

A Grammar of Ayeri

A Grammar of Ayeri

DOCUMENTING A FICTIONAL LANGUAGE

by Carsten Becker

Benung. The Ayeri Language Resource

© ⓘ ⓘ Carsten Becker, 2016.
Published under CC-BY-SA 4.0 license.
Last edited: August 16, 2016.

Ayeri is a fictional language spoken by fictional people in a fictional setting, and as such is not related to any naturally existing languages. It is thus not to be confused with *Azeri*, a Turkic language spoken in Azerbaijan and its surrounding countries. Ayeri's vocabulary is entirely *a priori*, this means, no real-world languages have been used specifically as sources of vocabulary. Ayeri is also not derived from any specific real-world language family by means of sound changes. Due to the language's sound and spelling aesthetic being inspired by Austronesian languages, however, occasional overlaps with words existing in those languages may happen, but only accidentally so.

🌐 <http://benung.nfshost.com>
⚙️ <https://github.com/carbeck/ayerigrammar/>
⚖️ <https://creativecommons.org/licenses/by-sa/4.0/>

Contents

List of Figures	iii
List of Tables	v
Glossing Abbreviations	vi
Preface	vii
o Introduction	i
1 Phonology	7
1.1 Phoneme inventory	7
1.1.1 Consonants	7
1.1.2 Vowels	10
1.2 Phonotactics	12
1.2.1 Number of syllables per word	13
1.2.2 Phonemic makeup of initial syllables	16
1.2.3 Phonemic makeup of medial syllables	20
1.2.4 Phonemic makeup of final syllables	23
1.2.5 Phonemic makeup of single syllables	26
1.2.6 Cross-syllable consonant clusters	28
1.3 Notes on prosody	31
1.3.1 Stress	31
1.3.2 Intonation	40
2 Writing system	45
2.1 Consonants	47
2.2 Vowels	48
2.3 Diacritics	50
2.3.1 Subscript diacritics	50

2.3.2	Prepended diacritics	52
2.3.3	Superscript diacritics	56
2.4	Numerals	57
2.5	Punctuation and abbreviations	57
2.6	Styles	59
3	Morphological typology	63
3.1	Typology	63
3.2	Morphological processes	66
3.2.1	Prefixation	66
3.2.2	Suffixation	68
3.2.3	Reduplication	69
3.2.4	Suprasegmental modification	70
3.3	Marking strategies	71
4	Grammatical categories	75
4.1	Nouns	75
4.1.1	Gender	76
4.1.2	Number	78
4.1.3	Case	81
4.1.4	Prefixes on nouns	92
4.1.5	Compounding	94
4.1.6	Reduplication	103
4.1.7	Nominalization	105
	Bibliography	III
	Index	II5

List of Figures

o.1	First design for an Ayeri script	4
o.2	First draft for Tahano Hikamu	5
1.1	Consonant inventory	8
1.2	Vowel inventory	10
1.3	Syllabification of inflected verbs	13
1.4	Declension paradigm for Ayeri ໄຊ <i>niva</i> ‘eye’	31
1.5	Types of heavy syllables	33
1.6	Stress patterns for [+ HEAVY, – LONG] in trisyllabic words	36
1.7	Stress patterns for [± HEAVY, + LONG] in trisyllabic words	37
1.8	Examples of stress patterns in compounds	39
2.1	Box script and Hikamu	46
2.2	The consonant graphemes	47
2.3	Additional consonant graphemes	48
2.4	Primary vowel graphemes	48
2.5	Secondary vowel graphemes	49
2.6	Bottom-attaching diacritics	51
2.7	Obligatorily prepended diacritics	53
2.8	Allographically prepended diacritics	53
2.9	Superscript diacritics	56
2.10	The numerals	57
2.11	Common punctuation marks	58
2.12	Less common punctuation marks	58
2.13	Tahano Hikamu, ‘book style’	59
2.14	Tahano Hikamu, ‘angular style’	60
2.15	Tahano Hikamu, ‘hand style’	60
2.16	Tahano Hikamu, ‘blackletter style’	61

4.1	Declension paradigm for Ayeri ᠪᠠᠳᠠᠨ <i>badan</i> ‘father’	75
4.2	Declension paradigm for Ayeri ᠮᠠᠪᠠ <i>māva</i> ‘mother’	76
4.3	Declension paradigm for Ayeri ᠬᠢᠷᠢᠨ <i>kirin</i> ‘street’	76
4.4	Declension paradigm for Ayeri ᠫᠡᠷᠠ <i>pera</i> ‘measure’	77
4.5	Grammatical genders in Ayeri	77

