Tense, Aspect and Mood in Mada, 

a Central-Chadic Language

Eszter Ernst-Kurdi

SIL

BP 1299 Yaoundé

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This paper concerns the Mada language, spoken in the District of Tokombere, Department of Mayo-Sava, in the Far North Region of Cameroon.

ISO 639-3 language code: mxu

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Tense, Aspect and Mood in Mada, a Central-Chadic Language

by

Eszter Ernst-Kurdi

August 2016

Presented as part of the requirement of the MA Degree in Field Linguistics, Centre for Linguistics, Translation & Literacy, Redcliffe College, UK.
DECLARATION

This dissertation is the product of my own work. I declare also that the dissertation is available for photocopying, reference purposes and Inter-Library Loan.

Eszter Ernst-Kurdi
Tense, Aspect and Mood in Mada, a Central-Chadic Language

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Mada is a Central-Chadic language spoken in the Far-North Region of Cameroon. The language exhibits a number of interesting features, reflecting its Chadic roots, in the domain of Tense, Aspect and Mood (TAM). The present research presents a different take on the tone and TAM system of the language than what has been previously documented. There is no grammatical tense marking in Mada, but the language has a complex aspectual system built around the imperfective-perfective distinction. The imperfective is the unmarked form that is by far the most common verb form in discourse while the perfective is marked and is often used in background material. In addition to these primary aspects, Mada also has secondary and tertiary aspects marked by affixation. The modal system of the language is built around the dichotomy of realis-irrealis. Negation as well as speaker and agent-oriented modalities are subgroups of the irrealis. The different aspects and modalities interact with each other and their marking relies on grammatical tone and affixation resulting in a very complex verbal word. The findings of this research have noteworthy implications for language development and have led to some concrete suggestions regarding the marking of grammatical tone in the orthography.

[Total word count: 19.101]
The Mada language of Northern Cameroon has been studied by linguists since the 1970s. First, André Brunet from the Catholic Mission of Mayo-Ouldemé analysed the language and started to translate portions of the Bible into Mada. Many years later, in 2000, Barreteau and Brunet published a dictionary titled *Dictionnaire mada* containing a brief phonological and grammatical description as well as a bilingual Mada-French dictionary with about 8000 entries. In 2003, in the framework of a BASAL¹ project, Hubert Nkoumou wrote his MA thesis on the phonology of Mada.

When I started working with the Mada Bible translation team, I realised that the previously documented research about Mada did not examine the tense, aspect and mood system of the language in detail. Furthermore, when Barreteau and Brunet (2000) wrote about the grammar of Mada, they used terms that correspond to French grammar, but do not describe accurately the system in Mada. As the translators were trying to force their language to fit into the structures of French grammar, unaware of the significant differences between the two languages, they were producing confusing or sometimes even inaccurate translations. I therefore decided to investigate the TAM (Tense, Aspect and Mood) system of Mada in order to contribute towards a better understanding of the differences between French and Mada so that future translations will be more accurate and natural. The present research was undertaken between September 2015 and August 2016 while living in Cameroon.

I am very grateful to my friends and language resource persons Telemke Jean-Baptiste, Oumate Pierre, Moussa Guézoué, Mbekire Elizabeth, Joachim Hachimi and Guimkal Fefe for their help and encouragement. *Usekule dik, slakama gwalal.

¹ BASAL stands for Basic Standardization of All Unwritten African Languages. The programme was carried out by an NGO called NACALCO (National Association for Cameroonian Language Committees) that promotes mother tongue based literacy programmes.
This field research benefitted greatly from the insight and encouragement of three outstanding linguists: Dr. Melanie Viljoen and Dr. Ginger Boyd, both working as linguistics consultants with SIL Cameroon and Dr. Howard Jackson, former leader of the MA in Field Linguistics programme at Redcliffe College. Thank you, Melanie! Thank you, Ginger! Thank you, Howard!
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<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ABL</td>
<td>Ablative</td>
</tr>
<tr>
<td>ADE</td>
<td>Adessive</td>
</tr>
<tr>
<td>ADV</td>
<td>Adverb</td>
</tr>
<tr>
<td>ASS</td>
<td>Associative plural marker</td>
</tr>
<tr>
<td>C</td>
<td>Consonant</td>
</tr>
<tr>
<td>COM</td>
<td>Comitative</td>
</tr>
<tr>
<td>COMP</td>
<td>Complementizer</td>
</tr>
<tr>
<td>COMPL</td>
<td>Completive</td>
</tr>
<tr>
<td>CON</td>
<td>Connector</td>
</tr>
<tr>
<td>D</td>
<td>Depressor consonant</td>
</tr>
<tr>
<td>DET</td>
<td>Determiner</td>
</tr>
<tr>
<td>DIR</td>
<td>Directional</td>
</tr>
<tr>
<td>DOBJ</td>
<td>Direct object</td>
</tr>
<tr>
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</tr>
<tr>
<td>H</td>
<td>High tone</td>
</tr>
<tr>
<td>IDEO</td>
<td>Ideophone</td>
</tr>
<tr>
<td>IMP</td>
<td>Imperative</td>
</tr>
<tr>
<td>IN</td>
<td>Inessive</td>
</tr>
<tr>
<td>INCL</td>
<td>Inclusive</td>
</tr>
<tr>
<td>ING</td>
<td>Ingressive</td>
</tr>
<tr>
<td>INS</td>
<td>Instrumental</td>
</tr>
<tr>
<td>INTJ</td>
<td>Interjection</td>
</tr>
</tbody>
</table>
IOBJ  Indirect object
IPFV  Imperfective
IRR   Irrealis
ITER  Iterative
ITV   Itive
L     Low tone
L     Floating low tone
LAB   Labialisation prosody
LOC   Locative
NEG   Negation
OCP   Obligatory Contour Principle
OPT   Optative
PAL   Palatalisation prosody
PFV   Perfective
PL    Plural
PLUR  Plurational
POSS  Possessive
PREP  Preposition
PRO   Pronoun
PROG  Progressive
PTCP  Participle
Q     Interrogative particle in yes-no questions
REA   Realis
RECP  Reciprocal
REFL  Reflexive
SBJ   Subject
SBJV  Subjunctive
SF    Surface form
SIM Simultaneity
SG Singular
TAM Tense, Aspect, Mood
TEL Telic
TOP Topic
UF Underlying form
V Vowel
VAL Valency increasing suffix
VNT Ventive
VPt Verbal particle

 […] phonetic transcription
/…/ phonological transcription
/…_/ Palatalised word
/…_/ Labialised word
*… Grammatically incorrect construction
V̂ High tone on the vowel
Ṽ Mid tone on the vowel
V̄ Low tone on the vowel
V̐ Lowered low tone on the vowel
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Chapter 1: Introduction

1.1 Purpose and outline

The purpose of this research is to investigate the Tense, Aspect and Mood (TAM) system of Mada, a Central-Chadic language spoken in the Far-North Region of Cameroon. I believe that the previously documented research (Barreteau and Brunet, 2000; Nkoumou, 2003) about the language does not describe adequately the TAM system of Mada because the authors use grammatical terms fitting to describe French\textsuperscript{2}, with all its complex tenses and aspects, and not Mada. In what follows, I will show that Mada is a tenseless language and the perception of action relies on a two-way distinction between the imperfective / perfective aspects and the realis / irrealis moods. I also intend to describe the function of each aspect and mood in discourse which is a topic that has not been analysed before.

After a general introduction in chapter one, chapter two will give a brief summary of the main phonological features of Mada. In some cases I will rely on data from other researchers, namely Barreteau and Brunet (2000), however I will also use my own data and analysis, especially where mine differs from their findings. Chapter three will give a general overview of the Mada verb phrase. Chapter four will deal with Tense, Aspect and Mood with special attention given to their function in discourse. Finally, in chapter five, I will outline the potential implications of the findings of this research for language development.

\textsuperscript{2} Such terms include ‘present’, ‘past’, ‘future’, ‘absolute past’, ‘relative past’ (Barreteau & Brunet, 2000, p. 44).
1.2 Methodology

Different research methods were used in order to get a balanced view of the TAM system of Mada focusing on both form and function.

1.2.1 Elicitation

For the phonological analysis I elicited data from six language resource persons. The data included the SIL Comparative African Word List (Snider and Roberts, 2004) as well as verb conjugations with all the surface tones marked. Throughout the time of my research I continued to regularly work with two language resource persons.

1.2.2 Questionnaire

In an attempt to discover as many verb forms as possible, I designed a TAM questionnaire\(^3\) based on the approach of Wiesemann et al. (1993, pp. 109-111) as well as of Dahl (2000, pp. 789-799). The questionnaire was written in French and a native speaker orally translated the sentences into Mada. I recorded his translations in order to be able to analyse the tone on the verbs. I decided to record his answers orally because I wanted to avoid collecting possibly confusing data by using an orthography that is still in the making and is not yet well known among the Mada population.

1.2.3 Workshop using participatory methods

I felt strongly about including the Mada population in my research. With the instrumental help of Dr. Ginger Boyd, in February 2016 I organised a Verb Phrase Workshop in Yaoundé, Cameroon with six Mada native speakers. The aim of the workshop was to use participatory methods in linguistic research (Kutsch Lojenga, 1996; Stirtz, 2015) and to help the participants discover the structure of

\(^3\) See Appendix 1 for the questionnaire used.
their language. During this week we looked at the major tone melodies on the verb, discovered the two main aspects, imperfective and perfective, and started to analyse their functions in a short text. My approach differed from Stirtz’s (2015) in that at the end of the workshop instead of producing a grammar booklet the six participants made a short video explaining in their mother tongue why tone plays an important role in the verb and how the crucial differences in aspect and mood can be shown in the orthography. This video is being distributed among the Mada through mobile phones and can also be viewed on YouTube⁴.

1.2.4 Discourse analysis

Once I had enough understanding about the forms of the different aspects and moods, I started looking at texts with the aim to discover their functions in narrative and non-narrative discourse. I charted some of my own recordings as well as some old manuscripts⁵ of folk tales collected by André Brunet sometime in the 1980s. For a list of texts used, please refer to Appendix 5.

1.2.5 Analysis of French-Mada translations

During the time of my research I continued to work with the Mada Bible Translation Team helping them check their translations for clarity, accuracy and naturalness. These checking sessions gave me valuable insight into the translation challenges due to the differences between the French and the Mada TAM systems.

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⁴ https://youtu.be/f9S3-LvDW6s
⁵ See Appendix 4 for an example of such a manuscript that was written using the old orthography.
1.3 Linguistic and geographical situation

1.3.1 Classification

According to the Ethnologue (Lewis et al., 2016), Mada is an Afro-Asiatic language, further specified as Chadic, Biu-Mandara, A, A5 with the international code [mxu]. The Atlas Linguistique du Cameroun (Dieu, 1983, p. 357) classifies Mada as Afro-Asiatic, Chadic, Centre-West, Wandala-Mafa, South, 153.

1.3.2 Population

Mada is spoken in the District of Tokombere, Department of Mayo-Sava, in the Far-North Region of Cameroon. The number of the Mada population has been estimated between 17.000 (Lewis et al., 2016) and 30.000 (personal communication with Mr. Naba Hans, deputy mayor of Tokombere, 2013).

Figure 1. Administrative Map of Cameroon (Nations Online Project, 2016)
The Mada are one of the larger ethnic groups among the *kirdis*\(^6\) of the region. They are neighbours with the Mouyang, the Zoulgo, the Gemzek (Guemjek) and the Ouldeme (Richard, 1977).

![Figure 2. Chadic Languages North of the Mandara Mountains (LACITO, 2016)](image)

The people group is made up of 13 clans, all descendants of the same man whose name was Mada\(^7\) (Richard, 1977). Some clans settled on the plain while others have stayed in the Mada Mountains until this day. From a sociolinguistic point of view the distinction between the mountain groups and the groups from the plain is rather important. There are several dialects, but all of them understand each other and claim to speak the same language. According to the *Ethnologue*, Mada is classified on the EGIDS scale as ‘6a, vigorous’ showing that the language is ‘unstandardized and in vigorous use among all generations’ (Lewis et al. 2016).

---

\(^6\) A collective name used for indigenous people groups of the surrounding mountains.

\(^7\) For a detailed description of the lineage, please see Appendix 2.
Chapter 2: Basic phonology

This chapter summarises the most important phonological features of the language. Understanding phonological processes related to verbs is essential in the study of TAM in Mada. The difference between certain moods and aspects is sometimes only marked by tone. The labialisation and palatalisation prosodies can carry directional meaning.

In this chapter I will use phonetic as well as phonemic transcriptions. Surface tone will be marked on all verbs because of its relevance for TAM but will be left unmarked on other words. From chapter three onward, to facilitate the reading of the examples, I will use the proposed Mada writing system instead of phonetic transcriptions, however, I will still mark the surface tone on all verbs to demonstrate TAM distinctions.

The consonant and vowel phonemes are presented in Appendix 3.

2.1 The skeleton of roots

In Chadic languages consonants are the basic phonological units around which words are formed. These consonant skeletons are built up into full words by adding vowels, prosodies and tone to them (Roberts, 2001). Mada lexemes can be made up of one or more consonants and one underlying vowel. Verb roots can be vowel-less, however noun roots always contain at least one underlying vowel. Consonant clusters are not allowed in the coda.

2.1.1 Noun roots

Simple noun roots can contain one to three consonants. All complex consonants are interpreted as single units. Mada only allows for two adjacent consonants.
Table 1: The skeleton structure of simple noun roots

<table>
<thead>
<tr>
<th>Structure</th>
<th>SF</th>
<th>UF</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1C</td>
<td>CV</td>
<td>[za]</td>
<td>/zV/</td>
</tr>
<tr>
<td></td>
<td>VCV</td>
<td>[aha]</td>
<td>/VhV/</td>
</tr>
<tr>
<td>2C</td>
<td>CVC</td>
<td>[dah]</td>
<td>/dVf/</td>
</tr>
<tr>
<td></td>
<td>CCV</td>
<td>[kla]</td>
<td>/kIV/</td>
</tr>
<tr>
<td></td>
<td>CVC</td>
<td>[adak]</td>
<td>/VdVk/</td>
</tr>
<tr>
<td></td>
<td>VCCV</td>
<td>[afta]</td>
<td>/VftV/</td>
</tr>
<tr>
<td></td>
<td>VCVCV</td>
<td>[agaba]</td>
<td>/VgVbV/</td>
</tr>
<tr>
<td>3C</td>
<td>CCVC</td>
<td>[bram]</td>
<td>/brVm/</td>
</tr>
<tr>
<td></td>
<td>CVCVC</td>
<td>[belere]</td>
<td>/bIVrV/</td>
</tr>
<tr>
<td></td>
<td>CVCCV</td>
<td>[damba]</td>
<td>/dVmbIV/</td>
</tr>
<tr>
<td></td>
<td>CVCVC</td>
<td>[balak]</td>
<td>/bIVkV/</td>
</tr>
<tr>
<td></td>
<td>VCVCVC</td>
<td>[abawa]</td>
<td>/VbIVwV/</td>
</tr>
<tr>
<td></td>
<td>VCCVC</td>
<td>[adamak]</td>
<td>/VdVmV/</td>
</tr>
<tr>
<td></td>
<td>VCVCVC</td>
<td>[agʷara]</td>
<td>/VgʷVrVbV/</td>
</tr>
<tr>
<td></td>
<td>VCCVC</td>
<td>[atalar]</td>
<td>/VtlVr/</td>
</tr>
</tbody>
</table>

2.1.2 Verb roots

Mada verb roots are composed of one to three consonants. According to Barreteau and Brunet (2000, p. 39) 8,5% of verb roots contain one consonant, 59,8% two consonants, 30,6% three consonants and only 1% of verb roots are made up of four consonants but these words can also be analysed as compound words.

As Table 2 illustrates, the perfective form reveals the skeleton structure of the verb root and from it one can easily deduce whether the root has an underlying vowel. The perfective form is marked by
the suffix /-V/ which fulfils the requirement of a full vowel phrase-finally\(^8\), so a verb root which underlyingly contains no vowel can be realised in its surface form without a vowel.

Table 2: The skeleton structure of verb roots

<table>
<thead>
<tr>
<th>Structure</th>
<th>3SG Imperfective</th>
<th>3SG Perfective</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SF</td>
<td>UF</td>
<td>SF</td>
</tr>
<tr>
<td>1C</td>
<td>[ó-p-óró]</td>
<td>/V-p-VrV(^w)/</td>
<td>[ó-p-óró]</td>
</tr>
<tr>
<td>2C</td>
<td>[á-bál]</td>
<td>/V-bl/</td>
<td>[á-bal-ā]</td>
</tr>
<tr>
<td>CVC</td>
<td>[á-cákā]</td>
<td>/V-cVkJ/</td>
<td>[ā-cákā]</td>
</tr>
<tr>
<td>CCVC</td>
<td>[á-brālš]</td>
<td>/V-brVkJ/</td>
<td>[á-brāl-ā]</td>
</tr>
</tbody>
</table>

2.2 Prosodies

Prosodies are a very common phonological feature of Chadic languages\(^{10}\). Roberts (2001, p. 101) defines prosodies as ‘distinctive building blocks of the phonological system’ similar to consonants.

