again initiated by speaker A, is at the same time the introduction of the second part of the conversation.

Since speaker A both introduces the narrative and indicates the end of it with the transitional phrase, it seems plausible to hypothesise that this is a special kind of boundary marking for embedded texts. Again, this should be tested by future researchers.

The end of the entire text is again announced lexically with several *faiyamas* all of which have different intonation patterns. The end of the discourse is furthermore indicated by two subsequent sentences with final clause intonation, shown in (10) and (11) below.

(10) Speaker A (appendix, l. 400): (11)



faiyama hiyara foana faiyama /faiya hiyera foatune / faiyama
 ok, story finishing and so it is story is finished the end
 ‘Ok, the story is finishing now, the story is finished. The end’

The final intonation pattern is particularly clear in these examples as the last word in each clause, *faiyama* and *foatune* respectively, follow the same rhythm.

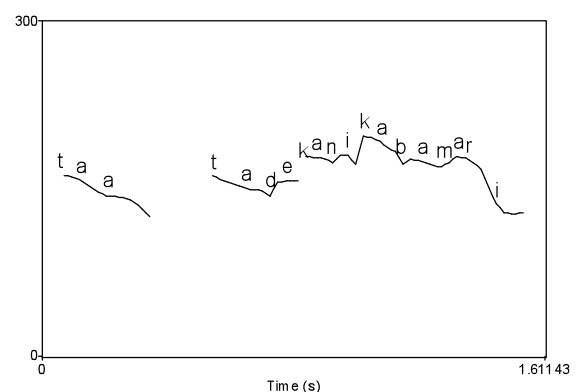
3.4 Questions

Typological surveys of interrogative sentences show that *wh*-questions and *yes/no*-questions often prefer different pitch contours. Whilst *wh*-questions predominantly follow the same tune as declaratives, *yes/no*-questions are generally associated with rising contour.

This general pattern also seems to apply to Banawá interrogatives, although it should be noted that due to the limited amount of data, any generalisations should be made with caution. The conversation only contains one sentence which is formally marked as a *wh*-question. The question word *ta* ‘what’ is in initial position, which is cross-linguistically the most common position. The interrogative suffix *-ri* marks the end of the question. The pitch contour does not show any particular movements that differ from declaratives. The overall contour is falling with profile 1 and final syllable lengthening. The predicate carries the primary accent, which is a rise-fall consisting of two successive jumps up (profile 2) and a downglide. The question word *ta* has an additional accent, which is also expected as it is in focus position.

(12) Speaker A (appendix, l. 30):

taa taa de kanika-ba ama-ri
what what 2PL buy-INTERR.FUT-?-QU.
‘What do you want to acquire?’

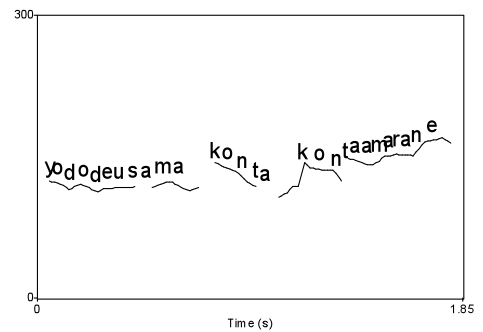


The *yes no*-questions occurring in the conversation vary considerably in their prosodic and morphological marking, which suggests that there is not one specific intonation pattern in Banawá associated with *yes/no*-questions. None of them have any question morphemes attached, although such affixes exist in Banawá. All the *yes/no*-questions

in the conversation vary intonationally. Below I will discuss three different examples of yes/no-questions in the data:

(13) Speaker B (appendix, l. 94):

yododeusu Konta ama narani onei
 Joao de Deus Konta EQ. SUBJ 1S-AUX
 ‘Joao de deus, I think it might have been
 Konta?’

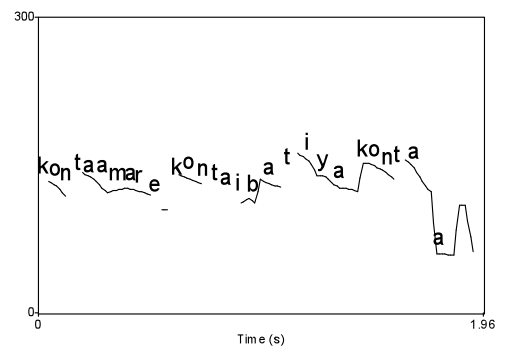


Strictly speaking, this is not a yes/no-question, and it is not marked as such morpho-syntactically. I will nevertheless include it in the discussion, as it could be paraphrased with the yes/no-question ‘Was it Konta?’ and would have the same effect.