List of Tables

1.1	Frequency of words with different numbers of syllables	13
1.2	Frequency of syllable types per word	15
1.3	Frequency of onsets in initial syllables	17
1.4	Frequency of nuclei in initial syllables	18
1.5	Frequency of codas in initial syllables	19
1.6	Frequency of onsets in medial syllables	21
1.7	Frequency of nuclei in medial syllables	22
1.8	Frequency of codas in medial syllables	23
1.9	Frequency of onsets in final syllables	24
1.10	Frequency of nuclei in final syllables	25
1.11	Frequency of codas in final syllables	26
1.12	Frequency of onsets in single syllables	27
1.13	Frequency of nuclei in single syllables	29
1.14	Frequency of codas in single syllables	29
1.15	Frequency of cross-syllable consonant clusters	30
4.1	Compounds in the Ayeri dictionary	94

Glossing Abbreviations

1	First person	IRR	Irrealis
2	Second person	ITER	Iterative
3	Third person	LNK	Linker
A	Agent	LOC	Locative
ACC	Accusative	LOCT	Locative topic
AGR	Agreement	M	Masculine
AGTZ	Agentizer	N	Neuter
AN	Animate	NEG	Negative
AT	Agent topic	NFUT	Near future
CAUS	Causative	NMLZ	Nominalizer
CAUT	Causative topic	NN	Noun
COMP	Comparative	NOM	Nominative
DAT	Dative	NPST	Near past
DATT	Dative topic	P	Patient
DIM	Diminutive	PL	Plural
DYN	Dynamic	PROG	Progressive
F	Feminine	PST	Past
FUT	Future	PT	Patient topic
GEN	Genitive	PTCP	Participle
GENT	Genitive topic	REL	Relative
HAB	Habitative	RFUT	Remote future
HORT	Hortative	RPST	Remote past
IMP	Imperative	SBJ	Subject
INAN	Inanimate	SG	Singular
INDF	Indefinite	SUPL	Superlative
INS	Instrumental	TOP	Topic
INST	Instrumental topic	VB	Verb

Preface

This is my latest attempt to write a grammar of Ayeri, a fictional language which I have been developing since December 2003. Getting to work on grammar writing again was triggered by a growing dissatisfaction with not having a central place of documentation, when the first thing people look for on my website is often the grammar, incomplete as well as partially inaccurate and outdated as it may be. In addition to that, there was a seminar on fictional languages at the University of Tübingen, Germany, in the summer semester of 2016 (Buch 2016). Ayeri was one of the languages that was chosen for students to explore and evaluate.

The student group who worked on Ayeri came to the conclusion that its documentation is severely lacking in the description of basic elements and assumptions, since whole chapters of the grammar had been missing to date (Boga et al. 2016: 12).¹ This is to say that previous attempts of writing a full-fledged grammar of Ayeri have been incomplete due to loss of enthusiasm and creeping neglect.

Although the *Ayeri Grammar* has so far been lying dormant for five years, I have written a whole number of blog articles detailing various grammatical issues (Becker 2016: Blog). These articles have been taken into consideration here. This grammar writing attempt is thus not only a transferral to a different typesetting system, but constitutes an extension to previous formal documentation as well.

I hope that by transferring my previous grammar writing from LibreOffice to L^AT_EX, combined with using GitHub as a version control system, maintaining and editing will become faster, more transparent, and more elegant, since L^AT_EX operates on plain text files, and version control helps in keeping track of changes over time.

Carsten Becker
Marburg, July 18, 2016

¹  *Kutānas-ikan* ‘thanks a lot’ to Bella Boga, Madita Breuning, Thora Daneyko, and Martina Stama-Kirr for their hard work on making sense of my published materials in spite of information being scattered all over the place, as well as their providing me with the presentation concluding their group work.

o Introduction

In December 2003, the idea for a new fictional language was born, an idea that turned out to stick with me for over 10 years now.¹ At that time, my seventeen years old self was still fairly new to this whole making-up languages business, read things about linguistics here and there, and was not shy to ask questions about terminology (and, looking at old mails, a little impertinently teenager-like so), for example on *Conlang-L* and the *Zompist Bulletin Board*. One thing seemed to catch my interest especially: syntactic alignments other than the NOM/ACC of the few languages I was familiar with, that is, German, English, and French. Apparently this curiosity was big enough for me to grow bored with my second fictional language, Daléian (declared ‘quite complete’ after maybe half a year of work or so), and to start something new from scratch in order to put newly acquired knowledge to test.

