

Ma Manda Phonology

Ryan Pennington



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Ryan Pennington

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Dedicated to Crystal, my bride,
about whom I think and dream every hour of every day.

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ABBREVIATIONS

-	affix boundary	LW	loanword
*	ungrammatical	MED	medial verb
//	phonemic representation	ms	milliseconds
[]	phonetic representation	MSC	morpheme structure constraint
~	free variation	n	noun
+	join morphemes	NOM	nominative case
:	fused morpheme	NFUT	near future tense
=	clitic boundary	NPST	near past tense
→	becomes, surfaces as	NV	nasal + vowel sequence
∅	null morpheme	O	bound object pronoun
1	1st person	OPD	Organised Phonology Data
2	2nd person	PART	participle
3	3rd person	PFV	perfective aspect
adj	adjective	PL	plural
adv	adverb	PNG	Papua New Guinea
CAT	cataphoric pronoun	POSS	possessive
CAUS	causative	PRES	present tense
COMPL	completive aspect	RPST	remote past tense
DAT	dative pronoun	SBJV	subjunctive mood
DS	different subject medial verb	SCL	Syllable Contact Law
DU	dual	SG	singular
EMPH	emphatic pronoun	SIM	same subject simultaneous medial verb
H	heavy syllable	SS	same subject medial verb
HAB	habitual aspect	SSP	Sonority Sequencing Principle
Hz	Hertz	TAM	tense, aspect, modality
IMP	imperative mood	v	verb
ITER	iterative aspect	VOT	voice onset time
L	light syllable	YNQ	polar question
LLG	Local Level Government		
LOC	locative case		

1 INTRODUCTION

This thesis is a phonological description of Ma Manda (ISO 639-3: *skc*), a Finisterre-Huon language of the Trans-New Guinea family. It is one of eleven languages that form the Erap subgroup, a subdivision of the broader Finisterre-Huon family that is spread across the Huon peninsula of northeastern Papua New Guinea (PNG).

The phonology of Ma Manda is particularly interesting in several ways. First of all, the high peripheral vowels /i u/ are prone to reduction to the high central [ɨ] in unstressed environments, as well as in words of three syllables or longer. This can be seen when the first person possessive suffix is attached to /nimin/ ‘cousin’.

- | | | | |
|-----|---------------|-----------------------|-------------------|
| (1) | a. /nimin/ | [ní.min] ¹ | ‘cousin’ |
| | b. /nimin-nə/ | [nì.mi.nó] | ‘cousin-1SG.POSS’ |

Related to this process of vowel reduction is the process of barred-i epenthesis, whereby [ɨ̄] is inserted between disallowed consonant clusters, as well as word-finally after voiced plosives /b d g/, the liquid /l/, and fricatives /f s/. Diachronically, epenthesis has arisen from the reanalysis of [ɨ] as an epenthetic segment rather than a reduction of the full high vowels. Ma Manda is in a state of transition with regard to this vowel: Often the full high peripheral vowels are recoverable in careful speech and thus reanalysis is shown not to have occurred, while in many other cases morphological evidence reveals

¹ All phonetic symbols used in this thesis follow the International Phonetic Alphabet.

that this vowel is not underlyingly present. As an example, the following pair of forms shows /nol/ ‘brother’ both in isolation and with the first person possessive suffix /-nə/:

- | | | | |
|-----|-------------|----------|--------------------|
| (2) | a. /nol/ | [nó.lu] | ‘brother’ |
| | b. /nol-nə/ | [nót.nə] | ‘brother-1SG.POSS’ |

Word-finally in (2a), the epenthetic vowel is realized as [u] after /l/ (harmonized in roundness and backness with the [o] earlier in the word). When attached to the nasal-initial suffix, however, /l/ undergoes a predictable alternation: /l+n/→[tn]. This alternation shows that the high vowel is not phonemically present here.

A second unique characteristic of Ma Manda phonology is the phenomenon of long distance nasal agreement, whereby nasal+vowel sequences initiate the prenasalization of a following tautomorphemic voiced plosive. Interestingly, heteromorphemically both voiced *and* voiceless plosives are prenasalized in this environment. Ma Manda is the only language in the world known to exhibit such a pattern. Nasal agreement among both voiced and voiceless plosives is seen in the following verbal paradigm (where (3) shows a regular verb root and (4) shows a verb root composed of an NV sequence).