The constituent structure is the same as in declarative sentences. What marks it as a question, however, is the pitch contour, which differs from declaratives, in that it is rising at the end. The intonation seems to signal that the speaker is asking for confirmation, which becomes particularly clear when compared to speaker A’s reply below.

(14) Speaker A (appendix, l. 95)

kotaa-merekota ibati-ya kotaa
 Konta it was Konta that time-at Konta
 ‘It was Konta, a long time ago, Konta.’

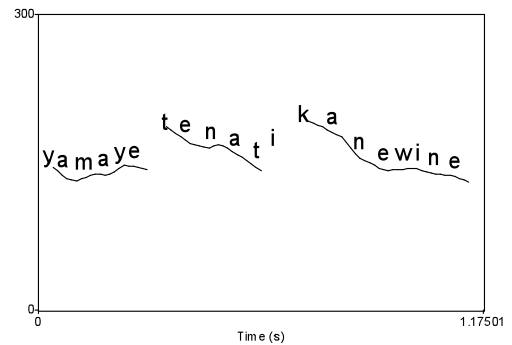


Kontaa is in focus position and is therefore accented with profile 1, realised in this case as a downglide from the first accented syllable *ko*. The repeated *Kontaa* has profile 2, with a step up on the second syllable, marking the beginning of the rise. The rise is in form of two successive profile 2 accents.

The reply is the requested confirmation of the name. Speaker A repeats the name Konta several times, using profile 1. The use of different profiles for the same name suggests that profile 1 has an assertive function, whereas the rise of profile 2 indicates the opposite. The speaker is unsure and wants confirmation. Again, this function of the different shapes of accents seems to correspond to their English equivalents.

(15) Speaker A (appendix, l. 249):

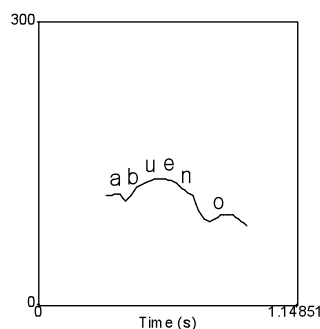
yama yete ti-na ti-ka ni awine
 jungle hunt 2S-AUX 2S-go ? apparently
 ‘Did you go hunting?’



This question, asked by speaker A, is the introduction to the embedded narrative. Again, there is no morphological question marking to be observed. The intonation differs from the previous examples, in that the overall pitch contour is falling. However, the whole question is spoken in a high tone with the pitch ranging from nearly 200 Hz at the top and a 136 Hz at the lowest point. It is not clear whether this has something to do with the question function or with something else, as this is the only example of a question with this intonational pattern. One could argue however, that since the question is not morphologically marked, there must be an intonational clue to indicate the question status.

(16) Speaker A (appendix, l. 269):

abu-e-no
 die-?-?
 ‘Did the jaguar die?’



The third example has normal falling intonation, and no interrogative affixes attached. It has to be emphasised that the function of the aspect marker *-no* has not been sufficiently described yet, and further research may show that it is also used to mark sentences as interrogatives. If this is not true, however, then no explicit indicator of the interrogative meaning seems to be present, which suggests that this must be inferred from the context.

From the limited amount of data it can be summarised that what Bolinger and Cruttenden say about English question intonation also seems to apply to Banawá. Prosody and morpho-syntax interact with and complement each other, this is particularly clear in example (13), where rising intonation is used for the identification of the sentence as a question instead of morphological marking. The other examples are not as clear but nevertheless show that Banawá question intonation cannot be clearly defined as it has many different shapes and varies from case to case.

3.5 Information Structure

As outlined in section 2.2, intonation has two functions with regard to information structure: the activation of referents and the indication of topic and focus referents. In the following section I will discuss, if and how, these functions apply to Banawá information structure.