I had read about “trigger languages” on *Conlang-L* and wanted to try my hands on making my own. I cannot remember how long it took me to come up with a first draft of an Ayeri grammar, however, I do remember having been told that a good language cannot be made in a summer. Of course, I still did not really know what I was doing then, even though I thought I had understood things and authoritatively declared “this is how it works” in my first grammar draft when things sometimes really do not work that way. But at least an interest had been whetted.

In order to illustrate the various stages from the beginnings to current Ayeri, I went through some old backups contemporary with the very early days. Here is a sentence from the oldest existing document related to it, titled “Draft of & Ideas for my 3rd Conlang”—the file’s last-changed date is December 14, 2003, though I remember having started work on Ayeri in early December. I added glossing for convenience and according to what I could reconstruct from the notes. This uses vocabulary and grammatical markers just made up on the spot and for illustrative purposes; little of it actually managed to make it into actual work on Ayeri:

¹ Most of the text here is taken from the blog article, “Happy 10th anniversary, Ayeri!” (Becker 2013) with some slight rephrasings and extensions.

- (1) *Ayevhoi agiaemaesim coyaieliēdamavir vhaieloyanaiye.*
 Ay-evhoi agia-ema-esim coyai-el-i-eđam-avir vhai-el-o-yaŋa-iyē
 3SG.AN-SBJ read-VB-SBJ.AN book-NN-AN-INDF-P bed-NN-INAN-on-LOC
 ‘He reads a book on the bed.’

According to the grammar draft of September 5, 2004, this would have already changed to:

- (2) *Ang layaiyain mecoyalei ling *pinamea.*
 Ang laya-iy-a-in me-coya-lei ling *pinam-ea
 A.SBJ read-3SG.AN₁-a₁-SBJ INDF.INAN-book-P.INAN top.of bed-LOC
 ‘He reads a book on the bed.’

A word for ‘bed’—*pinam*—was only (re-)introduced on October 24, 2008, however. In the current state of Ayeri, I would translate the sentence as follows:

- (3) *Ang layaya koyaley ling pinamya.*
 Ang laya=ya.Ø koya-ley ling pinam-ya
 AT read=3SG.M.TOP book-P.INAN top.of bed-LOC
 ‘He reads a book on a/the bed.’

As you can see, quite a bit of morphology got lost already early on, especially the overt part-of-speech marking (!) and animacy marking on nouns. Also, prepositions were just incorporated into a noun complex as suffixes apparently. Gender was originally only divided into animate and inanimate, but I changed that at some point because only being really familiar with European languages, it felt awkward to me not to be able to explicitly distinguish ‘he’, ‘she’, and ‘it’.

A feature that also got lost is the assignment of thematic vowels in personal pronouns to third-person referents: originally, every third-person referent newly introduced into discourse would be assigned one of /a e i o u/ to disambiguate, and there was even a morpheme to mark that the speaker wanted to dissolve the association. Constituent order was theoretically variable at first, but I preferred SVO/AVP due to familiarity with that. Later on, however, I settled on VSO/VAP. Also, I had no idea about what was called “trigger morphology” on *Conlang-L* for the longest time—essentially, this referred to the Austronesian, or Philippine, alignment. I am not claiming that I know all about it now, just that due to reading up on the topic, I have a slightly more informed understanding now. Orthography changed as well over the years, so ⟨c⟩ in the early examples encodes the /k/ sound, not /tʃ/ as it does today; diphthongs were spelled as ⟨Vi⟩ instead of modern ⟨Vy⟩.

What was definitely beneficial for the development of Ayeri was the ever increasing amount of linguistics materials available online and my entering university (to

study literature) in 2009, where I learned how to do research and also had a lot of interesting books available at the library.

One of the things people regularly compliment me on is Ayeri's script—note, however, that Tahano Hikamu was not the first one I came up with for Ayeri. Apparently, I had already been fascinated with the look of Javanese/Balinese writing early on;² Figure 0.1 shows a draft dated February 9, 2004. However, the letter shapes in this draft looked so confusingly alike that I could never memorize them. About a year later, I came up with the draft in Figure 0.2. What is titled “Another Experimental Script” there is what would later turn into Tahano Hikamu, Ayeri's ‘native’ script. According to the notes in my fictional language ring binder, the script looked much the same as today about a year from then, but things have only been mostly stable since about 2008.