----

\(^8\) In Mada, the phrase-final syllable has to be realised with a full vowel even if underlyingly it is not there. For example, in [ná sāl] /nV sl/ ‘I know’ the verb root is realised with a full vowel. However, in [nā sāl dā] /nV sl dV/ ‘I don’t know’ the verb root is realised without a full vowel because the negative marker ‘da’ fulfils the requirement of having a full vowel phrase-finally. The reason for this rule probably lies in the metrical structure of the language.

\(^9\) This verb can never be used without the itive directional suffix –oro, but the verb root itself only contains a consonant.

\(^{10}\) For a map of the distribution of prosodic types in Central Chadic languages provided by Wolff (2015, p. 10), refer to Appendix 7.
and vowels but independent of them. Prosodies are suprasegmental because they cannot be realised by themselves but manifest their effect on both consonants and vowels (Roberts, 2001, p. 101). The two most common prosodies in Chadic languages are palatalisation (PAL) and labialisation (LAB). In Mada these prosodies modify the pronunciation of vowels, laminal consonants (alveolar fricatives and affricates), velar plosives and the glottal fricative.

### 2.2.1 Palatalisation

The palatalisation prosody extends over the phonological word and affects both consonants and vowels in all word classes. Under the influence of this prosody the vowels are fronted to [e] / [ɛ] in the case of the full vowel, and to [i] / [ɪ] in the case of the epenthetic vowel\(^\text{11}\).

\[
\begin{array}{c}
V \\
\text{PLACE} \\
[dorsal] \\
\text{-back}
\end{array}
\]

Under the influence of PAL alveolar fricatives and affricates are realised as post-alveolar.

\[
\begin{array}{c}
C \\
\text{PLACE} \\
[coronal] \\
\text{+[distributed]}
\end{array}
\]

\(^{11}\) For more details on vowels, refer to Appendix 3.
It is convenient to treat this phenomenon as a prosody (as opposed to separate phonemic vowels or vowel harmony) because PAL attaches to the whole phonological word and covers it like a blanket modifying the pronunciation of all vowels and all laminals. There are no examples in my data where palatalised and non-palatalised vowels occur together in the same root in nouns (1) or in verbs (2).

(1) $[\text{ɬ}^i\text{me}]$ /$\text{ɬmV}^i$/ ‘ear’

$[\text{emɛ}z]$ /$\text{VmV}^z$/ ‘blood’

$[\text{mit]\text{k}^z\text{r}]$ /$\text{mVtsk}^z\text{Vr}^z$/ ‘chicken’

(2) $[\text{é-tʃə}]$ /$\text{V-tsV}^i$/ ‘3SG dries out’

$[\text{é-}^n\text{dzə}]$ /$\text{V-}^n\text{dzV}^i$/ ‘3SG stays’

$[\text{é-ʃə}]$ /$\text{V-sV}^i$/ ‘3SG drinks’

Palatalisation can spread leftward across morpheme and word boundaries.

\[\text{PAL} /V-/ + /-mV-/ + /tsVŋ/ \rightarrow [\text{èmitʃen}]\]

‘He will/might hear.’

\[\text{PAL} /nV-/ + /-kV-/ + /ŋgV/+ /-VrV^i/ \rightarrow [\text{nékɛŋgirɛ}]\]

‘I am coming.’

Some prepositions have both palatalised and non-palatalised forms that correspond with the noun to which they refer (3).
2.2.2 Labialisation

Labialisation (LAB) is a prosody that causes the rounding of all vowels, velar consonants and the glottal fricative in the phonological word. LAB is different from rounding caused by the bilabial nasal, the bilabial semi-vowel and labialised velar consonants on adjacent vowels. Under the effect of LAB all vowels and consonants in the phonological word gain the feature [+round]. LAB is needed to interpret words that have only rounded vowels and no consonants that would cause the rounding (4).

\[
\begin{align*}
(4) & \quad [\text{osos}] \quad /\text{VsVs}^w/ & \text{‘porcupine’} \\
    & \quad [\text{dodo}] \quad /\text{dVdV}^w/ & \text{‘leopard’} \\
    & \quad [\text{voto}] \quad /\text{vVtV}^w/ & \text{‘path’}
\end{align*}
\]

Labialisation spreads to the left and the extent to which it spreads depends on the speaker. It is much less predictable than palatalisation. The following three autosegmental diagrams demonstrate the variable scope of LAB spreading caused by the pronoun /no/.

Utterance by Speaker 1:

\[
\begin{align*}
\text{LAB} & \quad /V^-/ + /\text{wVlVkVbV}/ + /nV^w/ \rightarrow [\text{wōlōkōbō nō}] \\
3SG & \quad \text{make.angry} \quad 1SG.\text{DOBJ}
\end{align*}
\]

‘It angers me.’
Utterance by Speaker 2:

\[
\text{LAB} /V-/ + /wViVkbV/ + /nV^n/ \rightarrow [áwólökóbó nó]
\]

3SG make.angry 1SG.DOBJ

'It angers me.'

Utterance by Speaker 3:

\[
\text{LAB} /V-/ + /wViVkbV/ + /nV^n/ \rightarrow [áwälákábó nó]
\]

3SG make.angry 1SG.DOBJ

'It angers me.'

### 2.2.3 Palatalisation and Labialisation combined

It is possible for both prosodies to attach to the same word and combine their effects as shown in the noun roots in example (5).

(5) \[[hœdœdœm]\] /hVdVdVm^w/ 'knee'

\[[hɨn^dœr]\] /h^n'dVr^w/ 'nose'

\[[œhlœ\]] /VhlV^w/ 'cactus'

An autosegmental representation of a phrase where both prosodies apply:

\[
\text{PAL} \leftarrow \text{LAB} /V-/ + /tVŋ/ + /nV^n/ \rightarrow [œ̄tœ̄ŋ nó]
\]

3SG see 1SG.DOBJ

'He/she sees me.'
2.2.4 Lexical meaning of prosodies

Prosodies can also carry particular lexical meanings. When attached to verbs of movement, the PAL prosody implies a direction towards the speaker (ventive) as in (6), while the LAB prosody conveys the meaning of a direction away from the speaker (itive) as in (7).

(6) \([n\ddash-\text{á}]\) \([n\ddash-\text{ê}]\)
\(\text{/nV-V/} \quad \text{/nV-V^ijing/}\)
1SG-go.home.PFV \quad 1SG-go.home.PFV.VNT
‘I went home.’ \quad ‘I came home.’

(7) \([n\ddash-d\ddash-r\ddash]\) \([n\ddash-d\ddash-r\ddash]\)
\(\text{/nV-dVrV/} \quad \text{/nV-dVrV^ijing/}\)
1SG-come.PFV \quad 1SG-come.PFV.ITY
‘I came.’ \quad ‘I went.’

The palatalisation prosody can also indicate that the action that the verb denotes takes place in another location, different from the speaker’s point of reference (8). Wolff (2006, p. 221-2) calls this type of grammatically marked change in the deictic centre of the discourse ‘altrilocality’.

(8) \([n\ddash-gr\ddash]\) \([n\ddash-gr\ddash]\)
\(\text{/nV-grV-V^ijing/} \quad \text{/nV-grV-V^ijing/}\)
1SG-do.PFV \quad 1SG-do.PFV.ITY
‘I did’ [here] \quad ‘I did’ [over there]

The palatalisation prosody can also be used to form diminutives in adjectives and in adverbs (9) (Boho, 2013, p. 72).
Barreteau and Brunet (2000, p. 41) as well as Nkoumou (2003, p. 81) describe Mada as having three level tones, however they admit that with further analysis it might be possible to reduce the number of tones to two. Some related languages such as Moloko (Boyd, 2002), Podoko (Anderson and Swackhamer, 1981) and Cuvok (Ndokobai, 2003) have been analysed as having two level tones, while others such as Mouyang (Smith and Gravina, 2008), Mbuko (Smith and Gravina, 2008), Zoulgo (Haller, 1980) and Ouldeme (Kinnaird, 1997) as having three level tones.

A preliminary analysis conducted by the author on the tone patterns of Mada nouns and verbs, taking into account the pitch lowering effects of depressor consonants, has indicated that Mada may only have two underlying tones: High and Low. The underlying Low tone can be further lowered by the effect of depressor consonants which explains why phonetically speaking three surface tones can be distinguished. The depressor consonants in Mada are all voiced obstruents. They lower the pitch of adjacent vowels with Low tones to be realised as super low in both open and closed syllables. The following word pairs and graphs illustrate the effect that depressor consonants have on the pitch of adjacent vowels.

Figure 3. illustrates that depressor consonants have a pitch lowering effect on adjacent vowels both in the first syllable and in the last syllable of a word. It shows the pitch for two nouns, consisting of two syllables, each carrying Low tone. The pitch of the vowel after a depressor consonant – in this case [d] and [v] – is lower in both positions than the pitch of the vowel that follows a non-depressor consonant.
Figure 3. The pitch-lowering effect of depressor consonants in two nouns with L tones: [kòdȍ] and [vòtò]

Figure 4. demonstrates that depressor consonants have no effect on the pitch of a preceding High tone. However, when a vowel that carries Low tone is surrounded by two depressor consonants, its pitch is lower than when it is adjacent to only one depressor consonant.
Figure 4. The pitch-lowering effect of depressor consonants in two nouns with a H L pattern:  
[éʒɛ̏v] and [émɛ̏ʒ]

2.3.1 Lexical tone

Tone does not carry a high lexical load in Mada. Only a couple of tonal minimal pairs have been discovered so far among nouns (10) and a three-way distinction between Low, Mid and High has not been found. This lack of obvious tonal contrast is not surprising in Central Chadic languages (Roberts, 2001, p. 105) and provides further evidence for Mada having only two underlying tones.

(10)  [àk^ːːár]  ‘kidney’  [àk^ːːár]  ‘stone’
      [bôhô]    ‘carp’      [bôhô]    ‘bag’

2.3.2 Grammatical tone

Tone plays an important grammatical function within the verbal system in distinguishing aspects and moods. The tone melodies extend over the subject prefix and the verb root. Verb roots tend to be underlingly toneless and receive their tone based on the suprasegmental melody that defines aspect and mood as shown in (11). The imperative form is the barest form of the verb and it reveals the verb root with a full vowel. It usually carries low tone.
Nonetheless, a handful of examples have been found where the difference between two verb roots is only tonal (12).

\[
\begin{array}{llll}
(12) & \text{[tʃèŋ]} & \text{‘listen.IMP’} & \text{[ʃéŋ]} & \text{‘cut.IMP’} \\
& \text{[tʃà]} & \text{‘slaughter.IMP’} & \text{[ʃà]} & \text{‘return.IMP’}
\end{array}
\]

The tonal processes that take place in the verbal system of Mada in distinguishing aspect and mood have not yet been described in detail. This analysis of tone in Mada differs significantly from that of Barreteau and Brunet’s (2000). The TAM system of the language will be analysed in depth in chapter 4, so the following sections only aim to describe the phonological processes related to tone that mark aspects and moods. For the moment, it suffices to say that the TAM system of Mada is based on a modal dichotomy between realis and irrealis as well as a primary aspectual distinction between imperfective and perfective.

### 2.3.2.1 Realis-imperfective

Realis is always marked by an underlying high tone on the subject prefix. In the imperfective aspect the verb root usually receives low tone. After non-depressor consonants this low tone is realised as low, after depressor consonants the low tone is realised as lowered low (13).

\[
\begin{array}{ll}
(13) & \text{[ná-càkà]} & \text{[ná-gàrà]} \\
& \text{1SG.REA-taste.IMPV} & \text{1SG.REA-hunt.IMPFV} \\
& \text{‘I taste’} & \text{‘I hunt’}
\end{array}
\]
2.3.2.2 Realis-perfective

The perfective is marked by a /-V́/ suffix carrying high tone. In verbs where the root ends with a vowel, the perfective suffix fuses with the root final vowel but keeps its high tone. In realis-perfective the depressor consonants significantly influence the tone melodies on the verbal word because depressor consonants not only lower the pitch of adjacent vowels but they also block tone spreading (14).

(14)  
1SG.REA-taste.PFV  
[ˈná-ˈcáká]  
/n(Stream of events)-cV̀kV́/  
‘I tasted’

1SG.REA-hunt.PFV  
[ˈná-ˈgărá]  
/n(Stream of events)-gV̀rV́/  
‘I hunted’

As shown in the first word in (14), when there are no depressor consonants in the root, the high tone of the perfective can freely spread from right to left to the vowels of the root. Due to this, the original low tone of the root gets cut off and attaches to the subject prefix. The two tones, H (Realis) and L (root) now both attached to the subject prefix produce a ‘mid’ surface tone.

The second word in example (14) contains the depressor consonant [g]. In the case of verb roots with depressor consonants, the high tone of the perfective tries to map to the verb root and if there is no depressor consonant ‘in the way’, the high tone attaches to the vowels of the root until it finds a depressor consonant that blocks its spreading. As the high tone of the perfective maps from right to
left, the low tone of the verb root moves along to the left until it is also blocked by a depressor consonant. At that point both the high tone of the perfective and the low tone of the root attach to, in this example, the first vowel of the verb root resulting in a ‘mid’ surface tone.

### 2.3.2.3 Irrealis-potential

Irrealis is marked by a low tone on the subject prefix. In 3SG in indicative sentences, irrealis is also marked by the prefix /mV-./. This is the only instance where the irrealis form is overtly marked in addition to tone (15).

(15)  

<table>
<thead>
<tr>
<th>1SG.IRR-POT-pass.out</th>
<th>3SG.IRR-I RR-POT-pass.out</th>
</tr>
</thead>
<tbody>
<tr>
<td>[nǎː-ɓràɮ]</td>
<td>[à-māː-ɓràɮ]</td>
</tr>
<tr>
<td>/nV-ɓràɮ/</td>
<td>/V-mV-ɓràɮ/</td>
</tr>
</tbody>
</table>

‘I will/might pass out’  ‘He/she will/might pass out.’

The marker of the potential is a high tone prefix spreading from left to right. In irrealis-potential the verb root does not have an underlying tone. It is assigned a tone based on the nature of the last consonant of the verb root. If the last consonant of the root is non-depressor, the verb root will have a high surface tone. If the last consonant of the root is a depressor, the verb root will have a low surface tone. This is not a surprising phenomenon from a historical point of view, as Wolff (1987, p. 199) argues that tonogenesis in Chadic languages developed from the interference of tone and depressor consonants.

In irrealis-potential a similar spreading process takes place as described above in 2.3.2.2 but in the opposite direction as the potential prefix spreads from left to right (16).
As shown in the first word in example (16), when there are no depressor consonants in the verb root, the pre-root potential marker attaches to the first vowel of the verb root. However, in the second word in (16) the potential marker cannot attach to the first vowel in the verb root because the depressor consonant [g] blocks it. It therefore attaches to the subject prefix which results in a lengthened vowel carrying a rising surface tone. This rising tone is only attested in this context in Mada. It is interesting to note that in this case the low tone (irrealis) and the high tone (potential) do not attach to the same short vowel resulting in a mid surface tone. One explanation could be that if they did both attach to the subject prefix, in many verbs containing depressor consonants there would be no means to distinguish the realis-perfective form from the irrealis-potential form. The presence of the lengthened vowel and the rising tone clearly marks the irrealis-potential form in verbs where the root contains a depressor consonant.

### 2.3.2.4 Negation

Negation and modality are semantically linked and some languages have asymmetric negative structures because they grammaticalise the notion of negation as belonging to the realm of irrealis (Rose, 2014). This is also true in Mada. When negating a proposition in realis, the high tone of realis on the subject prefix is changed to low tone which is the irrealis marker. In addition to this, a negative particle is also used (17).
When analysing the negative verb forms in other aspects it becomes apparent that negation is marked by a floating low tone that is attached to the end of the verb root and spreads from right to left. This is particularly interesting in the case of the irrealis-potential form where the Obligatory Contour Principle (OCP) comes into play. According to this phonological principle, adjacent identical features are prohibited. OCP violations can be avoided by tone deletion, movement or fusion (Yip, 2002, p. 100). In example (18) the floating low tone marking negation spreads from right to left cutting off any underlying tones – including the floating high tone of the potential – and attaching to the vowels of the verb root. The floating high tone of the potential attaches to the subject prefix. The floating low tone marking negation also attaches to the subject prefix which already has low tone as the marker for irrealis. Based on OCP, two low tones cannot be associated to the same segment, so the low tone of the irrealis is deleted. Thus, the floating high tone of the potential and the floating low tone of negation both attach to the subject prefix resulting in a modulated HL surface tone. This principle holds true regardless of depressor consonants.

(18)  [ná-ká]  [náː-ká]  dà
/nV̍-kV/  /nV̍-kV̍/  dV̍/
1SG.IRR-POT-build  1SG.IRR-POT-build-NEG  NEG
‘I will/might build’  ‘I will/might not build’

\[\text{\textls{-200}1SG.REA-build.IPFV} \quad \text{1SG.IRR-build.IPFV} \quad \text{NEG}\]

‘I build’  ‘do not build’
Chapter 3: Verb morphology

This chapter summarises the morphology of the verbal word in Mada. It gives an overview of the order of the constituents as well as their form and function based on functional categories. In order to avoid repetition, verbal morphology related to TAM will be described in chapter 4.