3.5.1 The Unmarked Word Order Before I describe topic and focus marking in Banawá, it is necessary to make some preliminary remarks on the word order. In Banawá, the unmarked word order has yet to be determined, as both SOV and OSV frequently occur in Banawá discourse. In Jamamadi, a dialect closely related to

Banawá, the basic word order is claimed to be OSV, but it can be changed to SOV when the subject is the topic of the paragraph (Campbell, B. 1977: 10). My Banawá data, however, seem to suggest that it is more complicated and that other factors influence the word order as well. Campbell's claim, that if the subject is the topic of the sentence the word order is SOV, might even be true as there are many examples in the text to which this rule applies. However, it is not certain that OSV is the unmarked pattern in other cases, especially since subject and topic very often coincide.

The arguments of the verb do not have to be explicitly expressed, but can be implied in the predicate. If they are expressed, however, and both, the subject and the object are lexical NPs, SOV seems to be more common. This is also confirmed by Turner, who investigated verbal semantics in Banawá whilst we were in the village (Turner, I. personal communication, July, 2004.). She found that all sentences in her corpus followed the SOV pattern².

If one of the arguments in a transitive sentence is a clitic and the other one a lexical noun phrase, the lexical constituent seems to be in sentence initial position.

Furthermore, there are several indicators that the beginning of a sentence is the focus position, although this also seems to depend on the constituents in focus, as I will outline in later sections.

It can thus be summarised that the word order seems to depend on whether the constituents are expressed or not, and if expressed how they are expressed, in addition to topic and focus relations in the sentence. These are only preliminary observations; the manner in which all these factors influence each other and thus determine the word order still has to be resolved. The determination of the unmarked word order

² It should be noted, however, that all her data were elicited and followed the same pattern; the high frequency of SOV is thus not surprising and might lead to the wrong conclusion.

therefore still poses a challenge for future research. It is clear, however, that the predicate is in sentence final position, whatever the constituent order is.

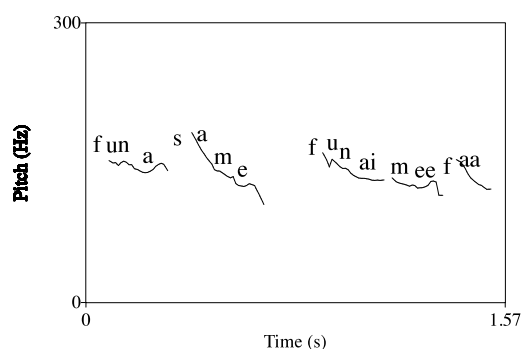
3.5.2 Topics In section 2.2.2 I outlined Lambrecht's definition of topic as 'that part of the sentence which the sentence is about' and introduced the topic-acceptability scale, according to which the most acceptable sentences are the ones with active topic referents, as they can be processed easiest. It was furthermore mentioned that the preferred coding for active referents are unaccented pronominals. Unaccented is hereby the prosodic marking and the pronoun is the lexical marking of active referents. Since the speaker cannot automatically assume that the referent is active and thus present in the hearer's mental state, the topic referent has to be activated.

Banawá has different means to activate a referent and establish it as the topic. Activation processes usually involve both prosodic marking and syntax.

Topics which remain the same for a whole paragraph are positioned in front of the sentence or paragraph as a separate intonation group. The referents are accented and separated from the rest of the sentence by a pause. After a referent has been established as the topic, it is either unexpressed or referred to as unaccented pronoun.

(17) below is a typical example of an activation process which at the same time introduces a new paragraph:

(17) Speaker A (appendix, l. 28)



	<i>activation</i>		<i>topic</i>	
Speaker A:	FUNASA me	FUNAI me fa /	ere	me keye fora okune
	Funasa-PL	Funai-PL	1PL.OBJ.	3PL lie often?
	‘Funasa and Funai people, they often lie to us.’			

The pitch contour has profile 1 accentuations on the referents to be activated, with the primary pitch accents on *sa* and *fu*, respectively. Between the activating NP and the following sentence is a pause of 0.69s. The referent is marked as an unaccented pronoun in the following sentence and the rest of the paragraph. This is a common pattern which occurs throughout the whole text.