An important date in the history of Ayeri was when I decided to set up an improved website for Ayeri that would include a blog. The idea was that this way, I could more freely write on whatever detail I currently interested me in Ayeri, outside of the constraints of the Grammar. Thus, *Benung. The Ayeri Language Resource* launched on March 1, 2011. Being able to write short articles, however, probably also led to neglecting work on the actual formal reference grammar, which had been lying dormant from January 2011 on. This was always on the premise that I would eventually include the information from blog articles in the grammar. However, juggling such a big document had always felt daunting, so I let laziness take the better part of me eventually as enthusiasm gradually subsided.³ This renewed attempt at documentation has been started with the intention to right those wrongs.

I hope that by now it should be clear which kind of a fictional language Ayeri is: a personal, artistic language—or *artlang* in community parlance. Thus, my goal in creating Ayeri is not to propose yet another international auxiliary language, like Esperanto. It is also not my goal to make it as logical as possible, like Lojban. Neither is it my goal to engineer it towards certain underlying premises, for example, to reach a maximal amount of information density, like Ithkuil, or to get by on as few different words as possible, like Toki Pona. It is also not a ‘what-if’ language in the sense of “What could the modern language of Old Irish speakers transplanted to Australia look like?” or “Latin piped through Athabascan sound changes.”

Ayeri is rather an attempt to create an artificial language for personal enjoyment and intellectual stimulation by creating a feedback loop between reading up on

² Compare, for instance, the charts in Kuipers and McDermott (1996). The Wikipedia articles on either script contain a number of images depicting the scripts in use, both current and historic.

³ Let me add to my defense, however, that I also worked on my B.A. thesis in 2013 and my M.A. thesis in 2016, which required several months of preparation each and thus left me largely unable to work much on Ayeri.

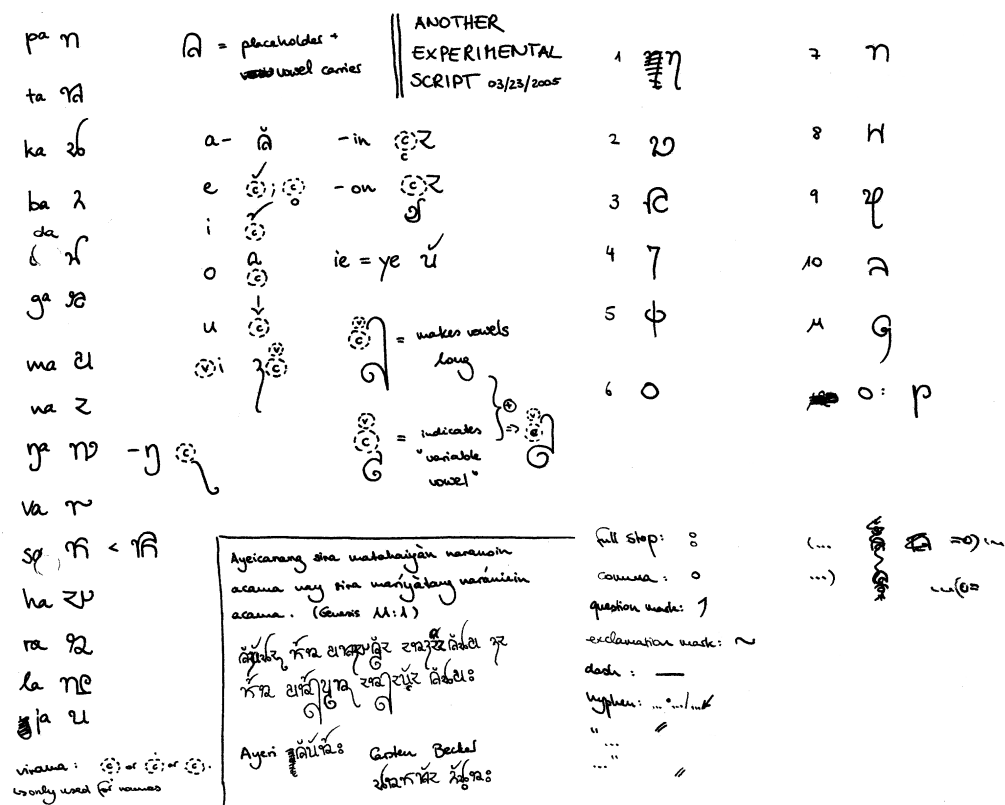
Figure 0.1: First design for an Ayeri script (February 9, 2004)



linguistics and actively devising rules for a fictional language accordingly, to see how things work within the frame I created, or to try and see whether certain ideas work together at all when combined, and to better understand why they do or do not. Ayeri will only ever be as perfect as miniature models of things can be, since it has not grown organically from millenia of human interaction, and I cannot and will never know about each and every aspect of language myself, in spite of continued curiosity about these matters. Nor will it be possible for me to replicate all the fascinating twists and irregularities that natural languages normally entail. The ultimate goal in my work on Ayeri is, I suppose, to make it emulate natural languages to at least some degree of depth and complexity.