3.1 Verbal sub-classes

Verbs can be classified according to the number of core arguments they take in a clause (Payne, 1997, p. 170). Following Viljoen’s (2012) approach to describing verb sub-classes in Buwal, Mada can be analysed as having intransitive, ambitransitive, and transitive verbs.

3.1.1 Intransitive

Intransitive verbs occur with one core argument in the verbal clause and that argument is the subject (19). They differ from ambitransitive verbs in that they can only take another core argument if a valency increasing suffix is attached (20).

(19) Té-zzè
    3PL-smell
    ‘They smell.’

(20) Té-zzè-ŋ
    nazasa
    gaŋa
    3PL-smell-VAL
    perfume
    3SG.POSS
    ‘They smell her perfume.’

3.1.2 Ambitransitive

Ambitransitive verbs occur either in an intransitive clause with one argument (21) or in a transitive clause with two core arguments without any valency changing marking (22).
3.1.3 Transitive

Some verbs are strictly transitive in the sense that there must be a direct object in the clause (Dixon & Aikhenvald, 2000, p. 4). As shown in (23) the verb /zm/ ‘to eat’ in Mada cannot be used without a direct object.

\[(23a) \text{á-zàm} \quad \emptyset \quad 3SG\text{-eat.IPFV} \quad \text{"He eats."} \]

\[(23b) \text{á-zàm} \quad \text{ɗaf} \quad 3SG\text{-eat.IPFV} \quad \text{food} \quad \text{"He eats food."} \]

3.1.4 Transitive with obligatory object

As Viljoen (2012, p. 13) points out, in many Chadic languages there are lexicalised expressions that are composed of a verb and an obligatory direct object which is often a body part. Mada also has many of these idiomatic expressions (24). The most common obligatory objects are ‘head’, ‘ear’, ‘stomach’ and ‘feet’.

\[(24) \text{tá-ká-yàhà} \quad \text{ŋgar} \quad 3PL\text{-PROG.REA-search} \quad \text{head} \quad \text{"They are thinking."} \]
3.2 The verbal word

The verb root consists of a single morpheme that can contain up to three consonants. Verb roots tend to be mono- or disyllabic (Barreteau and Brunet, 2000, p. 39).

Mada does not have any verbalising affixes. A verb can be recognised by its ability to accept a subject pronoun prefix. The barest form of the verb is the imperative.

The basic structure of the verbal word consists of the verb root and numerous affixes. They can combine in complex ways resulting in very long verbs. The following table gives a general description of the usual order of constituents. Each slot is described in detail after the table. It is preferable to treat all these elements as phonologically bound to the verb because they are all affected by palatalisation and labialisation prosody spreading and suprasegmental aspectual tone melodies.

Table 3: The order of constituents in the verbal word

<table>
<thead>
<tr>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>+1</th>
<th>+2</th>
<th>+3</th>
<th>+4</th>
<th>+5</th>
<th>+6</th>
<th>+7</th>
<th>+8</th>
<th>+9</th>
<th>+10</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBJ</td>
<td>PROG</td>
<td>ITER</td>
<td>ROOT</td>
<td>PL.SBJ</td>
<td>IOBJ</td>
<td>DISTR</td>
<td>PLUR</td>
<td>VAL</td>
<td>VPt</td>
<td>DIR</td>
<td>TEL</td>
<td>REFL</td>
<td>PFV</td>
</tr>
</tbody>
</table>

3.2.1 Person/number affixes

As shown in Table 4 there are seven different persons that are grammatically distinguished in Mada. The subject and the indirect object are always marked on the verb even when there is an explicit noun phrase present. According to the orthography the direct object is written as a separate word, but phonologically and syntactically speaking it very much belongs to the verb. Because it is written as a separate word, it is not included in the table above. It could be considered as occupying slot +11. Independent pronouns are not used frequently. They denote focus, contrast or prominence in discourse.
Table 4: Person/number markers in Mada

<table>
<thead>
<tr>
<th></th>
<th>Independent pronouns</th>
<th>Subject prefix</th>
<th>Indirect Object</th>
<th>Direct Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>no</td>
<td>nV-</td>
<td>-w</td>
<td>no</td>
</tr>
<tr>
<td>2SG</td>
<td>nakw</td>
<td>kV-</td>
<td>-kw</td>
<td>kwal</td>
</tr>
<tr>
<td>3SG</td>
<td>yanŋ</td>
<td>V-</td>
<td>-Vŋ / -(V)l</td>
<td>nadj</td>
</tr>
<tr>
<td>1PL.INCL</td>
<td>emne</td>
<td>mV-</td>
<td>-mne</td>
<td>mne</td>
</tr>
<tr>
<td>1PL.EXCL</td>
<td>enele</td>
<td>nV- ... -m</td>
<td>-nele</td>
<td>nele</td>
</tr>
<tr>
<td>2PL</td>
<td>enœkule</td>
<td>kV- ... -m</td>
<td>-kule</td>
<td>kule</td>
</tr>
<tr>
<td>3PL</td>
<td>atal</td>
<td>tV-</td>
<td>-tVl</td>
<td>tal</td>
</tr>
</tbody>
</table>

3.2.1.1 Subject prefix

The subject prefix takes the first position in the verbal word. It is considered an agreement marker and not a pronoun because it has to be attached to the verb even if the subject is made explicit in the sentence. The quality of the vowel in the prefix changes according to the prosody on the verb root (25). Its tone is defined by the melody that marks the different aspects and moods as presented in section 2.3.2.

(25) ná-wā  né-dè  nó-dō  nōe-cdōe

1SG-come.IPfv  1SG-cook.IPfv  1SG-draw.IPfv  1SG-suck.IPfv

‘I come’  ‘I cook’  ‘I draw (water)’  ‘I suck’

In the 1PL.EXCL and in 2PL the /–m/ suffix is attached directly to the verb root to differentiate these forms from their singular counterparts (26).
3.2.1.2 Indirect object suffix

The indirect object is also an agreement marker because it has to be attached to the verb even if there is an indirect object overtly expressed in the clause (27).

(27) ná-vlā-l-á dzagwan-a kla
1SG-give-3SG.IOBJ-PFV clay.pot-DOBJ child

‘I gave the clay pot to the child.’

3.2.1.3 Direct object pronoun

The direct object is not marked on the verb except in the case of 1SG where a strong labialisation effect takes place on the verb root that spreads from right to left from the direct object (See section 2.2.2 on labialisation). The direct object is either marked in the clause by a pronoun or it is omitted completely, if it can be clearly identified from the context (28). Interestingly, in the perfective aspect the direct object, whether a pronoun or a noun, receives a word-final /-a/ suffix (28). According to my language resource persons this direct object agreement rule in the perfective is fading away as more and more people leave it out nowadays.

(28) Ke-cakwe ma, á-żżá edel-a á-hpáá-á Ø
2SG-look TOP 3SG-take.PFV peanut-DOBJ 3SG-eat-PFV

‘Then, he took the peanuts, he ate [them].

3.2.2 Valency changing suffixes

Valency can be defined from a syntactic and a semantic point of view. In syntax, valency refers to the number of core arguments a verb can have. Semantically speaking, valency refers to the number of
participants, whether explicitly expressed or not, taking part in an event (Viljoen, 2012, p. 68.) Mada uses suffixation to syntactically adjust the valency of the verb in a clause.

3.2.2.1 Valency increasing

The suffix /-énj/ increases the valency of both intransitive and transitive verbs by one. It has a strong palatalising effect on the whole verb (29). Interestingly, in Mouyang, a closely related language, palatalisation of the verb root can mark a causative construction even without any further affixation (Smith, 2002, p. 10). This is not the case in Mada where the trigger for palatalisation is the valency increasing suffix.

(29)  

<table>
<thead>
<tr>
<th>Verb</th>
<th>Suffix</th>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>ettew</td>
<td>á-ndoáv-á</td>
<td>ettew</td>
</tr>
<tr>
<td>work</td>
<td>3SG-finish-PFV</td>
<td>work</td>
</tr>
<tr>
<td>'The work is finished.'</td>
<td>'He finished the work.'</td>
<td></td>
</tr>
</tbody>
</table>

At first sight, a suffix /–tvŋ/ seems to be a valency increasing suffix too. However, with further analysis it becomes clear that it is the fused form of the directional suffix /–vV/ meaning ‘around, against, near’ and the valency increasing suffix /-énj/ as shown in example (30).

(30)  

<table>
<thead>
<tr>
<th>Verb</th>
<th>Suffix</th>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>é-ddé-ŋ</td>
<td>é-ddé-ŋ-vá</td>
<td>é-ddé-ŋ-fáŋ</td>
</tr>
<tr>
<td>3SG-ask-3SG.IOBJ</td>
<td>3SG-ask-3SG.IOBJ-about-VAL</td>
<td>'He asks him.' 'He asks him about [it]'</td>
</tr>
</tbody>
</table>

3.2.2.2 Reciprocal and Reflexive

In a reciprocal construction ‘two participants equally act upon each other’ (Payne, 1997, p. 200). In a reflexive construction ‘the subject and the object are the same entity’ (Payne, 1997, p. 198). These two are often marked with the same suffix in Central Chadic languages which frequently comes from the word for body (Mouyang in Smith, 2002, p. 10; Merey in Gravina, 2007, p. 13). Mada is no exception. The suffix /-vá/ that marks both reciprocal and reflexive constructions (31a, 31b) appears...
to have come from the word *mlaavava* ‘body’. Another suffix that is used for the same two functions is */-fábà*/ (32a, 32b) whose function is unknown. The difference in meaning between these two suffixes is unclear at this point. Further research is needed.

(31a) Aya á-hàlā: Mbèdà-và adabaŋ ga assla

squirrel 3SG-say-IPFV transform.IMP-REFL manure POSS cow

‘Squirrel said: Transform yourself into cow dung.’

(31b) tá-bàz-á tá-bàz-á-và

3PL-fight-PFV 3PL-fight-PFV-RECP

‘they fought’ ‘they fought with each other’

(32a) Kla henne á-dàá ana é-hb-èŋ-fábà shek-a

child DET 3SG-fall.IPFV COMP 3SG-break-VAL-REFL.IPFV foot-DOBJ

‘This child fell and broke his foot.’

(32b) aŋga tá tà-zlàŋgà-fábà ata muta bi moto

maybe COMP 3PL-meet-RECP.SBJV ASS car or motorbike

‘Maybe they would meet with a car or a motorbike.’ [while crossing the road]

3.2.2.3 Impersonal

Mada does not have a passive construction to reduce the semantic valency of the verb. Instead the third person plural subject pronoun is used to convey an impersonal meaning. It is used when the subject is unknown or unimportant to specify (33).

(33) tá-pà-dà-fá-ŋ yam

3PL-put-DISTR-on-3SG.IOBJ.IPFV water

‘he is given IV fluids’ [Lit.: they put water on him]
3.2.3 Adpositional suffixes

Mada has an elaborate system of adpositional suffixes marking information such as direction, elevation, origin/target, instrument etc. on the verb. The mapping of such salient topographic features is a characteristic of some Central Chadic languages in Northern Cameroon and Nigeria (Wolff, 2006, p. 222).

The three most common directional suffixes in Mada are /-ara/, /-ere/ and /-oro/. Their difference in meaning is shown in (34) and is further explained in Table 5 below.

\[
\begin{align*}
\text{(34) } & \text{ā-ká-plā-rā} & \text{ō-kó-plō-ró} & \text{ē-ké-plē-ré} \\
& 3\text{SG-PROG.REA-throw-Dir} & 3\text{SG-PROG.REA-throw-ITV} & 3\text{SG-PROG.REA-throw-VNT} \\
& \text{‘he is throwing [it]’} & \text{‘he is throwing [it]’} & \text{‘he is throwing [it]’} \\
& \text{[from top to bottom]} & \text{[away from speaker]} & \text{[towards speaker]}
\end{align*}
\]

When a directional suffix and the instrumental marker /-VrV/ (see Table 5 below) co-occur, they merge and the /r/ of the suffix is lengthened (35).

\[
\begin{align*}
\text{(35) } & \text{ā-hdâ-fāŋ-ārā} & \text{ā-hdâ-fāŋ-ārrā} \\
& 3\text{SG-approach-Val-DIR.IPFV} & 3\text{SG-approach-Val-DIR.INS.IPFV} \\
& \text{‘He/she approaches [it].’} & \text{‘He/she approaches [it] with [sg].’}
\end{align*}
\]

There are a number of other verbal suffixes that mark relations such as place, manner or direction between the subject, the verb and its complements. Some of these suffixes can have extended adverb-like meanings. According to Blench (2010) this complexity of ‘adpositional suffixes’ is not uncommon in Chadic languages. The following table presents the ones found in Mada showing their form and meaning. For a lack of sufficiently precise terms some suffixes are glossed as ‘directionals’ but their meaning is clearly stated in the gloss column. Other labels have been taken from Kinnaird’s (2006, p. 48) description of the Vame verb phrase.
Table 5: Adpositional suffixes in Mada

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning(s)</th>
<th>Examples</th>
<th>Gloss</th>
</tr>
</thead>
</table>
| -ara   | a) from top to bottom  
b) from inside to outside | hàlā   
  hàlā-ṇā  
  take.IMP-EGR | take down / take out |
|        | -ere       | zlāc    
  zlèc-ērē  
  hit.IMP-VNT | hit / hit [in another place] |
| -oro   | a) away from speaker  
b) from bottom up  
c) from outside to inside | sād'   
  sód-ōrō  
  cut.IMP-ITV | cut / cut and put over there |
|        | -ābā       | cād'    
  cād-ābā  
  chop.IMP-IN | chop / chop inside of something |
|        | -afa       | čkādā   
  čkādā-fā-ŋ  
  sit.IMP-ADE-VAL | sit / sit next to [it] |
|        | -aha       | nè      
  nè-ŋā  
  be.IMP-DIR-VAL | be / be under [it] |
|        | -ala       | bà      
  bà-lā-ŋ  
  pass.IMP-DIR-VAL | pass / pass by [it] |
|        | -aka       | ŋgrā    
  ŋgrā-kā-lā  
  jump.IMP-DIR-3SG.IOBJ | jump / jump on [it] |
|        | -va        | żrō     
  żrō-va  
  go.IMP-ING | go / go into |
|        | -aba       | zā      
  zā-bā  
  take.IMP-DIR | take / take with you |
|        | -ara       | cakwā   
  cakwā-ration  
  flee.IMP-INS | flee / flee with |
### 3.3 Deverbalising processes

#### 3.3.1 Nominalisation

Nominalisation in Mada is formed by adding the prefix /mV́-/ and the suffix /-V́/ to the verb root. It can express three types of semantic nominalisation: agent (36), patient (37) and action (38). The prefix /mV́-/ is a very widespread nominaliser in Chadic languages (Greenberg, 1966, p. 48). Languages closely related to Mada, such as Merey (Gravina, 2007) and Mouyang (Smith, 2002), have similar forms that include the prefix /mV́-/ and a suffix as well. Other Chadic languages only use the prefix for this deverbalising process (Viljoen, 2012, p. 46).

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning(s)</th>
<th>Examples</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>-kaba</td>
<td>a) several elements involved</td>
<td>ânà</td>
<td>tie.IMP-DIR</td>
</tr>
<tr>
<td></td>
<td>b) splitting into two</td>
<td>gàs-ùnà-kàbàrà</td>
<td>accept.IMP-DIR</td>
</tr>
<tr>
<td></td>
<td>c) together</td>
<td>gàs-kàbàrà</td>
<td>accept / accept [it] as it is</td>
</tr>
<tr>
<td>-kabara</td>
<td>still, the same way</td>
<td>zàålà</td>
<td>make.IMP-COM</td>
</tr>
<tr>
<td></td>
<td>together with somebody</td>
<td>zàålà-àm-àvà</td>
<td>make / make [it] with [someone else]</td>
</tr>
<tr>
<td>-ava</td>
<td>away from</td>
<td>slàá</td>
<td>leave.IMP-ABL-TEL</td>
</tr>
<tr>
<td></td>
<td>togethertogether with somebody</td>
<td>slàá-à-bà</td>
<td>leave / get up</td>
</tr>
</tbody>
</table>

(36) má-gàs-á fisherman gàs catch
má-mbàá-á messenger mbàá speak
(37) má-slàl-á the sent one slàl send
má-dàb-á the chosen one dàbà choose
The nominalised form of the verb can also function as an infinitive (39). This is the case in numerous other Central-Chadic languages such as Merey (Gravina, 2007, p. 14) and Vame (Kinnaird, 2006, p. 39), where the same form expresses both functions.

(39) Afalaŋa ọ-tóló-tól-kobó-rò even a nga ma when 3SG-send-3PL.IOBJ-DIR-DIR.PFV thatch to house TOP

‘When he sent them [up] the thatch for the house

tá-pafán-và afa má-vd-á.

3PL-start-REFL.IPFV at INF-put.roof.on-INF

they started to put the roof on.’