Topic changes from individual sentences are indicated as illustrated in the example below:

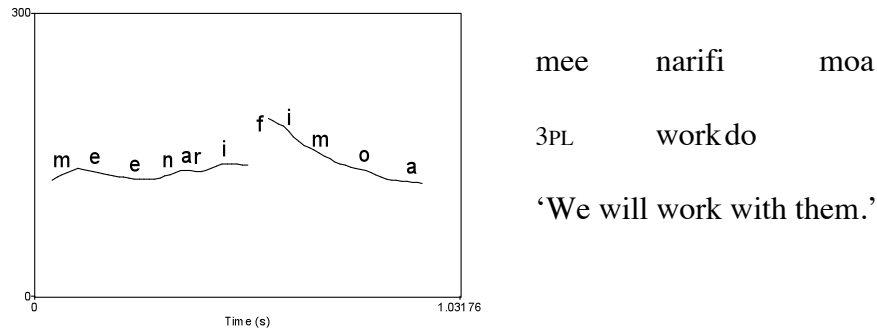
(18) Speaker A:
 Yera-me KAKI moa
 white/foreigner-PL arrive AUX
 ‘The whites arrived.’

An activation process in the way described above is not present here. The topic is introduced as the noun phrase *yerame* ‘the whites’, which is positioned at the beginning of the sentence. The pitch prominence is on the predicate, as in unmarked sentences.

The two examples illustrate two different ways of activating a topic referent. The first one uses an activation accent in combination with a particular syntactic structure and lexical marking. In the second example lexical marking and possibly sentence position seem to be more important than pitch.

3.5.3 *Broad Focus* As outlined in the previous section, SOV and OSV are both frequently observed. Whatever the unmarked word order is, of the two, the predicate is always in sentence final position and is the focussed constituent in broad focus. The primary accent is on the main verb as shown in the following example:

(19) Speaker A (appendix, l. 15):



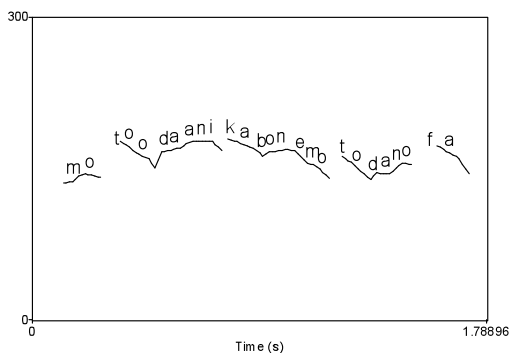
In this example, *narifi* is the main verb and receives, as predicted, primary pitch prominence on *fi* with profile 1. the following auxiliary verb *moa* ‘do’ is unaccented and part of the downglide of profile 1.

According to Cruttenden (1997) the last lexical item in an intonation group carries the primary accent. In a predicate final language as Banawá, this implies that the main verb carries the primary stress, since auxiliary verbs following the main verb are not considered content words and therefore do not receive stress.

Other theories claim that the predicate is always accented, regardless of its position in the sentence. In Wari, for example, the predicate is in sentence initial position and nevertheless receives the primary accent (Everett, D. personal communication, July, 2004). Either way, the accentuation of the predicate is nothing unusual in broad focus. The accent is usually profile 1 with the rise-fall on the accented syllable and a gradient glide thereafter. As in the example above all the grammatical items following the main verb are usually unaccented. This includes auxiliary verbs, certain evidentials, and particular adverbials.

3.5.4 *Narrow Focus* All constituents can be in focus in Banawá, it seems, but the devices used to mark the focussed element in the sentence differ depending on the constituent. At the beginning of the chapter, I argued that the focus position is the sentence initial position, but I also pointed out that this is not the only device to indicate focus in Banawá, since several factors interact and not all constituents can take the focus position. In this section, I will present some more examples that show that prosody and syntax are both involved in focus marking in Banawá.

(20) Speaker A (appendix, l. 31)

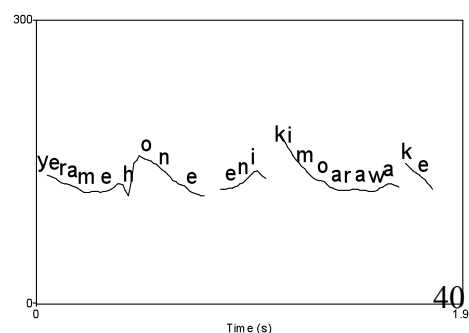


motoo dakanikabone motoo da nofa
 motor ?-acquire-INT motor ? (we)
 want
 ‘We want to have a motor, we want a
 motor.’

In this example, *moto* is in focus, as it is the answer to the preceding question ‘what do you want?’. Syntactically, it is as predicted, in sentence initial position. The prosodic marking, however, is less clear, as both the direct object and the predicate are prominent. The subject ‘we’ is not explicitly expressed. This example shows that pitch prominence alone does not sufficiently indicate the focus of a sentence. The examples below are illustrate further problems in the identification of the focus.