- | | | | |
|-----|-------------------------------------|---|-------------------------|
| (3) | a. /lo/ ‘go.up’ + /-got/ ‘1SG:RPST’ | → | [ló.got] ‘I went up’ |
| | b. /lo/ ‘go.up’ + /-de/ ‘2DU:IMP’ | → | [ló.de] ‘go up (2DU)!’ |
| | c. /lo/ ‘go.up’ + /-qə/ ‘SS’ | → | [ló.qə] ‘go up and ...’ |

- (4)
- | | | |
|---------------------------------------|---|----------------------------|
| a. /mo/ ‘go.down’ + /-got/ ‘1SG:RPST’ | → | [món.got] ‘I went down’ |
| b. /mo/ ‘go.down’ + /-de/ ‘2DU:IMP’ | → | [món.de] ‘go down (2DU)!’ |
| c. /mo/ ‘go.down’ + /-qə/ ‘SS’ | → | [món.qə] ‘go down and ...’ |

A final unique characteristic of Ma Manda phonology is the complex morphophonemic alternations that are seen when consonants—especially sonorants—are brought into contact with other consonants across morpheme boundaries. For example, the liquid changes to a voiceless stop when adjacent to any nasal (e.g., /l+m/→[tm] and /m+l/→[mt]/[mp]), and the liquid and labiovelar glide coalesce to form [g]. These alternations can be seen in (5).

- (5)
- | | | |
|--|---|------------------------------------|
| a. /lo/ ‘go.up’ + /-lət/ ‘1SG:PRES’ | → | [lo.lət] ‘I am going up’ |
| b. /blam/ ‘carry’ + /-lət/ ‘1SG:PRES’ | → | [blám.tət] ‘I am carrying it’ |
| c. /monə/ ‘secondborn.son’ + /=li/ ‘NOM’ | → | [mó.nə.li] ‘Secondborn son did...’ |
| d. /qaqon/ ‘uncle’ + /=li/ ‘NOM’ | → | [qá.qon.ɬi] ‘Uncle did ...’ |
| e. /nam/ ‘brother-in-law’ + /=li/ ‘NOM’ | → | [nam.pi] ‘Brother-in-law did ...’ |
| f. /ul/ ‘hit’ + /-neŋ/ ‘2PL:IMP’ | → | [út.neŋ] ‘hit him (2PL)!’ |
| g. /ul/ ‘hit’ + /-wam/ ‘1PL:PRES’ | → | [u.gam] ‘we are hitting him’ |

The remaining portions of this chapter are structured as follows: First, in §1.1 I discuss the objective and structure of this thesis; in §1.2 I lay out my four primary motivations for this study; §1.3 addresses the scope of the thesis, including the limitations I am aware of; §1.4 provides a description of the methodology that has been undertaken; and §1.5 provides an overview of the informed consent protocol that was followed during the data collection phase of the research.

1.1 Objective

The objective of this thesis is to describe the phonology of the Ma Manda language. This is accomplished through analyses of the segmental phonology (Chapter 4), syllable structure and phonotactics (Chapter 5), suprasegmental features (Chapter 6), and morphophonemic alternations (Chapter 9). Particular focus is given to three phenomena: reduction of high vowels (§7.1), epenthesis of the high central (barred-i) vowel (§7.2), and long distance nasal agreement (Chapter 8). I describe the behavior of these processes in detail and discuss their possible historical origins. Finally, the appendices provide lists of the words upon which the analysis in this thesis is based (including numbers that cross-reference the audio files on the attached disc). Appendix 1 is a general wordlist, composed primarily of monomorphemic nouns and adjectives. Appendix 2 provides frequency counts of all Ma Manda phonemes based on 1448 morphemes. Appendix 3 provides a list of ten nouns, each inflected in six separate possessive forms. These illustrate the variety of morphophonemic alternations that are seen in nominal suffixation. Appendix 4 provides a group of ten separate verbs in morphological paradigms. These are simple paradigms that fully illustrate the variety of morphophonemic behaviors that can occur when TAM (tense, aspect, mood) suffixes are attached to verb stems. Appendix 5 provides an interlinearization of a short story about planting yams. Finally, Appendix 6 is a supplement to §9.1 that provides a structured list of all interactions that occur when heteromorphemic consonants concatenate.