In writing this grammar, I hope that I will find a good balance between applying linguistic theory to already existing materials and ideas, and going forth to create rules for aspects of the language that have so far been neglected, often due to my

Figure 0.2: First draft for Tahano Hikamu (March 23, 2005)



not being aware of them. In my opinion, the split between being able to apply methods of linguistics to what has grown over the course of more than a decade on the one hand, and discovering and developing new aspects of the language on the other is what makes Ayer an interesting piece of “informed nonsense,” as a colleague of mine once put it.

Errors are all mine. If my English is not always fully idiomatic, you find that I got my terminology wrong, or not all aspects of the language or its description are equally well worked-out—which are all very likely events—I ask you to bear with me. For one, English is not my native language, and second, I put up the grammar on GitHub in the hope of making it easier to fix and extend things through patches.⁴ This also means that you can file an Issue there in case of issues if you feel inclined to do so. Criticism is always welcome as long as it is constructive.

⁴ See <https://github.com/carbeck/ayerigrammar/>.

1 Phonology

This chapter will present charts depicting the phoneme inventory of Ayeri and describe the various commonly encountered allophones of both consonants and vowels. Following this, a detailed statistical analysis of the words found in a number of translated texts from 2008 to 2016 as well as dictionary entries up to July 2016 will produce insights into Ayeri’s phonotactics. Some notes on stress patterns and intonation will close the chapter.

1.1 Phoneme inventory

1.1.1 Consonants

At 17 consonants, Ayeri has a “moderately small” inventory, according to Maddieson (2013a). Figure 1.1 shows the full chart of consonant phonemes.

Regarding allophony, /tj kj/ and /dj gj/ are usually realized as [tʃ] and [dʒ], respectively, except if a homorganic nasal /n/ or /ŋ/ is preceding: for instance, ႁႏႱ *ankyū* /ʼaŋkju/ ‘really’ is realized as [ʼaŋkju], not as *[ʼaŋtʃu] or *[ʼantʃu]. It is important to note, however, that besides this synchronic palatalization process leading to [tʃ] and [dʒ] as *allophones*, there is also a diachronic one in parallel here—or the diachronic process is still ongoing. For example, there is no way to predict whether ႁႏႱ *cuna* ‘original, initial’, ႁႏႱ *panca* ‘finally, eventually’, and ႁႏႱ *vac-* ‘like’, or ႁႏႱ *jaraṇ* ‘pilgrimage’, ႁႏႱ *aja-* ‘play’, and ႁႏႱ *nuy-* ‘pour’ have /tj/ or /kj/, /dj/ or /gj/, respectively, unless we consider the clues given by the conservative native spellings of the respective words.¹ We can rather assume two sound changes, (1) tj, kj → tʃ, and (2) dj, gj → dʒ, leading to the *phonemes* /tʃ/ and /dʒ/ in the present-day language.

¹ Actual scribes would typically err in cases where the merger is complete, so this strategy would, in fact, be of limited use in the real world.

Figure 1.1: Consonant inventory (divergent orthography in pointed brackets)

	Bilabials		Labiodentals		Alveolars		Palatals	Velars		Glottals
Plosives	p	b			t	d		k	g	
Affricates					tʃ <c>	dʒ <j>				
Nasals		m				n		ŋ <ng>		
Fricatives			v		s					h
Taps/Flaps						r				
Approximants						l	j <y>			

The plural marker ၵ -*ye* is commonly contracted to [dʒ] when a case suffix beginning with a vowel follows:²

- (1) a. ဘၢၣ်ၣ်ၣ် *nyānyēang* → *nyānjāng* [ˈnjaːndʒaŋ] ‘persons’ (person-PL-A);
 b. ခၢၣ်ၣ်ၣ် *netuyēas* → *netujas* [neˈtudʒas] ‘brothers’ (brother-PL-P).