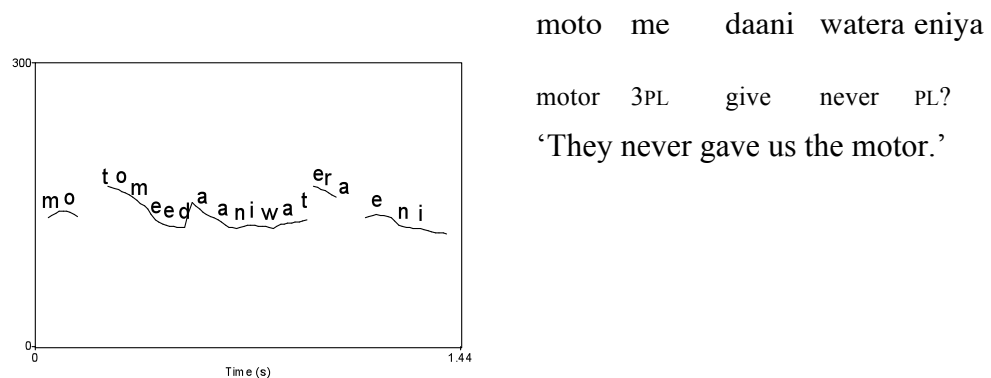
(21) Speaker A (appendix, l. 17):

yera-me hone eniki mo-rawa / kee
 white-PL goods buy successively-PL.F?
 ‘The whites always buy goods.’



The word order in example (21) is SOV. The subject *yerame* ‘the whites’ which is also the topic in this case, is not in focus, although it is in sentence initial position. This seems to confirm Campbell’s claim. Judging by pitch alone, the predicate would be interpreted as the focussed element, as it carries the highest peak. A secondary accent, however, is on the direct object *hone* ‘goods’ which would semantically be the most sensible choice for the focus in this context. In this case then, neither the focus position, nor the pitch prominence give us a reliable clue. It is only the context in combination with the secondary accent, that leads us to the correct interpretation.

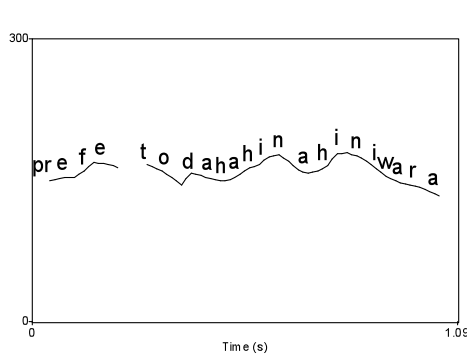
(22) Speaker A:



In this example, the word order is OSV, and as in the previous example, the sentence has two prominent accents, one on the direct object *moto* ‘motor’, the other one on the adverbial *watera* ‘never’. Both could be the focussed constituents in the appropriate context. Since *moto* is in focus position and prominent, however, it could be argued that this is the focussed constituent.

Interestingly, the predicate is not accented in this case, and the adverbial again shows a stress shift to the second accented syllable.

(23) Speaker A (appendix, l. 202):



prefeto daa HINA HINI owara

mayor give SUBJ. SUBJ. not

‘It seems that the mayor cannot give it to us.’

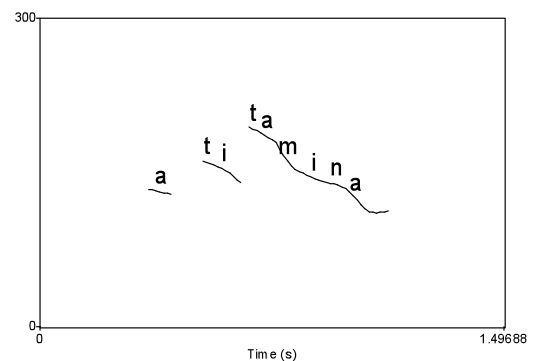
The third example also has more than one accent. However, the focus marking is again rather puzzling as the primary accent is on the two aspect markers *hina hini*, which are grammatical items and as such usually unaccented. A secondary accent is on *prefeto* ‘mayor’ which also seems to be the wrong choice for the focus. The predicate is yet again not prominent.

(24) Speaker A (appendix, l. 30):

ati TAMINA

voice pretty

‘They talk PRETTY.’