1.2 Motivations

The present study has four primary motivations. First, it serves as a building block upon which future analyses can take place. Out of necessity, a basic understanding of the phonology of a given language is required before an attempt can be made at wrestling with syntactic analysis. Often though, a finalized statement on the sound system can only be made after all other pieces of the puzzle have been put into place. This thesis is the starting point in my analysis of the Ma Manda language. Second, this study addresses three particular phonological phenomena—reduction of high vowels, epenthesis of the high central vowel, and prenasalization of voiced plosives—which have been analyzed in various ways within the Erap subgroup and across the Trans-New Guinea family of languages as well. A thorough treatment of these processes in Ma Manda should shed light on identical or similar processes attested in several related languages. Third, a deeper analysis of these processes will be helpful for linguistic theorists and typologists. For example, to my knowledge, no other language is known to exhibit long distance nasal agreement among both voiced and voiceless plosives across morpheme boundaries, while only among voiced plosives tautomorphemically. Finally, a thorough phonological analysis is paramount in the development of an effective writing system. Without, at the very least, a basic grasp of the various phonological phenomena at work in a language, many of the decisions in the development of an orthography would be made blindly and might lead to unnecessary revisions and frustration.

1.3 Scope

The analysis throughout a majority of this thesis is presented in a purely descriptive light. This means that the description is divorced from theory wherever possible. It is my goal that this thesis be accessible to a variety of people doing basic linguistic research among PNG languages, many of whom may not be familiar with the latest theoretical advancements in the field of phonology. It is true though that linguistic analyses often betray one's allegiance to particular theories and models. In dealing with the various intricacies of Ma Manda phonology, I utilize concepts from Generative Phonology (Chomsky & Halle 1968), Optimality Theory (Prince & Smolensky 2004), Metrical Phonology (Hayes 1995), Autosegmental Phonology (Goldsmith 1976), Evolutionary Phonology (Blevins 2004), and Phonetically Based Phonology (Hayes *et al.* 2004). It is important that the data be presented with clarity, in order that fieldworkers, typologists, and theorists can use it to substantiate, modify, and/or disqualify their own hypotheses.

Generally speaking, the syntax of Ma Manda is not addressed in this paper. That would lead to a much longer thesis, and would detract from the limited and focused scope of the present phonological study. Syntactic information is provided insofar as it may aid in the understanding of the processes described herein. Though morphology, likewise, is not a primary focus of this work, it is handled more than syntax due to its relevance in the various complex morphophonemic alternations. An overview of the morphological paradigms is necessary, though they are not dwelled upon, as their grammatical analysis

is not germane to the present study (although two sets of paradigms are presented as appendices). For a brief overview of the morphosyntax, however, see §2.4.

Finally, it is important to note that, for the purpose of consistency, only one dialect is in focus throughout this thesis. The Erap family² is part of a complex dialect chain, where the language of each successive village gradually morphs into different dialects and, subsequently, different languages. The boundaries that are drawn are often rather arbitrary. This means that the border villages within any particular “language” are fuzzy and often incorporate linguistic patterns and phenomena from neighboring languages. Ma Manda is no exception in this regard. The dialect under study is that which is spoken in and around the two Ma Manda villages of Saut and Lemang. This dialect was chosen because it is more distant from a main road, and therefore it is less affected by pidginization. Additionally, due to the increased isolation of Saut and Lemang, fewer outsiders are present, and therefore the effects of code-switching are reduced. Dialectal differences are observed, however, especially when they are relevant for potential differences of opinion regarding a particular analysis.

1.4 Methodology

This thesis is based upon research primarily conducted during six months of living in the village of Saut. This time was spread out over a period of three years, from

² This group is often referred to as a “family” in Papuan literature, even though it is a small group within the Finisterre-Huon family, which in turn belongs to the massive Trans-New Guinea family. I use “group” and “family” interchangeably throughout the thesis.

2009–2012. In addition, at several points speakers from Saut have joined me at Ukarumpa, SIL’s main center in Papua New Guinea. This has probably encompassed two additional months.

The data has been gathered from a number of sources. The primary method of collecting language data has been simply living and interacting with the Ma Manda people while carrying around a simple data notebook. Upon hearing something new, I would re-elicite the data and ask questions to unveil paradigmatic relationships, collocations, and disallowed utterances. The data in these data notebooks was always confirmed at a later date with multiple people, and when deviations were discovered, these were noted alongside the originals. Finally, each finished data notebook has been scanned, electronically catalogued, and backed-up on the internal server of SIL PNG in Ukarumpa.³

In addition, many oral discourses of various genres have been recorded, including narratives, procedural discourses, expository discourses, prayers, and dialogues. A majority of these were recorded by audio recorder, while several were captured by video camera as well. A good portion of these have been re-collected in careful speech, and many of those have been orally translated.⁴ These “careful speech” and “oral translation” recordings were recorded with the original speaker when possible. These stories have

³ SIL PNG’s internal server is not accessible to the public; it is used solely as a backup.