3.3.2 Participle

Participle are derived verb forms that have the characteristics and functions of both verbs and adjectives. The participle in Mada is marked by the prefix /mV-/ and the suffix /-áŋá/. Its primary function is to act as an adjective (40) or as an adverb (41).

(40) á-zzà osslo kra nehe ana yaŋ é-ten

3SG-take.IPFV meat dog DET COMP 3SG.EMPH 3SG-see.IPFV

‘He takes this dog meat that he sees

ana má-ddá-áŋá má-mtá-áŋá

COMP PTCP-fall-PTCP PTCP-die-PTCP

that [is] fallen, dead.’
`We met Toeloeshoe, he was at home sitting.'
Chapter 4: Tense, aspect and mood

This chapter will describe the different aspects and moods in Mada focusing not only on their forms but also on their function in discourse. It is important to note that the meaning of TAM forms is not local-semantic but rather discourse-pragmatic and that their encoding always takes place within a discourse framework (Hopper, 1982). Therefore, the following analysis will be based on a corpus of 11 texts from a variety of genres\textsuperscript{12}.

Tense, Aspect and Mood will be examined together as Slobin and Aksu (1982) point out that in practice these categories cannot be studied in isolation. They can be treated as logically distinct, but there is a great overlap in their grammatical expression (Kroeger, 2005, p. 147). Tense, Aspect and Mood are all linked to the verb in different ways and to different degrees. According to Bybee (1985, p. 22) their relevance to the verb influences their grammaticalisation in a given language. She believes that the more a category is marked and the closer it is to the root, the more prominent it is in the language. Her theory is summed up in Table 6.

Table 6: Bybee’s description of TAM according to relevance to the verb

<table>
<thead>
<tr>
<th>Relevance to the verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect</td>
<td>exclusively relevant to the verb</td>
</tr>
<tr>
<td>Tense</td>
<td>less directly relevant to the verb</td>
</tr>
<tr>
<td>Mood</td>
<td>even less relevant to the verb</td>
</tr>
</tbody>
</table>

\textsuperscript{12} See Appendix 5 for the list of texts used.
In her extensive research, Bybee (1985, p. 31) found that 74% of the languages that she surveyed mark aspect, 68% of them mark mood and only 50% of them mark tense on the verb.

Chadic languages tend to be aspect-prominent as Wolff (cited in Weninger, 2011, p. 34) argued that Proto-Chadic had a ‘binary aspect dominated set of verb stems’: unmarked aorist vs. marked perfective. However, at a later stage in his research, Wolff (1984, p. 225) provided evidence that this claim does not hold. As he completed a thorough comparative study on ten Central-Chadic languages, he discovered that Proto-Chadic did not have a binary aspectual system and that a marked imperfective/perfective distinction developed at a much later stage in these languages. Mada seems to be at an early stage in this development process as there is very little affixation related to marking the difference between the two primary aspects (imperfective/perfective). Often the imperfective and perfective verb forms only differ in their tonal melodies. There is however a wide-range of secondary and tertiary aspects which proves that Mada is indeed an aspect-prominent language. The aspectual system will be explained in more detail in section 4.3.

Mood is also prominent in Mada, as it is grammatically marked by tone and affixation. These grammatical moods fall under the semantic categories of agent-oriented modality, epistemic modality and speaker-oriented modality. Bhat (1999, p. 183) suggests that languages that used to be mood-prominent often develop a future vs. non-future tense distinction. This claim is interesting for Central Chadic languages as some of them have been analysed as tenseless: Ouldeme (Kinnaird, 2006), Mouyang (Smith, 2002) while others as having only future tense: Buwal (Viljoen, 2013), Mbuko (Gravina, 2001), Meray (Gravina, 2007) and yet others with marked past and future tenses: Gemzek (Gravina, 2005), Podoko (Jarvis, 1991), Mofu-Gudur (Hollingsworth, 1991), Cuvok (Ndokobai, 2006). Mada, just like its neighbours Ouldeme and Mouyang, has not developed tense marking.
4.1 An overview of TAM

The TAM system of Mada is built around the modal dichotomy between realis and irrealis as well as the primary aspectual distinction between imperfective and perfective. Table 7 summarises how all the different TAM verb forms in the language are built around these two axes. In the following sections each category will be analysed in detail.

<table>
<thead>
<tr>
<th>MOODS</th>
<th>PRIMARY ASPECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Imperfective</td>
</tr>
<tr>
<td></td>
<td>Additional aspects marked by affixes</td>
</tr>
<tr>
<td>Realis</td>
<td>[ná-vátà] /nV́-vV́tV/</td>
</tr>
<tr>
<td></td>
<td>1SG.REA-breathe.IPFV</td>
</tr>
<tr>
<td></td>
<td>‘I breathe’</td>
</tr>
<tr>
<td>Irrealis</td>
<td>[nàá-vátá] /nV́-́-vV́tV/</td>
</tr>
<tr>
<td>Potential</td>
<td>1SG.IRR-POT-breathe</td>
</tr>
<tr>
<td></td>
<td>‘I will/might breathe’</td>
</tr>
<tr>
<td>Subjunctive</td>
<td>[tá nà-vátà] /tV́ nV́-vV́tV/</td>
</tr>
<tr>
<td></td>
<td>COMP 1SG.IRR-breathe.SBJV</td>
</tr>
<tr>
<td></td>
<td>‘that I may breathe’</td>
</tr>
<tr>
<td>Imperative</td>
<td>[vàtá] /vV́tV/</td>
</tr>
<tr>
<td></td>
<td>breathe.IMP</td>
</tr>
<tr>
<td></td>
<td>‘Breathe!’</td>
</tr>
<tr>
<td>Optative</td>
<td>[mà-vátà] /mV́-vV́tV/</td>
</tr>
<tr>
<td></td>
<td>OPT-breathe</td>
</tr>
<tr>
<td></td>
<td>‘May he breathe’</td>
</tr>
</tbody>
</table>
4.2 Mada, a tenseless language

Comrie (1985, p. 9) defines tense as the ‘grammaticalised expression of location in time.’ In other words, tense relates the time of the situation to some other time such as to the time of speaking (absolute tense) or relative to the time of another situation (relative tense). Many languages do not mark time reference in their grammar; however, according to Comrie (1976, p. 6) ‘probably all languages can lexicalise time reference, i.e. have temporal adverbials that locate situations in time.’ Mada falls into this category as it does not mark tense on the verb but uses lexical strategies to situate the events in time.

Example (42) demonstrates that there is no grammaticalised distinction between past and non-past. This example is taken from a narrative in which a man was having a bath when an accident happened in front of his house. When he heard the crash, he put his clothes back on and rushed to help. After some time, this same person is referred to as the person who ‘is having a bath’, even though that activity took place maybe an hour earlier and was certainly finished.

(42) Mahazlara ná-zzà kla aaka ata zal aaka ana

\[
\text{\textit{Then I took the child with the man who}}
\]
\[
\text{\textit{had been washing and left his bath because of our accident.}}
\]

When in the form of a questionnaire \(^{13}\) I asked some native speakers to translate a number of sentences in French that involve different tenses, they gave the same forms for past and non-past events (43a and 43b).

\(^{13}\) See Appendix 1.
The above examples demonstrate that Mada does not have an inflectional tense marker and both imperfective and perfective forms can be used in discourse for past and non-past events.

The discussion on a possible future tense is more intricate. At first sight the potential marker could be interpreted as a future tense marker as it is different from the irrealis marker. Nevertheless, it always co-occurs with it. This close relationship between future reference and modality is pointed out by Dahl (1985, p. 103) when he states that ‘the distinction between tense and mood becomes blurred when it comes to the future’. However using Comrie’s definition of tense from before, the Mada potential marker does not necessarily situate the event in the future. A sentence such as (44) can describe two situations.

(44)  è-mè-né  à-mà-hpád  osslo
     3SG.IRR-IRR-POT.be  3SG.IRR-IRR-POT.eat  meat

Situation 1: ‘He will be eating meat.’
[possibly, sometime in the future]

Situation 2: ‘He might be eating meat.’
[possibly, even right now, but in a place where the speaker cannot see the action]

Dahl (1985, p. 108) describes the prototypical future tense as having the semantic features of intention, prediction and future time reference, the latter being a more dominant feature than the
first two. In Mada an utterance in irrealis-potential can have all these elements, but the irrealis-potential markers do not clearly situate the event in the future. This is illustrated in the following two sentences that were elicited in the questionnaire (45a and 45b).

(45a) French: [Demain je ne vais pas nager dans le lac.] L’eau sera froide.
(English: [Tomorrow I will not swim in the lake.] The water will be cold.)

\[ \text{yam} \quad \text{à-màá-ndzà} \quad \text{hlem-hlem} \]
\[ \text{water} \quad 3\text{SG.IRR-IRR.POT-be} \quad \text{cold} \]

‘The water will be cold.’

(45b) French: [Mes amis me disent que] ce matin l’eau est froide dans le lac.
(English: [My friends say that] the water in the lake is cold this morning.)

\[ \text{yam} \quad \text{à-màá-ndzà} \quad \text{hlem-hlem} \quad \text{eddewa} \quad \text{henne} \]
\[ \text{water} \quad 3\text{SG.IRR-IRR.POT-be} \quad \text{cold} \quad \text{morning} \quad \text{DET} \]

‘The water is cold this morning.’ [hearsay]

Therefore, Mada can be analysed as a tenseless language where there is no grammaticalised distinction between past, non-past or future. Future events are viewed as belonging to the realm of irrealis. In Mada, events are situated in time by lexical means using adverbs or adverbial clauses.

### 4.3 Aspect

The definition of aspect is more problematic than that of tense because it requires finer distinctions and there is often an overlap between the different categories. Comrie (1976, p. 3) defines aspects as the ‘different ways of viewing the internal temporal constituency of a situation.’ Smith (1991, p. 16), based on her research in the framework of Discourse Representation Theory, takes this definition further by focusing on the choice of viewpoints that the speaker has at their disposal and defines aspect as the ‘domain of the temporal organization of situations’ where two different components,
namely situation type and the speaker’s viewpoint together give the aspectual meaning of an utterance.

It is important to note that the portrayal of aspects is not an objective one. This contributes to the challenge of their study in a given language and requires the careful analysis of a number of texts from different speakers.

Grammatical aspect has to be distinguished from lexical aspect which is also called aktionsart. Aktionsart is the term used for the semantically inherent aspectual meaning of verbs according to which verbs can be classified as a) States, b) Activities, c) Achievements, d) Accomplishments and e) Semelfactives. These different types of events have different temporal properties but are not necessarily marked morphologically. However, they can interact with the grammatical aspects of the language. Therefore the analysis of aspect falls at the crossroads of syntax-semantics and the lexicon-syntax interface (Bhatt and Pancheva, 2005). Due to the limited scope of this research, in what follows only grammatical aspects will be analysed with an emphasis on their function in discourse.

Choosing the appropriate terminology for labelling the primary aspects in Mada is challenging. As Payne (1997, p. 238) points out the ‘aspectual operations grammaticalised in any given language may not line up exactly…’ and it is therefore necessary to provide language specific definitions for the labels used. Wolff (1982, p. 184) warns that ‘as regards nomenclature, the labels ‘perfective’ and ‘imperfective’ have to be used with utmost caution in comparative Chadic verb morphology’. Chadicists have used various labels – such as ‘bound/unbound’, ‘completive/incompletive’, ‘perfective/imperfective’ or ‘neutral/perfective’ – to describe the primary aspectual differences in Chadic languages. It is possible to argue that the imperfective in Mada should rather be called ‘neutral’ or ‘aorist’ aspect. It has no overt marking and it is the predominantly used form in discourse with both past and present time reference. It is distinct from the perfective and other aspectual forms (see section 4.3.3) which are clearly marked by affixation and tone. Consequently, there are
two possible ways of understanding the structure of the aspectual system of Mada. Table 8 demonstrates one possible interpretation according to which there is a three-way distinction between perfective, neutral and imperfective aspects. Although the form of the neutral and the imperfective aspect is the same, one could argue that the distinction is necessary from a semantic and discourse-pragmatic point of view, because the term ‘imperfective’ does not adequately describe the discourse functions of this verb form since it does not denote the unboundedness or the incompleteness of the action nor does it focus on the inner structure of the event. The imperfective can be further divided into progressive, simultaneous and pluractional secondary aspects. These secondary aspects cannot co-occur with the perfective. There are three tertiary aspects – iterative, distributive and telic – that can co-occur with both imperfective and perfective aspects.

Table 8: A possible three-way structure of primary aspects in Mada

<table>
<thead>
<tr>
<th>Primary aspects</th>
<th>Neutral</th>
<th>(Imperfective)</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secondary aspects</strong></td>
<td></td>
<td>Progressive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Simultaneous</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pluractional</td>
<td></td>
</tr>
<tr>
<td><strong>Tertiary aspects</strong></td>
<td></td>
<td></td>
<td>Iterative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Distributive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Telic</td>
</tr>
</tbody>
</table>

Table 9 illustrates the second possible interpretation of the structure of the aspectual system in Mada. It is based on a binary distinction between imperfective and perfective. It presents the secondary and tertiary aspects the same way as Table 8 above. This interpretation provides a much neater and simpler structure and is therefore the preferred one. In this analysis the neutral function is interpreted as part of the imperfective aspect without any further specification regarding.
secondary or tertiary aspectual meanings. Therefore the label imperfective, as it contrasts with the perfective, is easier to use in this system even if its meaning and function in Mada proves to be broader than the general understanding of the imperfective aspect. Its language specific meaning and functions will be described in section 4.3.2.1

Table 9: A possible two-way structure of primary aspects in Mada

<table>
<thead>
<tr>
<th>Primary aspects</th>
<th>Imperfective</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary aspects</td>
<td>Progressive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simultaneous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pluractional</td>
<td></td>
</tr>
<tr>
<td>Tertiary aspects</td>
<td></td>
<td>Iterative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distributive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telic</td>
</tr>
</tbody>
</table>

Some of these grammatical aspects can combine with each other on different levels. It is even possible to stack them as (46) demonstrates.

(46)  ámbá-àŋgà-dà-tál-áyá

3SG-PROG-ITER-give-DISTR-3PL.IOBJ-PLUR

‘He/she is giving each one of them again as usual.’

The order of the aspectual markers\(^{15}\) attached to the verb root is the following:

$$\text{PROG + ITER + ROOT + DISTR + PLUR + SIM + TEL + PFV}$$

\(^{14}\) having a broader function in discourse, including a neutral/unspecified meaning.

\(^{15}\) As explained above, the imperfective aspect does not have overt marking.
Table 10 gives a summary of all possible combinations of the different grammatical aspects in Mada.

<table>
<thead>
<tr>
<th></th>
<th>IPFV</th>
<th>PFV</th>
<th>PROG</th>
<th>SIM</th>
<th>PLUR</th>
<th>ITER</th>
<th>DISTR</th>
<th>TEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPFV</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>PFV</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>PROG</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>SIM</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>PLUR</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>ITER</td>
<td>YES</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>DISTR</td>
<td>YES</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>TEL</td>
<td>YES</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YES</td>
</tr>
</tbody>
</table>

4.3.2 Primary aspects

4.3.2.1 Imperfective

The imperfective form is the unmarked form which makes Mada distinct from neighbouring languages Moloko (Friesen & Mamalis, 2004) and Gemzek (Gravina, 2005) where the perfective is the unmarked form.

The imperfective aspect in Mada has a broader function than the term suggests. It can mark verbs which express events that are ongoing or unbounded (47). However, in narrative discourse it is also the aspect used for theme line events even when the events are considered in their entirety or even if they are finished (48). This sets Mada apart from neighbouring languages Gemzek (Scherrer, 2012, p. 11) and Mouyang (Smith, 2004, p.16) where the imperfective is used for backgrounding.
‘It’s been a long time that you follow me, so come.’

‘They lifted [him] up, they looked, he wasn’t breathing…
then they called a man [who had] a car right there.’

‘The guy came [and] then they went with him to the hospital.’

The imperfective form does not denote the meaning of the progressive (4.3.3.1) or the habitual aspects (4.3.3.3) which are overtly marked by affixation onto the imperfective form.

For sequential events in narratives the imperfective form is used (49).

‘He went inside, got the medication, fixed the foot of…
that child, put bandage on it for him.’

Similarly to the neighbouring language Ouldeme (Kinnaird, 1998, p. 15) stative verbs are mostly used in the imperfective even in backgrounded information (50).
A statistical analysis of aspects in three Mada narratives shows that the imperfective is by far the most frequently used aspect for foreground events.

Table 11: The frequency of IPFV and PFV forms in the event line in three narratives

<table>
<thead>
<tr>
<th>Story</th>
<th>Aspects used in the event line</th>
</tr>
</thead>
</table>
| Shida ga Zlazla Andrawas | IPFV: 69  
                           | PFV: 2  |
| Ata aya ata dodo    | IPFV: 65  
                           | PFV: 12 |
| Madda a Mora        | IPFV: 61  
                           | PFV: 1  
                           | Other: 2 |
| TOTAL:              | IPFV: 195 
                           | PFV: 15  
                           | Other: 2 |
In procedural discourse, the imperfective is used to describe the events that have to take place in a process. The strategy of tail-head linkage involving the perfective aspect (4.3.2.2) reinforces the right order of events (51).