In this example both prosody and context suggest that the noun modifier *tamina* ‘pretty’ is the focus of the sentence. Speaker A emphasises that, although they (FUNASA) promise lots of things, they do not keep their promises. In the following quote he gives an example of such a promise. With the attributive *tamina* he thus highlights the good things they said, in contrast to their actions that followed.

To summarise the results of the preceding discussion, it can be said that both pitch prominence and constituent order interact with each other to indicate focus. Neither of

them seems to be sufficient or entirely reliable, however, which leads me to hypothesise that there is another factor, which we have not discovered yet. Further investigation with more data seems to be necessary.

3.5.5 *Contrast* Prosody is often used to signal contrast, by giving the contrastive element special emphasis by pitch prominence. Lambrecht argues that this can be explained in terms of information structure. The contrastive element is the focus of the sentence. Above, I have given an example, where a noun modifier was in focus, because it was semantically a contrastive element, although the contrast was not explicitly expressed with two opposing elements. In this section, I will present several examples, where such a contrast is explicitly given.

(25) Speaker A (appendix, l. 61, 63)

(a)

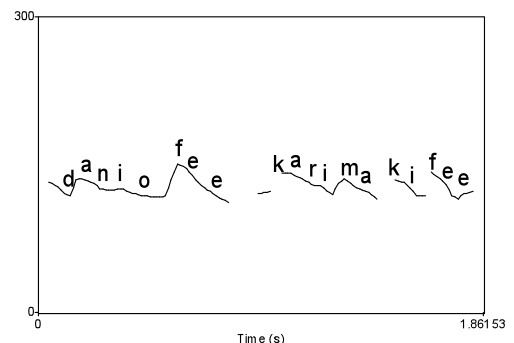


danio fatima maki fee

Daniel fatima husband DEM

‘Daniel, Fatima’s husband.’

(b)



danio fee kari maki fee

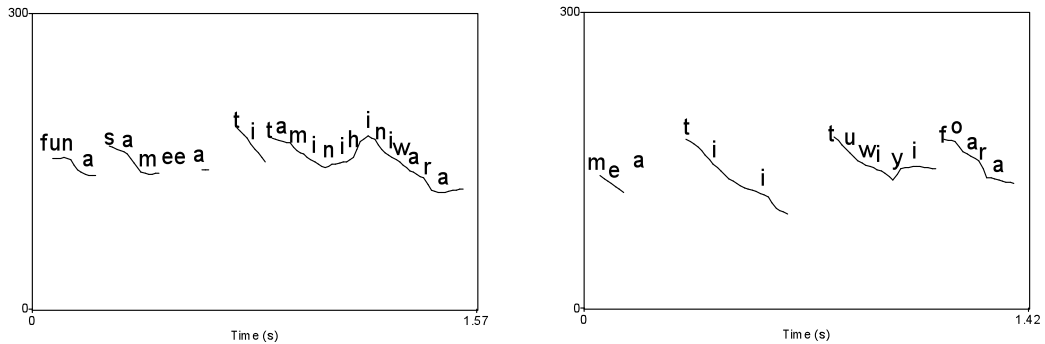
Daniel DEM Keren husband DEM

‘Daniel, KEREN’S husband’

In this example, two different Daniels are contrasted with each other. Both are distinguished by their wives in a separate clause, which follows the contrasted element. The two clauses seem very similar and intonationally there is not much difference

between them. However, the contrast is expressed by the pitch prominence on the identifying demonstrative *fee* ‘that’, following the second ‘Daniel’. As expected, pitch is thus an important feature for the identification of contrastive elements. This is also confirmed by the next example, in which two adjectives attributes are in contrast.

(26) Speaker B:



funasa mee ati TAMINI owara / mee ati TOWIYI foara

funasa PL speak pretty not 3PL speak bad ?

‘The people from Funasa do not speak PRETTY, they speak BAD.’

In English, this contrast would possibly be expressed with Bolinger’s profile C on pretty and profile A on bad. In Banawá, the contrastive constituents both have the same profile. Furthermore, it is noteworthy that, contrary to English, where the pitch would be solely on the contrasted constituents, the Banawá example has two pitch accents per clause. The predicate is again prominent and the opposed elements have an additional prominence marker.

It can thus be summarised that both English and Banawá use pitch to indicate contrast, but English seems to have a wider range of pitch accents and appears to rely more on pitch prominence to give special emphasis to certain constituents.