⁴ Utilizing the BOLD (Basic Oral Language Documentation) method first espoused by Gary Simons (Simons 2008; Reiman 2009, 2010). This method involves an initial audio recording, followed by a careful re-speaking, and a subsequent oral translation.

been elicited from both males and females, from twelve to seventy years old, from many education levels. The analysis undertaken in this thesis, however, is based on the wordlists and stories as spoken by only two men: Garambon Magu and Tuboin Bangam.

Finally, various paradigms and wordlists have been collected over the years. Most often these elicitation sessions have simply been confirmations of data that had previously presented itself in informal speech or in recorded stories. These were generally written into data notebooks as well. Recently, I undertook the project of recording a collection of wordlists and paradigms, both for posterity and to substantiate my own analyses. This has resulted in a collection of over 300 monomorphemic words spoken both in isolation and in a carefully selected frame. These words were selected to illustrate every possible phonetic variant and phonotactic combination that I know to exist.⁵ Additionally I previously collected approximately 850 words, all spoken in isolation and from a combination of speakers. I have also collected recordings of verb paradigm in frames, as well as nouns in possessive paradigms.

The recorded data upon which these descriptions are based are provided (in wav format) in a disc at the front of the thesis. The numbers alongside the examples throughout the paper cross-reference the media files (the absence of a number means that there is no recording for that word). An alphabetized wordlist is also provided in

⁵ These recordings are 16-bit/48 KHz PCM files recorded on an Olympus LS-20M recorder with a Shure SM10A headset microphone.

Appendix 1. This list contains every word used within this thesis, transcribed both phonemically and phonetically.

1.5 Informed consent

A few comments are in order regarding the informed consent protocol that has been followed. First of all, the collection of written and recorded data was discussed with the various village leaders of Saut. No one expressed any aversion to this process at any time. Unfortunately, no official record of that consent was made with these leaders. Instead, signatures have been obtained for all the people who have allowed themselves to be recorded. Each form contains a statement of full disclosure about the ways that their language data may be used. This statement was written in Tok Pisin, the national language of Papua New Guinea.⁶ This brief statement is provided below, followed by an English translation.

⁶Tok Pisin, or Melanesian Pidgin, is one of three national languages of PNG (the other two being English and Hiri Motu). It is the *lingua franca* for most people of Morobe Province. A vast majority of Ma Manda speakers are fluent in this language.

Mi laik harim tokples bilong yu. Mi bai putim toktok bilong yu long rikoda na bihain bai mi putim em i go insait long komputa. Mi bai no inap kisim moni bilong dispela. Mi bai givim em i go long wanpela ples we ol i save lukautim dispela kain samting long en (olsem universiti). Dispela toktok bai stap long ples klia (Internet) na husait lain laik harim nau o bihain taim, em ol i ken harim. Bihain, sapos ol tumbuna pikinini bilong yu o ol arapela manmeri i gat laik long kisim sampela save bilong tokples na kalsa bilong yu o pasin tumbuna bilong yu, orait ol i ken harim dispela toktok bilong yu. Em bai yu tok orait long dispela o nogat? Sapos yu tok orait, orait raitim nem bilong yu long dispela lain.⁷

I want to hear your language. I will put your speech on a recorder and later I will put it into a computer. I will not be able to get money for this. I will give it to a place where they look after this kind of thing (like a university). This speech will be freely accessible (Internet) and whatever group wants to hear it now or later can listen. Later, if your descendants or other people want to get some knowledge about your language and culture or your ancestral customs, they can hear your speech. Will you say “okay” to this or not? If you say “okay”, write your name on the line.

I took great care to provide my informants with as much information as possible. For many Ma Manda people, however, the concepts of recorders, computers, the Internet, and archives are foreign. I searched to find the balance between overloading people with too much unhelpful information, and providing insufficient background for them to make an informed decision. It is an important ethical consideration to find an appropriate method of helping people to be adequately informed, and I feel that I have been faithful to the Ma Manda people in this endeavor.

It was never the case that the people were forced to read the form and sign without any discussion. Rather, I would spend a fair amount of time in discussion with

⁷ I owe thanks to John Hatton and Malinda Ginmaule for their help in writing this statement in Tok Pisin. I based this on a consent statement that John had crafted, and it was refined through discussion with Malinda, a Papua New Guinean who is fluent in Tok Pisin.

the informants, helping them to understand the various issues involved. Generally, I would bring along someone who I had already informed, and they would help to translate into Ma Manda. This was often done not with a sole informant, but with a group of would-be informants.