(51) Ná-pā-fā-ŋ-va ma ná-pā-dā-kā-l
1SG-put-ADE-VAL-REFL.IPfv TOP 1SG-put-PLUR-DIR-3SG.IOBJ.IPfv

‘I start, I put
meshek gwala aka okko
pot 1SG.POSS on fire
my pot on the fire.
Afalaŋa nā-pā-dá-ká-l-á ma nó-e-gdē-à yam
when 1SG-put-PLUR-DIR-3SG.IOBJ-PFV TOP 1SG-pour-ING.IPfv water

After I have put [it] on [it], I pour water into [it].’

4.3.2.2 Perfective

The perfective aspect is marked on the verb by the suffix /-V́/ that always carries high tone and takes the last position in the verbal word (52). When verbal words end with a vowel, the perfective suffix
fuses with the last vowel but it keeps its high tone. Consequently, in these verbs the only difference between the imperfective and the perfective form is the tone pattern that they carry (53).

(52) kó-skòm angar kós-kóm-á angar
2SG-buy.IPFV beans 2SG-buy-PFV beans
‘You buy beans.’ ‘You bought beans.’

(53) á-ngàlà á-ngàlá
3SG-beg.IPFV 3SG-beg.PFV
‘He begs.’ ‘He begged.’

The perfective aspect has another form /-rV́/ that is used after suffixes that always carry low tone, such as the telic marker /-bà/ and the reflexive suffix /-và/ (54).

(54) tá-ndàwà-fá-bà tá-ndàwà-fá-bà-rá
3PL-speak-ADE-TEL.IPFV 3PL-speak-ADE-TEL-PFV
‘They discuss [it].’ ‘They discussed [it].’

One phonologically motivated hypothesis for this variation is that an [r] sound gets inserted between these suffixes and the perfective marker because, unlike some other suffixes, these ones always carry low tone and refuse to accept the high tone of the perfective marker. Long vowels are not allowed word-finally so a modular tone cannot be realised. Another, more likely, reason for this variation could be that historically the perfective marker used to be /–rV́/, possibly linked to the directional suffix which has a similar form (Section 3.2.3), but the /r/ dropped out over time and only remains in these few cases. A link between directionals and aspect markers was found in other Chadic languages as well such as Vame (Kinnaird, 2006) and Mouyang (Smith and Gravina, 2008).

According to Comrie (1976, p. 18) the perfective denotes events that are viewed as complete but not necessarily completed. ‘The perfective represents the action pure and simple, without any additional
overtones (Comrie, 1976, p. 21).’ This ‘totality’ view of perfectivity is not adequate for all languages. Dahl (1985, p. 74) argues that boundedness is a more crucial factor for the choice of aspect. Bybee et al. (1994, p. 54) define the perfective as the aspect that signals that ‘the situation is viewed as bounded temporally.’ Bhatt and Pancheva (2005, p. 6) take this even further to suggest that both the imperfective and the perfective aspects can impose boundedness, so the emphasis is not on the fact whether the event has an end point per se but rather whether it includes a ‘change of state, target or goal.’ As the range of these definitions shows, it is challenging to universally define perfectivity. It is however important to distinguish it from telicity even if perfectivity and telicity often interact in the grammar of a given language. A more in-depth explanation on the interrelation of perfectivity-telicity will be included in section 4.3.4.3. In this context, the language specific definition of the perfective can be described as the following.

In Mada the perfective aspect denotes that the event is complete and finished. It can be used with past (55) and future (56) time reference, the latter frequently occurring in temporal clauses or in conditionals signalling anteriority compared to another event. The perfective can occur in the irreals mood in which case it denotes that the event will be completed in the future before another event takes place (57).

\[(55)\] Abak enne á-dd-á aslam ga kla neheña
day DET 3SG-fall-PFV place POSS child DET

‘One day, he fell in the same place as the other child.’

\[(56)\] Afalaŋa kiya ū-ūdá ma kà-wá
when moon 3SG-come.out.PFV TOP 2SG.IRR-come

‘After the moon comes out, you will come.’
In narrative discourse the perfective aspect is very rarely used in the main event line. It occurs when the events are not presented in chronological order and its function is to mark anteriority. Example (58) is taken from a first-hand account of an accident. The events are not stated in chronological order. The narrator had already gotten up from the pavement when the other person arrived on the scene and to mark this anteriority, he used the verb ‘get up’ in the perfective aspect.

(58) Á-wā  á-zlābā  nele  no  nā-slā-ā-bā
    3SG-come.IPFV  3SG-find.IPFV  1PL.EXCL  1SG.EMPH  1SG-leave-ABL-TEL.PFV

‘He came, he found us, I had [already] gotten up…

and had lifted up the child,

kla  nehe  ē-ké-tūwē-fā-bārà  shek  gaŋa
child  DET  3SG-PROG-cry-ADE-SIM  foot  3SG.POSS

at the same time this child was crying because of his foot.’

The most common use of the perfective in narrative discourse is in backgrounded information (59).

(59) Mbaca  voto  á-bbā  ekene
    now  path  3SG-pass.PFV  there

‘Now, a path passed by there.’

It would be possible to say that the perfective occurs after points of discontinuity, but after looking more closely one can observe that this fact comes from the typical sentence structure used at the beginning of a new episode and not from the structure of the narrative itself. In Mada narratives
adverbial subordinate clauses often mark the beginning of a new episode. This is due to the fact that tail-head linkage constructions are very often used as points of departure. In these backgrounded clauses the perfective aspect is used (60).

(60) Afalaŋa tó-dō-rrō-á a dakutar va
when 3PL-go-INS.3SG.IOBJ-PFV DIR hospital ING

‘When they got to the hospital with him

mahazlaraŋa ma tű-ūrō derrek tű-ūnā-l-kā-lā mlaka
then TOP 3PL-go.IPFV directly 3PL-bind-3SG.IOBJ-DIR-3SG.DOBJ.IPF wound

they went directly to treat his wounds.’

In procedural discourse the perfective is frequently used in tail-head linkage to mark the succession of events as already illustrated above in (51).

Even though the perfective sometimes functions as a ‘perfect’, with meanings of completion and anteriority, it cannot be analysed as such, because it does not denote any reference to the present or reference time and it is in clear contrast with the imperfective.

4.3.3 Secondary aspects

There are three secondary aspects in Mada that modify the meaning of the imperfective.

4.3.3.1 Progressive

The progressive aspect marker has probably developed from the verb to be and has two forms depending on the modality of the sentence: /kũ-/- in realis and /né/ in irrealis. In the realis mood the prefix /kũ/- always takes the position between the subject prefix and the verb root and carries high tone (61a). In the irrealis mood the verb to be is used as an auxiliary and is marked for irrealis by low
tone and a complete change in form\(^{16}\) as it is an irregular verb. This auxiliary is then followed by the verb marked again for irrealis by low tone on the subject prefix (61b).

\[(\text{61a}) \quad \text{Bzaagam} \quad \text{tā-kā-cākā} \quad \text{ceche} \quad \text{dik} \]

children 3PL.REA-PROG-taste suffering much

\[\text{‘The children are suffering a lot.’}\]

\[(\text{61b}) \quad \text{Bzaagam} \quad \text{tè-né} \quad \text{tà-cākā} \quad \text{ceche} \quad \text{dik} \]

children 3PL.IRR-be.IRR 3PL.IRR-taste suffering much

\[\text{‘The children might be suffering a lot.’ [epistemic modality: hearsay]}\]

The meaning of the progressive in Mada implies that the activity is happening at the same time as the reference time in the discourse. The progressive occurs frequently in the introduction of narratives as it is used to set the scene to the story providing background information (62).

\[(\text{62}) \quad \text{Abak enne ma dodo á-zlābā-tāl} \quad \text{ata aya ata anglak day DET TOP leopard 3SG-find-3PL.DOBJ.IPFV ASS squirrel ASS bird}\]^{17}

\[\text{Tē-kē-flē-vē} \quad \text{ama} \]

3PL-PROG-collect-REFL.IPFV honey

\[\text{‘One day leopard met squirrel and bird.}\]

\[\text{They were collecting honey.’}\]

4.3.3.2 Simultaneous

The simultaneous marker /-VbVrV/ indicates that the activity is carried out at the same time as another event (63). This other event is usually stated in the previous clause or known from the

\[\text{\(^{16}\) The root of the verb to be in realis is /kē/ while in irrealis it is /né/.}\]

\[\text{\(^{17}\) Native speakers struggle to find the equivalent of this term in French or in English. It is a type of bird which often appears in folk tales.}\]
context as was the case in (58) above. In informal conversations the suffix sometimes gets shortened to /-b̃/ (64).

(63) Afalaŋa ā-kā-zàɗ ettew è-lè-bàrà Imesh
when 3SG-PROG-do work 3SG-sing-SIM song

‘While he is working, he is singing.’

(64) Afalaŋa ná-wā ná-mbàɗá-bà wakita
when 1SG-come.IPFPV 1SG-read-SIM book

‘As I came, I was reading a book.’

4.3.3.3 Pluractional

Finding a label for the suffix /−VyV/ has proven to be challenging as it has been described as a frequentative or as an habitual aspect marker (Barreteau & Brunet, 2000, p. 48) but in some cases it seems to have a pluractional meaning as well. Habitual is defined as an aspect that describes a situation (activity or state) which is characteristic for a given period of time (Comrie, 1976, p. 27). The frequentative aspect is often regarded as a subclass of the habitual aspect that describes an unbounded activity that is repeated during a period of time but not necessarily characteristic for that period of time (Van Geenhoven, 2005, p. 113). The pluractional aspect conveys the meaning that the action is repeated several times or that the verb has several participants. The definitions of these three terms are very close. This is not surprising, since Van Geenhoven (2005, p. 112) provides evidence that some imperfective aspects are actually ‘pluractional operators’ and can semantically be analysed as ‘markers of plurality in the domain of verbs and event times’. Therefore pluractional is a term that can encompass both habitual and frequentative aspects. The label ‘pluractional’ seems to fit the function of the suffix /−VyV/ in Mada the best because not only does it have
habitual/frequentative meaning (65) but it can also be used to indicate that the direct object of the verb is plural (66) since the plural is usually\(^{18}\) not marked on nouns.

\[(65)\]  
\[\text{Á-gărà-yá}^{19} \quad \text{moto} \quad \text{gaŋa} \quad \text{ara} \quad \text{ndzàda}\]  
\[3\text{SG-drive-PLUR} \quad \text{motorbike} \quad 3\text{SG.POSS} \quad \text{with} \quad \text{speed}\]  
\[\text{‘He habitually/frequently drives fast [with] his motorbike.’}\]

\[(66)\]  
\[\text{né-t-ěŋ} \quad \text{kurshe} \quad \text{né-t-ēy-ēŋ} \quad \text{kurshe}\]  
\[1\text{SG-see-VAL} \quad \text{chair} \quad 1\text{SG-see-PLUR-VAL} \quad \text{chair}\]  
\[\text{‘I see a chair.’} \quad \text{‘I see some chairs.’}\]

In addition to the suffix, in verbs where the root has a CC structure, as shown in (67), a vowel is inserted between the first two consonants of the root to mark the plurality of actions or complements on the verb.

\[(67)\]  
\[\text{tá-grà} \quad \text{klando} \quad \text{tá-gărà-yá} \quad \text{klando}\]  
\[3\text{PL-do} \quad \text{moto-taxi business} \quad 3\text{PL-do[V]-PLUR} \quad \text{moto-taxi business}\]  
\[\text{‘They do moto-taxi business.’} \quad \text{‘They do moto-taxi business regularly.’}\]

Wolff (2008, p. 7) points out that ‘a-infexion’ in the verb root with a grammatical function is a common phenomenon among the different branches of Chadic Languages. Several Central-Chadic languages use this strategy but it is far from being the only process used for forming pluractionals. Table 12 shows the different ways in which pluractionals are formed in some Chadic languages in Cameroon.

\(^{18}\) There are only a handful of nouns that have irregular plural forms, the rest do not have a plural form.

\(^{19}\) Vowel elision takes place in the suffix because the verb root ends with a vowel.
Table 12: Pluractional markers in some Central Chadic languages of Cameroon

<table>
<thead>
<tr>
<th>Language</th>
<th>Suppletive forms</th>
<th>Change in the root</th>
<th>Prosody</th>
<th>Suffixation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buwal</td>
<td>No</td>
<td>Full reduplication</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>(Viljoen, 2012, p. 68)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chuvok</td>
<td>Yes</td>
<td>Partial reduplication</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>(Ndokobai, 2006, p. 56)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vame</td>
<td>Yes</td>
<td>Partial reduplication</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>(Kinnaird, 2006, p. 31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moloko</td>
<td>No</td>
<td>Onset of root final syllable doubled</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>(Friesen &amp; Mamalis, 2004, p. 33)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Podoko</td>
<td>No</td>
<td>V-insertion in the root</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>(Jarvis, 1986, p. 85)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoulgo</td>
<td>Yes</td>
<td>V-insertion in the root</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>(Haller et al., 1981, p. 36)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mada</td>
<td>Yes</td>
<td>V-insertion in the root</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

4.3.4 Tertiary aspects

There are three ‘tertiary’ aspects that can modify the meaning of both the imperfective and the perfective aspects.

4.3.4.1 Iterative

SIL’s Glossary of Linguistic Terms (Loos, et al. 2004) defines the iterative aspect as ‘expressing the repetition of an event or state.’ The iterative aspect marker prefix /ŋŋ-/ in Mada conveys the meaning that the action is repeated on a single occasion. It is different from the distributive or

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20 Suppletive forms are understood as forms where the verb root indicating plurality has a completely different form from the one showing singularity. For example, in Mada vla is the root for ‘to give one item’ while hala is the root for ‘to give several items’.
pluractional aspects which denote multiple repetitions. This prefix always takes the position right before the root. It can co-occur with all other aspects (68).

(68) á-àŋgà-há-lá  
3SG-ITER-say-3SG.IOBJ  
‘He says to him again.’

á-ká-àŋgà-slá-bà  
3SG-PROG-ITER-leave-TEL  
‘He is moving away again.’

4.3.4.2 Distributive

The distributive can be defined as an aspect that indicates that the action is applied to members of a group one after the other (Loos, et al. 2004). In Mada it is marked by the suffix /−ɗV/. The meaning of this aspect is close to the pluractional, but the distributive signals the plurality of the indirect object (69). Another significant difference is that the distributive aspect can co-occur with the perfective while the pluractional cannot.

(69) ná-dà-tál  
1SG-give-3PL.IOBJ  
‘I give them [one thing to all of them].’

ná-dà-ɗà-tál  
1SG-give-DISTR-3PL.IOBJ  
‘I give them [one thing to each one].’

It is a very productive suffix that is often found in narratives and prayers (70) and can co-occur with all other aspects.

(70) Vàl-tál   acalaŋa  a  rammaŋ  genele  gargar
give.IMP.PLUR-3PL.IOBJ  health  DIR  brothers  1PL.EXCL.POSS  different

‘Give health to our different brothers

ana  tê-ké-ɗè  a  ñga  dakutar  va
COMP  3PL-be-DISTR  DIR  house  hospital  ING

who are in hospitals.’
4.3.4.3 Telic

The telic/atelic distinction is a well-known factor in the classification of event types from the point of view of aktionsart; telic indicating that the event has a clear endpoint. There has been a considerable discussion within the domain of semantics on the interaction between aspect and aktionsart and more precisely between (a)telicity and (im)perfectivity. The scope of this research does not allow for such an in-depth analysis. It suffices to note that Mada marks both perfectivity and telicity in an overt way in its aspectual system. Based on Bertinetto’s (2001, p. 23) paper, telicity is defined in this context as ‘boundedness that implies the presence of an internal endpoint.’ If this internal endpoint is not on the speaker’s horizon, but remains a potentiality, it is possible for the telic aspect to co-occur with the imperfective. Such is the case in Mada.

In Mada the telic aspect can occur both with the imperfective (71) and the perfective (72). It is marked by the suffix /-bà/.

(71) Ede nehe ana ná-ŋgàná-bà naaka henne
thing DET COMP 1SG-tell-TEL.IPfv now here
‘This [is] what I am telling here now [and will finish telling soon].’

(72) Afalaŋa na ná-zà-á-bà darmak zzlam
when COMP 1SG-take-ABL-TEL.IPfv hundred five
‘When I took out five hundred,

né-shè shehi ma
1SG-drink.IPfv tea TOP

I drank tea,

afalaŋa né-shé-bà shehi nehe ma
when 1SG-drink-TEL.PFv tea DET TOP

after I had drunk the tea,
nú-úró né-cakwé aslam awak vvaɗ
1SG-go.IPFV 1SG-look.IPFV place goat again

*I went to look again for the place where they sell goats.’

The telic marker occurs more frequently with the perfective aspect, especially in the widely used tail-head constructions and in procedural discourse (73).