4. Suggestions and Recommendations for Further Work

This study is not an attempt to present a detailed description of Banawá intonation. It is only a small contribution to our understanding of the language and the results presented so far are to be taken as preliminary hypotheses and a basis for future research. In this section I will outline some of the areas which future researchers could look at and present some suggestions for further work.

A fuller study of Banawá prosody should be part of a long-term project, with the aim being to learn the language, since knowledge of the language is an important prerequisite for the understanding and interpretation of certain intonational meanings. This especially includes the emotive and attitudinal meanings of intonation, which, according to Bolinger, are the primary functions of intonation, and are therefore particularly important to investigate. Data elicitation can only uncover particular aspects of these emotive functions, but there are certain subtleties in languages which can only be interpreted correctly if one knows the language.

It is also important to include as many different texts in the corpus as possible, and from various different sources. This was shown in the differences between the intonation of the two speakers A and B as well as in the differences between the conversational part of the text and the embedded narrative.

Future researchers should also work with speakers from both sexes, as intonational differences between male and female speakers have often been observed in languages. I suspect that such differences also exist in Banawá. Related to this, we made some interesting observations during our fieldwork in the village, where we witnessed a special kind of speech mode, which was particularly noticeable among the women. It only seemed to be used in particular circumstances and between certain participants who were in a particular relationship, such as mother - daughter, or older sister -

younger sister. It might be interesting to investigate these circumstances in connection with the attitudinal function of intonation.

Keren Everett also discovered an intonational function which could further be studied. She reports that female names have different intonation patterns than male names (Everett, K., personal communication, July, 2004).

In addition to these general suggestions for future research, further work is also required in particular areas which were hinted at in earlier sections.

The grammatical implications of intonation and prosody should be further investigated, since the text this study was based on did not contain examples of all syntactic categories, or in many cases only one or two, which is not enough to make any generalisations or predictions. Elicited data which specifically target these grammatical categories therefore have to be collected in addition to naturally spoken texts. This could, for example, include different kinds of questions, with and without morphological interrogative marking and in comparison to their declarative counterparts, to see whether intonation changes the grammatical meaning of an utterance, and if so, by what means.

I have also come across several examples of conditional clauses which seem to be intonationally marked by rising or high pitch. Since all the examples came from sources other than the text discussed in this paper, I did not include this functional aspect of intonation in the discussion. The observation was also based on too few examples to formulate a hypothesis. However, I recommend an inclusion of an investigation of this aspect in future studies, since the verification of this observation would have important implications for studies on the general area of intonation, as it would prove that intonation does have grammatical functions and thus argue against Bolinger's iconic view of intonation.

As outlined in section 3.5, the indication of focus relations also requires further work. In this paper I argue that the focus position is at the beginning of the sentence, but I have also pointed out several problems with this hypothesis and said that other factors seem to determine which constituent is in focus. These conditioning factors should be identified for clarification. For this purpose it would also be useful to identify the unmarked word order, which still seems to be a mystery.

I furthermore observed several unusual cases of pitch prominence on grammatical items, which would normally not be expected to be accented unless they are in focus for some reason. This phenomenon was particularly noticeable with the possessive marker *kaa*, which was frequently accented (e.g. appendix, ll. 52, 54, 87). It would be interesting to investigate whether this is conditioned by content or by phonological rules.

5. Conclusion

In this paper, several prosodic features of the Arawan language Banawá have been described and analysed. The analysis was mainly based on pitch contour; but other features such as pauses, stress shift and tempo have also been looked at. The study has shown that many intonational characteristics found in English also occur in Banawá, and that this includes formal features as well as functions of intonation. Two profiles have been defined for Banawá, one with a downmotion from an accented syllable (profile 1), and one with an upmotion to the accented syllable (profile 2). Profile 1 and profile 2 correspond in shape to Bolinger's profile A and profile B, respectively. The functions of the profiles have not been sufficiently studied at this point, due to my lack of knowledge of the language. However, the research that has been done so far seems to show that profile 1, as the most common profile, implies assertion, completion and emphasis, whereas profile 2 with rising accent signals high emotivity, incompleteness and

emphatic stress. This shows that although English has more variation in pitch accent shapes, the basic functions of the corresponding profiles in the two languages are the same.

I have furthermore shown that the functions of intonation with regard to information structure, indication of activation states and topic/focus relations, also hold for Banawá. Pitch accent in Banawá is used to indicate focus relations and contrast in combination with certain morphosyntactic means.