(73) Nō-tló-vò-á a yam va ma
1SG-put-ING-PFV DIR water ING TOP

‘I put [it] into water,

ná-sslàp nā-ssláp-á-bà ma ala ahal uffad-uffad
1SG-braid.IPFV 1SG-braid-PFV-TEL TOP DIR arm four-four

*I braid [it], I braid [it] into four-cubit long [strings].’

4.3.5 The generic form

There is a generic form of the verb that is not marked for subject or TAM and it is used in peak moments in narratives. It resembles the infinitive but in the generic form the /mV̀-/ prefix carries low tone and there is no suffixation. It denotes habitual meaning (74) and often implies a very general and broad group of participants (75).

(74) Edenja enne á-zlělāv-àkà-l ma
thing DEM 3SG-appear-DIR-3SG.IOBJ.PFV TOP

‘When someone came
dodo mā-hà-lá: ‘Zò-ò-bò no’
leopard GEN-say-3SG.IOBJ take.IMP-ABL-TEL 1SG.DOBJ

leopard would say to him/her: ‘Take me out’.
A similar but more complex construction was observed in the closely related Moloko language that Friesen and Mamalis (2004, p. 45) call ‘stem-infinitive construction’ where the verb stem is followed by the infinitive. They also report that this form appears at high points in the narrative.

4.3.6 Lexical coding of aspect

As presented in the previous sections, Mada has a complex aspectual system. In addition to the overtly marked grammatical aspects listed above, there are a number of adverbs\textsuperscript{21}, listed in Table 9 below, that carry aspectual meaning as well (Table 13). Their description goes beyond the scope of this study but would constitute a fascinating topic for further research.

\textsuperscript{21} Barrateau and Brunet (2000, p. 48) analyse them as ‘modalité verbale’ but they are independent of the verbs and behave like adverbs in the sentence.
Table 13: Adverbs expressing aspectual meaning

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>á-ndàv-á</td>
<td>‘it finished’</td>
<td>Completive – It often follows the verb in temporal subordinate clauses to emphasise that the event expressed by the verb is completely finished. In this context its form is constant and although it looks like a verb, syntactically it behaves like an adverb. In other contexts it can function as the main verb of a clause.</td>
</tr>
<tr>
<td>3SG-finish-PFV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kàdà</td>
<td>‘first’</td>
<td>Anterior – It often follows the imperative and denotes that the action expressed by the verb should be completed before another one.</td>
</tr>
<tr>
<td>mbà</td>
<td>‘just’</td>
<td>Inceptive – It occurs at the end of the clause. It modifies the verb signalling that the action expressed by the verb has just started.</td>
</tr>
<tr>
<td>mbèt</td>
<td>‘was just about to but...’</td>
<td>Unrealised inceptive – It also occurs clause finally and denotes that the action expressed by the verb was planned to happen but did not.</td>
</tr>
</tbody>
</table>

4.4 Mood and Modality

The study of mood and modality constitutes even more challenges than the study of aspect. Palmer (1986, p. 4) admits that when it comes to modality, there is a great variety of meanings cross-linguistically and that a clear, basic feature does not exist. He affirms that in the case of modality, ‘the notion of prototypicality is difficult, if not impossible to apply’ (Palmer, 1986, p. 4). Another challenge is to know what to include in a description on mood and modality as semantic and grammatical considerations have to be made at the same time. This leads directly to the necessity to clearly distinguish these two terms.

Sometimes mood and modality are used interchangeably. However, here mood is understood as the grammatically marked category of the verb that expresses the speaker’s attitude towards a situation,
while modality is a wide semantic domain that contains the elements of meaning marked by grammatical moods but also by syntactic and lexical means as well as by intonation (Bybee and Fleischman, 1995, p. 6; Payne, 1997, p. 244). In the TAM system of Mada both of these terms are significant. Therefore, in addition to the grammatical moods some features of modality will also be described. Mood and modality are more closely linked to the social function of language than tenses or aspects are. Hence their study calls for the analysis of dialogues and not just monologues. For this reason a dialogue and two prayers have been included in the corpus of this research.

In 1985, Bybee (cited in Bybee and Fleischman, 1995, p. 6) suggested a change of terminology concerning modality. She put forth three different terms that include all modal meanings of predicates: agent-oriented modality, epistemic modality and speaker-oriented modality. Agent-oriented modality ‘encompasses meanings such as permission and obligation, and also possibility and necessity’ (Coates, 1995, p. 55). Palmer (1986, p. 51) defines epistemic modality very broadly as showing ‘the status of the speaker’s understanding or knowledge’. This includes the degree of the speaker’s commitment to the truth of the proposition as well as evidentials. Palmer divides epistemic modality into two sub-sets: a) Judgements, including Speculative and Deductive propositions and b) Evidentials, including Quotative propositions. Speaker-oriented modality is defined as expressing the speaker’s ‘attempts to move an addressee to action’ (Bybee and Fleischman, 1995, p. 6).

Bybee (1985) provided evidence that in many languages epistemic modality and speaker-oriented modality tend to be marked inflectionally by bound morphemes, whereas agent-oriented modality is often expressed in non-bound lexical forms, such as by auxiliaries or verbs. This is very much the case in Mada, too. Table 14 illustrates how the different grammatical moods in Mada fall under the above defined three modalities.
Table 14: Modalities and grammatical moods in Mada

<table>
<thead>
<tr>
<th>Epistemic modality</th>
<th>Agent-oriented modality</th>
<th>Speaker-oriented modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realis</td>
<td>Ability and Permission</td>
<td>Imperative</td>
</tr>
<tr>
<td></td>
<td>(auxiliaries)</td>
<td></td>
</tr>
<tr>
<td>Irrealis</td>
<td>Weak obligation</td>
<td>Optative</td>
</tr>
<tr>
<td>Potential</td>
<td>(auxiliary)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a set of complementizers)</td>
<td></td>
</tr>
<tr>
<td>Subjunctive</td>
<td>Weak necessity</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>(phrase)</td>
<td></td>
</tr>
<tr>
<td>Marked by bound morphemes</td>
<td>Marked lexically</td>
<td>Marked by bound morphemes</td>
</tr>
</tbody>
</table>

Presenting this information in a table is not ideal because the boundaries are less clear between the different moods and modalities than the table suggests. It also fails to show the interconnectedness that exists between them. Therefore, I attempted to make a chart that demonstrates the connections between the different modalities and moods in Mada in a more fluid and detailed way (Figure 6). This distribution is of course not true cross-linguistically; it only reflects the way Mada speakers perceive, structure and grammaticalise modal realities.
The highest level modal distinction in Mada is between realis and irrealis moods. It is not easy to uphold and define such a clear distinction as Payne (1997, p. 244) points out that these terms describe a continuum. Many linguists have questioned the usefulness of such a binary distinction (Chafe, 1995, p. 350) but Chafe argues that even though ‘reality is not a binary but a gradient dimension’ – and therefore the distinction between realis and irrealis differs greatly cross-linguistically, – the distinction is still valid because its main effect is to ‘combine the more specific moods and modalities into larger groupings’ (Chafe, 1995, p. 364).

The realis-irrealis distinction is clearly a useful one to make in Mada because it neatly organises the grammatical moods into two distinct categories with a clear boundary. In Mada realis is the default mood and irrealis is marked by low tone on the subject prefix. Within the realis category, the
indicative mood is the default. Interestingly, in Mada there is no grammatically marked interrogative mood. Questions are marked by a clitic or a Wh-word. Interrogative sentences can be marked for realis or irrealis. This will be explained further in section 4.4.4.

Irrealis is marked by low tone and this tonal change holds true in all the other moods associated with it. The negative is marked by a floating low tone and by a clause-final clitic (2.3.2.4). As already mentioned in 2.3.2.3, the potential is marked by a floating high tone prefix. The subjunctive mood is marked by a complementizer and low tone throughout the verbal word. Speaker-oriented modality is marked by inflection and low tone, whereas agent-oriented modality is marked lexically. Palmer (1979) distinguishes different degrees of modalities that are reflected by the choice of ‘strong’ or ‘weak’ modals depending on how strongly and directly the speaker wishes to express his or her attitude towards the situation. In Mada, agent-oriented modality only expresses weak obligation and necessity.

4.4.1 Realis

Payne (1997, p. 244) defines the prototypical realis mood as one that ‘strongly asserts that a specific event or state of affairs has actually happened, or actually holds true.’ From a cognitive linguistic point of view, the realis mood in Mada can be defined as one that reflects that the speaker’s mental representations come from direct perception or from memory. Those, on the other hand, that stem from the speaker’s imagination are expressed through the use of irrealis. The realis-indicative mood is considered the default and both imperfective and perfective aspects can co-occur with it. Using the realis mood the speaker not only affirms that the event actually happened or is happening, but he or she also commits to the truthfulness of the proposition because it was obtained by direct evidence. Thus evidentiality plays an important role in the meaning construction of both realis and irrealis moods.
4.4.2 Irrealis

The definition of irrealis as a grammatical category has been so controversial that Fleischman (1995, p. 522) calls it a ‘decidedly untidy can of worms.’ However, she attempts to define it as the speaker’s ‘lack of belief in or lack of commitment to the reality, realization, or referentiality of an event.’ Mithun (1995, p. 386) views irrealis as a modality for events or states that are nonactualized and ‘remain within the realm of thought or imagination.’ According to Payne (1997, p. 244) a prototypical irrealis mood makes ‘no claims with respect to the actuality of the event or situation described.’

Based on these definitions, the irrealis in Mada can be defined as a mood that marks events or states that have not yet taken place. In addition, in the progressive aspect the irrealis form indicates that the speaker bases the proposition on inferential knowledge and not on direct evidence. This expands the definition of irrealis to include elements of evidentiality as well, at least when it co-occurs with the progressive aspect. The progressive aspect is the only aspect in which evidentiality is overtly marked by two distinctive verb forms. The two verb forms, realis and irrealis, can be used to describe the very same situation depending on whether the speaker affirms that the proposition is based on direct evidence or on inference (76a, 76b).

(76a)  ámbà-mbàdà  zzlam
3SG-PROG.REA-read  things

‘He is studying.’ [the speaker affirms having direct evidence for this proposition]

(76b) è-mè-nè  à-màá-mbádá  zzlam
3SG.IRR-POT.be  3SG.IRR-POT.POT-read  things

‘He might be studying.’ [proposition is based on inference]

In Mada irrealis forms are used for future events, orders, wishes as well as for the subjunctive and the negative. Irrealis verb forms do occur in narrative discourse but they are overwhelmingly more common in direct speech reports than in the narration of consecutive events (Figure 7).
A cross-linguistic link has been found between irrealis verb forms and backgrounding in discourse. Fleischman (1995, p. 539) explains this by the fact that backgrounding involves a reduced assertiveness in relation to the storyline. This holds true in Mada narratives, too, where, without counting direct speech content, 88% of irrealis verb forms occur in backgrounded material (Figure 8). Background material can include information about what could have happened in the story as well as what was not the case.
Interestingly, irrealis forms are extremely rare in procedural discourse. In Mada, procedural discourse is more of a description of a series of events than a set of instructions, hence the almost exclusive use of realis forms.

Hortative texts, on the other hand, abound in irrealis forms (Figure 9). In Mada, being a rather indirect culture, the imperative mood is not the most widely used device for making an exhortation. Instead, the potential mood and complex sentences involving the subjunctive are preferred. The realis-imperfective form is also very common in this context because in Mada the speaker often communicates his or her advice by stating as a fact what the hearer will do, instead of trying to bring the hearer to an action by using agent or speaker-oriented modalities. The widespread use of rhetorical questions also accounts for the lower percentage of the imperative and optative forms.

![Verb forms used for exhortation](image)

**Figure 9**: The most common verb forms used in hortatory discourse

In the following sections each category within the irrealis modality will be described and exemplified.
4.4.2.1 Negation

Mada uses asymmetric negation structures. A language has asymmetric negation when negative sentences differ from the affirmative ones in several ways. One subtype of asymmetric negation involves a change in reality status (Miestamo, 2013) which is the type that can be found in Mada. Negation is marked by a floating low tone spreading from right to left as well as by a negative particle which occurs in sentence-final position. Negation automatically changes the reality status of the proposition and the verb is obligatorily marked for irrealis. This is a fairly common strategy in languages that make a realis-irrealis modality distinction (Rose, 2014). To illustrate this asymmetric negation more clearly, the case of existential negation will be considered first. Examples (77a,b) show that negation triggers the irrealis form. In the case of the copula, this change is evident not just through tonal modifications but also through a distinctive change in the verb root. The realis form of the copula root is /ke/ while the irrealis form is /ne/. In addition to the change in reality status, the whole proposition is marked by the negative particle sentence finally.

(77a)  Kécakwé ma yaŋ ē-ké dadaŋa
        2SG-look.IPFV TOP 3SG.EMPH 3SG-be.IPFV really

‘You see, he really is [alive].’

(77b)  Mahezlara dede-ŋ kini ē-nè eekhe da
        then father-3SG.POSS also 3SG.IRR-be.IRR.IPFV there NEG

‘Then his father is not there.’

In standard negation the change in reality status becomes evident through the tonal change that takes place on the subject prefix (78a,b).

(78a)  Wal nehe é-cèŋ slave
        woman DET 3SG-listen.IPFV ear

‘This woman listens.’
The negative particle has a distinctive form in sentences where the verb is in the perfective aspect (79a,b). This makes the system of negation a bit more complex than in some of the neighbouring languages, but not as varied as in Mouyang (Smith, 2004, p. 6) where four different types of negative clitics exist (incomplete, complete, subjunctive and existential).

(79a) Kay nà-gàs awak gokwa da
INTJ 1SG.IRR-take.IPFV goat 2SG.POSS NEG

‘Crikey! I do not take your goat.’

(79b) Kay nà-gs-á awak gokwa tam
INTJ 1SG.IRR-take-PFV goat 2SG.POSS NEG.PFV

‘Crikey! I did not take your goat.’

As examples (80a,b,c) show, double negation is not allowed in a complex sentence.

(80a) Nò-ŋgòv ta kù-udè da
1SG.IRR-want COMP 2SG.IRR-speak.SBJV NEG

‘I do not want you to speak.’ [I want that you speak]-NOT

(80b) *Nò-ŋgòv da ta kù-udè
1SG.IRR-want NEG COMP 2SG.IRR-speak.SBJV

*I do not want you to speak.’ [I want]-NOT that you speak

(80c) *Nò-ŋgòv da ta kù-udè da
1SG.IRR-want NEG COMP 2SG.IRR-speak.SBJV NEG

*I do not want you to speak.’ [I want]-NOT [that you speak]-NOT
4.4.2.2 Potential

As shown in section 4.2 Mada does not have a grammatical future tense. Events that might take place in the future are expressed in the potential mood. The potential is marked by a high tone prefix (2.3.2.3). The irrealis marker is obligatorily always present with the potential mood marker because together they refer to events that have not yet happened but there is a possibility that they may happen. The potential marker does not convey the meaning of a sure prediction. It simply states that something might possibly happen in the future but the speaker cannot make any promises about the realisation of the event. A similar mood exists in Hausa, a well-documented Chadic language, where the potential differs from the future tense in ‘having a lesser degree of certainty and a lesser element of intentionality or commitment’ (Newman cited in Frajzyngier, 2016, p. 268). In Mada, when the speaker wants to express a more imminent and certain future, a periphrastic construction involving the verb to go has to be used (81a,b). But even in this prospective expression the verbs are marked for both potential and irrealis.

\[(81a)\] nè-é-dè daf
\[1SG.IRR-POT\text{-cook} \quad \text{millet couscous}\]

‘I will cook some millet couscous.’

\[(81b)\] nù-uró nè-é-dè daf
\[1SG.IRR-POT\text{-go} \quad 1SG.IRR-POT\text{-cook} \quad \text{millet couscous}\]

‘I am going to cook millet couscous.’

The prospective construction can only be used in situations where the speaker has sufficient control over the circumstances to make such a statement about the future. For example, in (82b) the complex form cannot be used for making predictions about the weather, even if the signs of an approaching rain are obvious.
(82a) uvar à-mà-táɗ
     rain 3SG.IRR-IRR-POT.fall
     ‘It will/might rain.’

(82b) *uvar ù-uró à-mà-táɗ
     rain 3SG.IRR-POT.go 3SG.IRR-IRR-POT.fall
     ‘It is going to rain.’

According to Jendraschek (2011), prospectives imply an element of planning or a preparatory context at the time of speech but the outcome is only an ‘extrapolation’. The prospective also shows a close relationship with first person subjects because it is easier to assert a claim about one’s intentions than about the intentions of others. Neighbouring language Mouyang has similar potential and prospective constructions (Smith, 2004, p. 6).

4.4.2.3 Subjunctive

Defining the subjunctive mood has proven challenging for linguists. Some associate a very weak meaning with it while others try to ascribe stronger semantics to it. Schuh (2003) argues that the subjunctive has no modal meaning at all and that its TAM interpretation depends entirely on that of the main clause. However, most linguists would agree on a very broad definition that states that the subjunctive carries a weaker epistemic commitment to the proposition (Saebó, 2016; Tao, 2003).

The subjunctive mood in Mada is introduced by the complementizer /tá/ followed by the verb with low tone throughout. Ransom (1986, p. 88) defines complementizers as ‘semi-lexical forms that occur within the complement […] signalling its modality’. This definition can be extended to include that complementizers signal the modal functional relationship between the two clauses and mark their syntactic boundary (Frajzyngier, 1996, p. 89). Mada has several complementizers and some have variants based on whether the proposition followed by the complementizer can still be realised.
or not. This phenomenon is not uncommon in Chadic languages (Frajzyngier, 2016, p. 286). In Mada
the subjunctive complementizer /tá/ has only one form.

The subjunctive can occur even with same subject clauses (83).

\[ (83) \quad \text{Naaka ma nó-ŋgòv ta nù-udè-kà-l} \]

\[ \text{now TOP 1SG-want.IPFV COMP 1SG.IRR-talk-DIR-3SG.IOBJ.SBJV} \]

‘Now, I want to talk about...’ [Lit.: Now, I want that I should talk about...]

Frajzyngier (1996, p. 231) confirms that in some Chadic languages the subjunctive does not have the
function of indicating a different subject in the embedded clause.

Mada allows both types of clausal orders in complex sentences involving the subjunctive mood:
matrix-embedded (84) as well as embedded-matrix (85). The default is that the embedded clause
follows the matrix.

\[ (84) \quad \text{É-ndèyè-fà-ŋ afa koloko ta mà-ŋgrà-rà} \]

\[ 3SG-fix-ADE-3SG.IOBJ ADE turtle COMP IRR-jump-INS.SBJV \]

‘[Squirrel] fixed it [feather] onto turtle so that he may fly away with it.’

\[ (85) \quad \text{Ta koloko mà-ŋgrà ma ä-dà-fà-ŋ-àrà doc} \]

\[ \text{COMP turtle IRR-jump.SBJV TOP 3SG-fall-ADE-VAL-INS.IPFV IDEO} \]

‘So that turtle may fly away, he fell, thud.’

As examples (84) and (85) illustrate, in the subjunctive mood the third person singular subject marker
is omitted. In clauses when the subject is expressed by a noun phrase, the subject comes between
the complementizer and the verb (85).

The subjunctive mood is very productive in Mada and is used in the ensuing contexts.
Following verbs of volition:

(86) Eɗe enehe ana nó-ngòv ta kè-cè-mèŋ

thing DET COMP 1SG-want.IPFV COMP 2PL.IRR-hear-PL-VAL.SBJV

‘Here is what I want you to hear:’ [Lit.: The thing that I want that you should hear...]

In clauses expressing purpose or intent:

(87) Wàrà ta nè-du-kàbàrà muzak magla ge dede

come.IMP COMP 1SG.IRR-show.2SG.OBJ-DIR.SBJV buck fat POSS father

‘[squirrel to leopard] Come so that I may show you the fat buck of the father

so that you may catch [it] and eat [it].’

In third person commands:

(88) Ta yam mè-cè walaŋara ala ere kàfà

COMP water 3SG.IRR-dry.SBJV around DIR eye first

‘Let the water dry around my eyes first!’

Following the temporal adverb /llak/ ‘before’:

(89) Mahazlaranja llak ta nè-cakwè ma klaŋa edeŋa è-ké

then COMP 1SG.IRR-look.SBJV TOP child DET 3SG-be.IPFV

‘Then before I looked, there was a child.’

4.4.2.4 Imperative

Cross-linguistically, imperatives are often expressed by the barest form of the verb and are not marked for TAM. They can, however, be marked for number (Kroeger, 2005, p. 200). Imperatives can
be classified in two groups. Canonical imperatives are addressee-oriented imperatives that exemplify a narrow definition of the category of imperatives. Non-addressee-oriented, or non-canonical imperatives, such as hortatives, jussives and optatives, often constitute a different set within the verbal system of a language as they are marked by a different paradigm (Aikhenvald, 2008).

In Mada, the canonical imperatives are expressed by the verb root and include the second person singular and plural forms. The imperative forms do not have any subject marking but the second person plural form is marked for number with the usual –m suffix (90). Imperatives always carry low tone.

(90)  cəkwè  cəkwè-m
look.IMP look.IMP-PL

Imperatives do not usually have as many aspectual distinctions in a language as other clause types do (Aikhenvald, 2008, p. 14). This is the case in Mada, too, where the imperatives in addition to the default form, can only occur with the perfective aspect. In this case the meaning of the imperative is that the action has to be done before another action takes place (91).

(91)  dè  slame  dé  slame  kada
put.IMP ear put.IMP.PFV ear first
‘Listen!’ ‘Listen first!’

In Mada the canonical imperative forms cannot be negated. Direct negative commands are expressed by using the imperfective aspect and therefore the subject markers become obligatory in both singular (92) and plural (93) and the tone patterns are adjusted on the verb accordingly.
Mada speakers frequently use canonical imperatives in everyday dialogues but they usually choose less direct ways in hortatory texts (as shown earlier in Figure 9). In hortatory texts the imperative form usually gives a summary of the teaching point either at the beginning or at the end of the paragraph. Smith (2004, p. 38) observes similar tendencies in the neighbouring Mouyang language.

4.4.2.5 Optative

Frajzyngier (2016, p. 281) defines the optative as ‘a mood of obligation with respect to all persons with no implication of an immediate implementation of the speaker’s wish.’ Tao (2003, p. 271) considers the optative to be a subgroup of the subjunctive mood. This is not the case in Mada, although the two forms are very similar. In Mada the optative mood includes hortative and jussive meanings as well. Based on their syntactic marking they are treated as part of the optative mood even though semantically speaking they could be considered a separate group within the non-addressee-oriented imperatives.

In Mada the optative is expressed by the prefix /mV̀-. The optative verb form is not marked for person or number. As in some other Chadic languages (Frajzyngier, 2016, p. 282), the optative cannot be used with the first person singular but can occur with the third person singular (94) and the first person plural inclusive (95). The optative can express both wishes and mitigated commands.
Zegla  mè-nè  ara  kwal
God  OPT-be.IRR  INS  2SG.DOBJ

‘May God be with you!’ [expression used to say goodbye]

Wà  klaabba  mì-nimè  mè-flè  ama
come.IMP  friend  OPT-go.INCL  OPT-harvest.honey.INCL  honey

‘Come my friend, let’s go and harvest some honey!’

In wishes the complementizer /ŋgala/ can optionally be used in the beginning of the sentence (96).

Ngala  Zegla  Bba  mà-hàlà-kw  bzaagam  dik
COMP  God  chief  OPT-give-2SG.IOBJ  children  many

‘May the Lord give you many children!’

4.4.2.6 Lexically marked agent-oriented modality

In addition to the above described grammatical forms, Mada speakers use other complex constructions to express meanings of varying degrees of ability, permission, obligation and necessity.

Ability and permission are both expressed by the auxiliary /mbV/ ‘can’. It can be conjugated in all persons, it is marked for TAM and it always directly precedes the main verb. For emphases the adverb /cek/ ‘possible’ can be added clause-finally (97).

Aŋglak  á-hà-lá:  nà-á-mbà-fàŋ  nà-á-zàlà  okko  cek
bird  3SG-say-3SG.IOBJ.IPFV  1SG.IRR-POT-can-VAL  1SG.IRR-POT-call  fire  possible

‘Bird said to him: I can call fire [to come].’

Obligation can be expressed in two different ways. The stronger one is marked by the complementizer /si/ followed by the verb in irrealis-potential (98).
Weaker obligation is expressed with the auxiliary verb /āŋgasakal/ literally meaning ‘it is fit that’ but which in this case could loosely be translated as ‘should’. The auxiliary is followed by the main verb in the irrealis-potential mood (99).

(99) Á-ŋgasà-kà-I kà-wá
    3SG-fit-DIR-3SG.IOBJ 2SG.IRR-POT.come

‘You should come.’ [Lit.: It is fitting in for it that you come.]

The notion of necessity is expressed by the phrase /marbaanja ma/ meaning ‘it is good to’ followed by the verb in the irrealis-potential mood (100).

(100) M-árbá-áŋá ma kà-plá-w
    good.PTCP TOP 2SG.IRR-POT.pay-1SG.IOBJ

‘It is necessary that you pay me.’

The study of speaker and agent-oriented modalities requires an in-depth analysis of the semantics and pragmatics of verb forms which according to Aikhenvald (2008, p. 24) ‘can only be achieved through immersion field work, living with the language and knowing it through and through’. The analysis presented here is just the beginning of such immersion fieldwork. With time further research could yield valuable insight especially into the pragmatic and discourse functions of these forms.

4.4.3 Interaction between moods and aspects

Aspectual and modal operators usually co-occur and interact with each other and can therefore be challenging to tease apart. Certain TAM operators may co-occur with greater frequency than others.
These more common clusters of TAM operators are sometimes referred to as ‘hypermorphemes’ (Payne, 1997, p. 234). Table 15 illustrates how the TAM operators can combine in Mada.

**Table 15: Mood-aspect interaction in Mada**

<table>
<thead>
<tr>
<th></th>
<th>IPFV</th>
<th>PFV</th>
<th>PROG</th>
<th>SIM</th>
<th>PLUR</th>
<th>ITER</th>
<th>DISTR</th>
<th>TEL</th>
<th>NEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realis</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Irrealis</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Potential</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Subjunctive</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Imperative</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Optative</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Negative</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

The negative is presented in both axes of the table because in Mada the negative is a sentence level operator and formally belongs to the whole verbal complex. Table 15 demonstrates that most TAM combinations are allowed except for seven cases. The subjunctive and the optative moods cannot co-occur with the perfective and the progressive aspect. The imperative mood cannot co-occur with the progressive. In the scope of the negative operator, realis cannot co-occur with negation because negation automatically changes the reality status of the proposition into irrealis. Negation cannot co-occur with the imperative mood either. The data presented in Table 15 was obtained through elicitation. In natural speech certain forms hardly ever occur although they are grammatically possible according to native speakers.

**4.4.4 Questions**

In Mada interrogative sentences can be marked for realis (101) or irrealis (103) depending on what the speaker’s purpose is with the proposition. In many languages that make a distinction between realis and irrealis, questions tend to belong to irrealis (Chafe, 1995). To resolve this, one could posit
that in Mada certain questions are not seen as referring to elements outside of the perceived reality, but instead they might be interpreted as either requests for information or as indirect statements. This view can be supported by the fact that rhetorical questions are extremely widely used in Mada discourse.

As mentioned earlier, Mada does not have an interrogative mood, as verbs are not marked inflectionally for questions. Kroeger (2005, p. 203) distinguishes two types of questions: yes-no questions and content questions. In Mada yes-no questions are marked by the clitic /yaw/ which occurs in sentence final position (101). According to Frajzyngier (2016, p. 273), this is very common in Chadic languages.

(101) No ndar nó-dō aslaŋa yaw
1SG.EMPH also 1SG-go.PFV somewhere Q

‘Me, did I go anywhere?’

In content questions the clitic /yaw/ does not occur. Instead a question word appears at the end of the sentence (102).

(102) Zal akkal-aŋa tē-ké aŋay
man theft-PTCP 3PL-be.IPFV where

‘Where are the thieves?’

It is possible – although less common – to frame the whole question by using a question word in the beginning as well as at the end of the sentence. In this case the first question word is contracted (103).

(103) Wa na à-máá-vlá-kw edeŋa zla way
who COMP 3SG.IRR-IRR.POT-give-2SG.IOBJ something then who

‘Who will then give you something?’
The word order stays the same in interrogative as in indicative sentences. It is interesting to note that the topic marker has a different form in questions. In indicative sentences it is /má/, while in interrogative sentences it is /tà/\(^\text{22}\) (104). In the neighbouring Ouldeme language, Kinnaird (1999, p. 10) has found a similar complementary distribution of two different forms of the topic marker.

\begin{verbatim}
(104)    Bi    kó-dö-á    ké-dzé-ŋ-á    sifa    gokwa    taa
maybe   2SG-go-PFV  2SG-lose-VAL-PFV  life  2SG.POSS  TOP.Q

tomorrow  taa    kà-tákál-và    sifa    vvaɗ    cek    yaw
	TOP.Q   2SG.IRR-find-REFL  life  again  can  Q

tomorrow, can you find your life again?
\end{verbatim}

The existence of a distinct form for the topic marker in interrogative sentences can be explained by the fact that interrogative sentences are identical to indicative ones in terms of word order and the question word or clitic only comes at the end of the sentence. Mada speakers have a tendency to stack subordinate clauses before the main clause even in a question. The distinctive form for the topic marker in questions gives the hearers an early warning that the sentence is going to end up being a question even if the question word or clitic will only appear several clauses later at the end of the sentence.

\(^{22}\) In the orthography it is written as ´taa` in order to easily distinguish it from the complementizer /tá/.
Chapter 5: Conclusion

5.1 Summary

Mada is a Central-Chadic language spoken in the Far-North Region of Cameroon. Previous documentation of Mada does not seem to adequately describe the structure of the language as it relies heavily on French grammatical categories. Consequently, the aim of this research was to gain a better understanding of the grammatical tone system of the language and to investigate the form and function of TAM. The data presented in this paper was collected through field research over a period of one year.

Mada exhibits many of the typical Chadic features in its phonology. Consonants constitute the skeleton of words and there is only one underlying vowel phoneme. There are two very productive prosodies, palatalisation and labialisation, that have influence over whole phonological words, modifying the pronunciation of all vowels and laminal consonants, spreading from right to left. They can even carry lexical meaning. In this study, I presented a new analysis of the tone system that differs from previous research because it takes into consideration the pitch-lowering effect of depressor consonants and reduces the number of underlying tones from three to two. This understanding led to a more concise analysis of the phonological processes related to grammatical tone than those presented in previous research. A thorough tonal analysis is essential because the major aspectual and modal distinctions are marked only by tone in Mada.

As expected for a Chadic language, the verbal morphology of Mada is very complex. The verbal word can contain up to thirteen affixes attached to the root. Some are prefixes marking person and aspects while others are suffixes indicating number, aspects and directions. Mada has a large inventory of so-called adpositional suffixes.
Mada does not mark grammatical tense but has a multifaceted aspectual and modal system. The primary aspectual distinction is between imperfective and perfective aspects with the imperfective being the default, unmarked form. The imperfective is by far the most commonly used verb form in discourse while the perfective is mostly reserved for background material. There are three secondary aspects, the progressive, the simultaneous and the pluractional, that can modify the meaning of the imperfective but cannot co-occur with the perfective. The pluractional is particularly interesting both from a phonological and semantic point of view as it can express the plurality of the action and the plurality of the complement as well. Furthermore, there are three tertiary aspects, the iterative, the distributive and the telic, that can co-occur with both the imperfective and the perfective.

As the imperfective-perfective distinction constitutes the ‘backbone’ of the aspectual system, so does the division between realis and irrealis for the modal system. Realis is the default mood and asserts that the proposition stems from direct evidence or memory. Irrealis is marked by a tonal change and is used for talking about events that have not yet happened or for which there is no direct evidence. Therefore, negatives, potentials, subjunctives, imperatives and optatives are all subgroups of the irrealis mood. The irrealis, while its usefulness is very much debated among linguists, constitutes a very valid grammatical category in Mada as it regroups several moods that are all marked by low tone on the subject prefix and that all share the semantic meaning of events in the realm of the imagination. In the progressive aspect, the irrealis form expresses evidentiality denoting that the speaker does not have direct evidence for the proposition. In discourse, the vast majority of irrealis verb forms occur in speech or in backgrounded material.

All these aspects and moods can combine with each other except for a few rare cases. This interconnectedness of aspects and moods exemplifies well the Chadic heritage of Mada.
The following section outlines how the results of this study of the TAM operators in Mada may have implications for the development of this language that is still at the beginning stages of becoming standardised.

5.2 Implications for language development

The most important implication of this research is its influence on the orthography of Mada. Up to this date there have been four versions of the Mada orthography, none of them being extensively used or taught yet. Based on the research presented here I propose some changes to the last version (Telemke, et al., 2011). Table 16 summarises how the different versions dealt with the complex structures of the verb phrase in some key areas. I suggest two changes that are both related to marking tone on the verb. This discussion about the orthography could constitute a whole paper in itself as besides purely linguistic factors, sociolinguistic, didactic, psycholinguistic and political aspects have to be considered as well when a community is faced with decisions about their writing system (Cahill and Rice, 2014). The scope of this work does not allow for such in-depth analysis, so I will only present my suggestions here very briefly knowing that the decision about orthography changes lies first and foremost with the Mada community.
Table 16: Verb phrase related issues in the previous orthographies

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tone marking on the verb</strong></td>
<td>All surface</td>
<td>H and L surface tones</td>
<td>L surface tone</td>
<td>Grammatical tone: H tone</td>
<td>Grammatical tone: H tone</td>
</tr>
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<td>tones marked</td>
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<td>marked</td>
<td>to mark the perfective</td>
<td>to mark the perfective, L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>tone to mark the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>irrealis-potential</td>
</tr>
<tr>
<td><strong>Verb affixation</strong></td>
<td>Suffixes</td>
<td>Suffixes</td>
<td>Suffixes</td>
<td>Suffixes</td>
<td>Suffixes</td>
</tr>
<tr>
<td></td>
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<td>attached</td>
<td>attached</td>
<td>attached</td>
<td>attached</td>
</tr>
<tr>
<td><strong>Negation</strong></td>
<td>Unmarked</td>
<td>Unmarked</td>
<td>Unmarked</td>
<td>Unmarked</td>
<td>Marked</td>
</tr>
</tbody>
</table>

Based on Kutsch Lojenga’s (2014) distinction of languages with tone, Mada is a language with ‘movable tone’. She suggests that in languages with movable tone it is advantageous to establish a tone writing system that is linked to the function of tone in the grammar. There are three forms in Mada that in some cases can only be distinguished by tone (105): realis-imperfective, realis-perfective and the irrealis-potential.