The syntactic function of intonation needs further work, especially the intonation of questions, as the text was not a very rich source of these. The various intonational and syntactic forms of questions found in the text, however, show that the interpretation of a sentence as a question does not entirely depend on the pitch contour, but that other factors such as context and syntax are equally involved in the interrogative marking.

Other prosodic features similar to English include the indication of boundaries by pauses and falling contour, and the indication of several subordinate levels by different levels of pitch, in particular the high pitch of quotes and parenthetical remarks. It can furthermore be said that high pitch is emphatic and draws special attention to something, whereas low pitch seems to be used for less important speech events.

It should be noted that the research has been undertaken with very limited amount of data and in a very short period of time. Any predictions and conclusions drawn from the data should therefore be made with care, and further research should be undertaken, to test the claims and hypotheses made here.

Although the question about whether intonation is a universal human trait or not could not be solved, the fact that two entirely different languages such as English and Banawá have so many formal and functional prosodic similarities is an interesting observation and an important contribution to cross-linguistic comparisons of intonation. The observations presented in this paper seem to support Bolinger's view of intonation, but

further studies are necessary to find out about the extent to which the intonational features are comparable and whether the link between intonation and facial expressions and gestures, which Bolinger claims to be stronger than the link between grammar and intonation, also applies to Banawá.

List of References

- Bolinger, D. (1986). *Intonation and its Parts*. London: Edward Arnold Ltd.
- Bolinger, D. (1989). *Intonation and its Meanings*. London: Edward Arnold Ltd.
- Buller, E. & B. Buller (1989). *Banawá Phonemic Description – Preliminary Version*. Arquivo Linguístico No 208. Brasília, D.F. SIL.
- Buller, E.; Buller, B. & Everett (1993). Stress Placement, syllable structure and minimality in Banawá. *International Journal of American Linguistics* 59, 280-293.
- Campbell, B. (1977). *Conjunctions in Jamamadi Narrative*. Arquivo Linguístico No 114. Brasília, D.F. SIL.
- Campbell, R. (1969). *Jamamadi Sentences*. Arquivo Linguístico No 119. Brasília, D.F. SIL.
- Chafe, W. (1987). 'Cognitive constraints in information flow'. In Tomlin (ed.) *Coherence and grounding in discourse. Typological studies in Language*, vol. XI., Amsterdam: John Benjamins. 21-52.
- Cruttenden, A. (1997). *Intonation*. Cambridge: Cambridge University Press.
- Everett, D. (2003). A Critical Evaluation of Greenberg's Classification of Arawan, Chapacuran, and Muran,' In: Allan Taylor (ed.) *Language and Prehistory in the Americas*. Stanford University Press, Stanford. (publication suspended)
- Halle, M. & Vergnaud, J.-R. (1987). *An Essay on Stress*. Cambridge: MIT Press.
- Halliday, M. A.K. (1967). 'Notes on transitivity and theme in English.' part II. *Journal of Linguistics* 3. 199-244.
- von Heusinger, K. (1999). *Intonation and Information Structure*. Habilitationsschrift, University of Konstanz.
- Ladd, R. (1996). *Intonational Phonology*. Cambridge: Cambridge University Press.

-
- Ladefoged, P.; Ladefoged, J. & Everett, D. (1997). 'Phonetic Structures of Banawá, an endangered language' *Phonetica* 54, 94-111.
- Lambrecht, K. (1994). *Information Structure and Sentence Form*. Cambridge: CUP.
- McCarthy, J. & Prince, A. (1993). '*Prosodic Morphology I: Constraint interaction and satisfaction*'. Technical Reports of the Rutgers University Center for Cognitive Science.
- Pierrehumbert, J. (1980). *The phonology and phonetics of English intonation*. PhD thesis, MIT, published 1988 by IULC.
- Prince, A. & Smolensky, P. (1993). *Optimality Theory: Constraint Interaction in generative grammar*. Technical Reports of the Rutgers University Center for Cognitive Science.
- Silverman, K.; Beckman, M.; Oitrelli, J.; Ostendorf, M.; Wightman, C.; Price, P.; Pierrehumbert, J.; Hirschberg, J. (1992). ToBI: A standard for labeling English prosody. *Proceedings, Second International Conference on Spoken Language Processing 2*: 867-70. Banff, Canada.
- Wiltshire, R. (2004). *A study of stress in connected speech in Banawá, a language of the Amazon*. BA dissertation. University of Manchester.