(105)  nú-bà   nú-bá   nù-bá

\[
\begin{align*}
/\text{nú}-\text{wbv}/ & \quad /\text{nú}-\text{wbv}-\text{v}/ & \quad /\text{nú}-\text{v}-\text{wbv}/ \\
\text{1SG-dance.IPFV} & \quad \text{1SG-dance-PFV} & \quad \text{1SG.IRR-POT-dance} \\
\text{‘I dance’} & \quad \text{‘I danced’} & \quad \text{‘I will/might dance’} \\
\langle \text{nuba} \rangle & \quad \langle \text{nubá} \rangle & \quad \langle \text{nùba} \rangle
\end{align*}
\]

Therefore, as shown in the last line of the example above, I suggest that the realis-imperfective, being by far the most commonly used form, should remain unmarked in the orthography but the other two should receive some kind of marking to show the grammatical contrast. I suggest that the realis-perfective should be marked by an acute accent on the last syllable as the perfective is marked
by high tone that always attaches to the last syllable of the verb. The irrealis-potential should be marked by a grave accent on the subject prefix. It would distinguish it clearly from the other two forms and it happens to reflect the correct pronunciation because in every irrealis form the tone on the subject prefix is low. The advantage of using these markings would be that 1) these accents are already known to most speakers from French; 2) they would not hinder easy writing as the marked forms do not appear widely; 3) the form reflects the pronunciation of a high and a low tone respectively which can help new readers; 4) the accents are placed in different places on the verb helping beginner readers to quickly identify the difference and to reduce possible confusion about the meaning of the accents. The subjunctive form need not be marked because it always co-occurs with the complementizer /ta/ which can signal the tone melody associated with the subjunctive. The complementizer appears close enough to the verb for the reader to remember the correct tone melody for the verb.

Having distinguished these grammatical categories in the writing system, the problem of the negative forms still remains. The tone melody of the verb is completely changed in the negative and the negative particle only occurs clause-finally. So far none of the previous versions of the orthography has tackled this problem. I suggest that negation should be marked so that the reader can know before reaching the end of the sentence how to pronounce the verb. I have observed that even fluent readers have to re-read whole sentences when they come to the end of the clause just to find the negative particle which forces them to re-pronounce the verb form with the correct melody. In order to avoid this, negative sentences could be marked either sentence initially (as it is the case in Spanish) or immediately before the verb. My suggestion would be to use an apostrophe directly before the verb to show that the verb should be pronounced with a negative tone melody (106).
Á-sà-kèlè ma kà-gsà-màbà da

3SG-lie-2PL.IOBJ.IPFV TOP 2PL-take-PL-DIR.IPFV NEG

‘He is lying to you, do not take him out!’

〈Asakèle ma, ‘kagsamaba da.〉

The advantage of marking negation right before the verb would be that in complex sentences it would still be clear which verb is being negated. It also gives a just-in-time clue for the reader about the melody on the verb. The apostrophe is a known symbol from the French orthography and it is not intrusive in the text.

In order to arrive at an acceptable, clear and user-friendly orthography, further testing and a sociolinguistic survey need to be conducted among the Mada sometime in the near future.

5.3 Suggestions for further research

There are many areas in the field of TAM in Mada that would constitute an interesting study in the future and could potentially give further insight into the development of the aspectual and modal systems of Central-Chadic languages. The following list gives a taste of such research topics.

- Adpositional suffixes and directionals in discourse
- The suffix /-a/ attached to the direct object in the perfective aspect – a remnant of case marking?
- The relationship between aktionsart and grammatical aspects
- Epistemic modality and evidentiality in Mada from a cognitive linguistic point of view
- Speaker and agent-oriented modalities in Mada conversations
The findings presented here only scratch the surface of the grammatical complexities found in Mada. A Mada proverb says ‘Gsa ftæl edeŋa gokwa kada, gata godogoŋa ahba ara tebiyya gsa!’ which translates as ‘Catch the tail of your animal first, with time you will catch the head too!’ With this research as a starting point, I encourage the Mada community and other linguists to join me in the adventure of gaining a better understanding of this fascinating language.


Gravina, R. (2015) *Proto-Central Chadic Reconstructions.* Available at:  


Jendraschek, G. (2011) *Future tense, prospective aspect, and irrealis mood as part of the situation perspective: Insights from Basque, Turkish, and Papuan*. Available at:  


LACITO – Langues et Civilisations à Tradition Orale, CNRS (2016) *Chadic Languages North of the Mandara Mountains*. Available at:  
http://lacito.vjf.cnrs.fr/pangloss/languages/Ouldeme.htm#carte  

https://www.ethnologue.com/  


Available at:


Wolff, E. H. (2015) *Vocalogenesis in Central Chadic Languages*. Available at:


1. TAM questionnaire

Verb: *ahpad* ‘to eat meat’  

CV pattern of the root: **CCVC**

1. Il mange la viande.
2. Il a l’habitude de manger la viande.
3. Il mange la viande chaque jour.
4. Il est en train de manger la viande.
5. Il a mangé la viande.
6. Il a mangé la viande. (Il a tout mangé, il n’y a pas de reste.)
7. Il était en train de manger la viande.
8. Il vient de manger la viande.
9. Il a mangé la viande hier.
10. Il a mangé la viande il y a quelques heures.
11. Il a mangé la viande la semaine passée.
12. Il a mangé la viande il y a très longtemps.
13. Il mangeait la viande. (Dans le passé mais il ne la mange plus.)
15. Il va manger la viande. (C’est sûr !)
16. Il va manger la viande. (Peut-être, ce n’est pas sûr !)
17. Il sera en train de manger la viande.
18. Il est venu et il a mangé la viande. (Séquence, sujet identique)
19. Il est venu en mangeant la viande. (Actions simultanées)
20. Il est venu après avoir mangé la viande.
21. Il est venu pour manger la viande.
22. Il vient en mangeant la viande.
23. Il est en train de venir après avoir mangé la viande.
24. Il est en train de venir en mangeant la viande.
25. Il viendra et il mangera la viande.
26. Il viendra en mangeant la viande.
27. Mange la viande !
28. Mangez la viande !
29. Mangeons la viande ! (Inclusive)
30. Mangeons la viande ! (Exclusive)
31. Qu’il mange la viande ! (Ordre)
   30.b. Je veux qu’il mange la viande.
32. Qu’ils mangent la viande ! (Ordre)
   31.b. Je veux qu’ils mangent la viande.
   31.c. Je voulais qu’ils mangent la viande hier.
33. Mange la viande d’abord ! (Ordre)
34. Continue à manger la viande ! (Ordre)
35. Viens et mange la viande ! (Ordre)
36. Viens en mangeant la viande ! (Ordre)
37. Viens après avoir mangé la viande ! (Ordre)
38. Viens pour manger la viande ! (Ordre)
39. S’il mange la viande, dis-le-moi !
40. S’il a mangé la viande, dis-le-moi !
41. S’il va manger la viande, dis-le moi !
42. S’il avait mangé la viande, il m’aurait dit. (Mais il ne l’a pas mangé.)
43. S’il mangeait la viande, il me dirait. (Mais il ne la mange pas.)
44. S’il mangera la viande, il me dira. (Mais il ne le fera pas.)
45. S’il était venu, il aurait mangé la viande.

46. S’il vient, qu’il mange la viande.

47. S’il vient, il mangera la viande.

48. Quand il arrivera, il aura mangé la viande.

49. C’est lui qui mange la viande.

50. C’est lui qui a mangé la viande.

51. C’est lui qui mangera la viande.

52. C’est lui qui est en train de manger la viande.

53. C’est la viande qu’il mange.

54. C’est la viande qu’il a mangée.

55. C’est la viande qu’il mangera.

56. C’est la viande qu’il est en train de manger.

Questions added to the questionnaire in May 2016:

57. Q : Qu’est-ce que tu vas faire?
A : [étudier]

58. Q : Qu’est-ce qui va se passer si je mange ce champignon?
A : [mourir]

59. Demain je ne vais pas nager dans le lac, l’eau sera froide.

60. Mes amis disent que l’eau est froide dans le lac.

61. Selon le contrat, ils ne vont pas travailler demain.

62. Je crois qu’ils ne vont pas travailler demain.

63. Quand je reviens, tu auras fini le travail.

64. Je te promets, je vais venir demain.

65. Si tu me montre la route, je vais te donner l’argent.

66. Quand je serai adulte, je vais m’acheter une Porsche.
67. Q : Quels sont tes plans pour ce soir
   A : [étudier] / [rester à la maison] / [cuisiner]

68. Q : Quels sont tes plans pour demain
   A : [étudier] / [rester à la maison] / [cuisiner]

69. Q : Qu’est-ce que tu vas faire maintenant-là ?
   A : [étudier] / [rester à la maison] / [cuisiner]

70. Il y a beaucoup de nuages. Il va pleuvoir.

71. Il y a beaucoup de nuages, peut-être il va pleuvoir.

72. Hier matin il y avait des nuages quand je suis sorti. J’ai pris mon parapluie, car il allait pleuvoir dans quelques minutes.

73. J’ai rencontré ton frère il y a quelques jours. Il s’inquiétait parce qu’il allait voir le dentiste le lendemain.
2. The linage of the 13 Mada clans (Richard, 1977, p. 77)
3. A description of consonants and vowels in Mada

The consonant phonemes of Mada are presented in the following table.

<table>
<thead>
<tr>
<th></th>
<th>Labials</th>
<th>Coronals</th>
<th>Velars</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alvlr</td>
<td>Laminal</td>
<td>Palatal</td>
<td>LAB</td>
</tr>
<tr>
<td>Obstruents</td>
<td>vcless.</td>
<td>/p/</td>
<td>/t/</td>
<td>/ts/</td>
</tr>
<tr>
<td></td>
<td>voiced</td>
<td>/b/</td>
<td>/d/</td>
<td>/dz/</td>
</tr>
<tr>
<td></td>
<td>prenas.</td>
<td>/ⁿb/</td>
<td>/ⁿd/</td>
<td>/ⁿdz/</td>
</tr>
<tr>
<td>Fricatives</td>
<td>vcless.</td>
<td>/f/</td>
<td>/h/</td>
<td>/s/</td>
</tr>
<tr>
<td></td>
<td>voiced</td>
<td>/v/</td>
<td>/ʃ/</td>
<td>/z/</td>
</tr>
<tr>
<td>Implosives</td>
<td></td>
<td>/ɓ/</td>
<td>/ɗ/</td>
<td></td>
</tr>
<tr>
<td>Nasals</td>
<td>/m/</td>
<td>/n/</td>
<td></td>
<td>/ŋ/</td>
</tr>
<tr>
<td>Liquids</td>
<td>/l/</td>
<td>/ɾ/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semivowels</td>
<td>/w/</td>
<td></td>
<td>/j/</td>
<td></td>
</tr>
</tbody>
</table>

Each laminal consonant has a palatalised allophone that occurs in palatalised words only. All consonants have geminate counterparts.

An interesting feature of Mada is the presence of geminate consonants which makes it unique among the neighbouring languages. The fact that geminate consonants can take word initial position historically might indicate a vowel loss. This lost vowel could have been either at the beginning of the word or between the initial consonants, which by now fused into one long consonant (Pearce, 2014, personal communication). According to Gravina (2014), the gemination could have started with a compensatory reduplication process due to the loss of a consonant that used to occur in the beginning of the word in Proto-Central Chadic.
The vowel phones of Mada are presented in the following table.

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Round</td>
<td>+Round</td>
<td>-Round</td>
</tr>
<tr>
<td>close</td>
<td>i</td>
<td>γ</td>
<td>u</td>
</tr>
<tr>
<td>close-mid</td>
<td>e</td>
<td>φ</td>
<td>o</td>
</tr>
<tr>
<td>mid</td>
<td></td>
<td>α</td>
<td></td>
</tr>
<tr>
<td>open-mid</td>
<td>ε</td>
<td>œ</td>
<td>c</td>
</tr>
<tr>
<td>open</td>
<td></td>
<td>α</td>
<td></td>
</tr>
</tbody>
</table>

Mada has only one underlying vowel, the vowel /a/ or /V/. In order to break up consonant clusters an epenthetic vowel is inserted.

The vowels can be ‘coloured’ by word level prosodies: Labialisation (LAB) and Palatalisation (PAL) as well as by adjacent labialised velars that have a rounding effect on the vowels around them.

Default: PAL

Labialisation:

PAL

Palatalisation:

LAB

PAL+LAB

<table>
<thead>
<tr>
<th></th>
<th>PAL</th>
<th>LAB</th>
<th>PAL+LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>[daba]</td>
<td>/dbV/</td>
<td>/ksVm/</td>
<td>/h”dVr”/</td>
</tr>
<tr>
<td>‘termite’</td>
<td>‘death’</td>
<td>‘heart’</td>
<td>‘nose’</td>
</tr>
</tbody>
</table>
4. Manuscript of a folk tale with the old orthography
## 5. List of texts used

<table>
<thead>
<tr>
<th>Title</th>
<th>Genre</th>
<th>Source</th>
<th>Transcribed by</th>
<th>Length</th>
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</thead>
<tbody>
<tr>
<td>Ata mbelle atal ata aya</td>
<td>folk tale</td>
<td>old manuscript</td>
<td>Guimkal Fefe</td>
<td>62 sentences</td>
</tr>
<tr>
<td>Ata aya ata dodo</td>
<td>folk tale</td>
<td>old manuscript</td>
<td>Guimkal Fefe</td>
<td>58 sentences</td>
</tr>
<tr>
<td>Madda a Mora</td>
<td>real life narrative</td>
<td>Guézoué Moussa</td>
<td>Zacharie Hatolong Boho &amp; Eszter Ernst-Kurdi</td>
<td>58 sentences</td>
</tr>
<tr>
<td>Madda ga Habaga</td>
<td>real life narrative</td>
<td>Habaga Elie</td>
<td>Zacharie Hatolong Boho &amp; Eszter Ernst-Kurdi</td>
<td>47 sentences</td>
</tr>
<tr>
<td>Shida ga Zlazla Andrawas</td>
<td>real life narrative</td>
<td>Zlazla Andrawas</td>
<td>Zacharie Hatolong Boho &amp; Ada Rosaline &amp; Eszter Ernst-Kurdi</td>
<td>95 sentences</td>
</tr>
<tr>
<td>Mavlala mandzaha aga dedeŋ a kla</td>
<td>exhortation</td>
<td>Ousman Barthelemie</td>
<td>Guimkal Fefe &amp; Eszter Ernst-Kurdi</td>
<td>38 sentences</td>
</tr>
<tr>
<td>Elle mavrasla angara ara zdat mada-mada</td>
<td>descriptive procedure</td>
<td>Mbekire Elizabeth</td>
<td>Guimkal Fefe &amp; Eszter Ernst-Kurdi</td>
<td>18 sentences</td>
</tr>
<tr>
<td>Mawala ḋga</td>
<td>descriptive procedure</td>
<td>Zlazla Andrawas</td>
<td>Guimkal Fefe &amp; Eszter Ernst-Kurdi</td>
<td>39 sentences</td>
</tr>
<tr>
<td>Mandava kuda 1</td>
<td>prayer</td>
<td>Guimkal Fefe</td>
<td>Guimkal Fefe</td>
<td>12 sentences</td>
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<tr>
<td>Mandava kuda 2</td>
<td>prayer</td>
<td>Guimkal Fefe</td>
<td>Guimkal Fefe</td>
<td>7 sentences</td>
</tr>
<tr>
<td>Mandawafaba</td>
<td>dialogue</td>
<td>Guimkal Fefe &amp; Aminou Martin</td>
<td>Guimkal Fefe</td>
<td>24 sentences</td>
</tr>
</tbody>
</table>
## 6. Conjugation table with all surface tones marked

**Root:** *ka*  
**Gloss:** ‘build’  
**CV pattern:** CV

<table>
<thead>
<tr>
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<th>REA-IPFV</th>
<th>NEG REA-IPFV</th>
<th>REA-PFV</th>
<th>NEG REA-PFV</th>
<th>IRR-POT-IPFV</th>
<th>NEG IRR-POT-IPFV</th>
</tr>
</thead>
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<td>nákā</td>
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<td>nákā</td>
<td>nákā tām</td>
<td>nákā</td>
<td>nákā dā</td>
</tr>
<tr>
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**Root:** *zgal*  
**Gloss:** ‘follow’  
**CV pattern:** DDVC

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124
7. Areal distribution of prosodic types in Central-Chadic

(Wolff, 2015, p. 10)