The plural marker may also contract before the locative marker ၵ -*ya* and the dative marker ၵ -*yam*, basically for dissimilation:³

- (2) a. ခၢၣ်ၣ်ၣ် *nivayēya* → *nivajya* [niˈvadʒja] ‘at the eyes’ (eye-PL-LOC);
 b. ခၢၣ်ၣ်ၣ် *maviyēyam* → *mavijyam* [maˈvidʒjam] ‘to the sheep’ (sheep-PL-DAT).

Dissimilation of the sequence ၵ -*yaya* is attested in my translation of Kafka’s short story “Eine kaiserliche Botschaft,” where the relative pronoun ၵ *siyaya* appears transcribed as *sijya*:

As far as morphophonology is concerned, the relative pronoun complex *sijya* ‘in/at/on which.LOC’ is interesting in so far as it is a contraction of **siyaya* ‘REL-LOC-LOC’ that I introduced here [...] Since this feature does not occur in previous texts, let’s assume it’s an acceptable variant. (Becker 2012: 12)

The contraction happens “only if both parts are grammatical suffixes” (12), however, so the environments this contraction may appear in are effectively limited to relative pronouns combining locative and locative, or locative and dative marking.

The word ၵ *lajāy* ‘student’ is special in that it is the only word with ၵ [dʒa] so far. Presumably it is derived from the verb ၵ *laya-* ‘read’ with the agentive suffix ၵ -*maya*, except the shortening of the suffix—with or without compensatory lengthening of the final vowel of the modified word stem—was applied irregularly, possibly via **ၵ layāya*. The regular form ၵ *layamaya* means ‘reader’.

Lastly, /h/ may assimilate to its phonemic environment and is realized as [ç] before front vowels, and as [x] before back vowels in this case:

- (3) a. ၵ *tabi* [ˈtaçi] ‘favorable’;
 b. ၵ *babo* [ˈbaxo] ‘loud’.

While vowels become long when two identical vowels come into succession, consonants do not geminate but are treated like a single consonant:

² The customary romanization uses ⟨c⟩ and ⟨j⟩ for allophonic cases of [tʃ] and [dʒ] as well.

³ -*ea* also occurs as an allomorph, so that ၵ -*ye* + ၵ -*ea* → ၵ -*yēa*.

- (4) a. ᲛᲗᲗᲗ *tavvāng* [ta'va:ŋ] 'you get' (get=2SG.A),
 b. ᲛᲗᲗᲗ *disyyang* [di'sjaŋ] 'I fasten' (fasten=1SG.A).

With diphthongs, the sequence /Vɪ.j/ is treated as though it were /Vj.j/, so the double /j/ simplifies to just a single /j/; however, the vowel remains lax in spite of being phonetically in an open position now:

- (5) ᲛᲗᲗᲗ *tipuyya* [ti'pu.ja] 'on the grass' (grass-LOC).

1.1.2 Vowels

Figure 1.2: Vowel inventory (divergent orthography in pointed brackets)

	Front	Center	Back
High	i, i: ⟨ī⟩		u, u: ⟨ū⟩
Mid	e, e: ⟨ē⟩	ə ⟨ə, e⟩	o, o: ⟨ō⟩
Back		a, a: ⟨ā⟩	

Ayeri's vowel system distinguishes five qualities, as shown in Figure 1.2; Maddieson (2013c) classifies this as "average." Length, however, is also a factor, and there are five diphthongs as well, as we will see below. At $\frac{17}{5}$, the consonant–vowel ratio is 4.25, which Maddieson (2013b) again classifies as "average," although Ayeri finds itself at the upper end of the tier.

The lax vowels [ɪ ɛ ɔ ʊ] occur as allophones of their tense counterparts /i e o u/ in closed syllables, for example:

- (6) a. ᲛᲗᲗ *ming* [mɪŋ] 'can, be able',
 b. ᲛᲗᲗ *enya* ['ɛn.ja] 'everyone',
 c. ᲛᲗᲗ *agon* ['a.gɔŋ] 'outer, foreign', and
 d. ᲛᲗᲗ *pakur* ['pa.kʊr] 'ill, sick'.

/ə/ occurs marginally in the tense prefixes ᲛᲗ *kə*- 'NPST', ᲛᲗ *mə*- 'PST', ᲛᲗ *və*- 'RPST', as well as in the prefix ᲛᲗ *mə*- 'some, whichever'. Otherwise, [ə] acts as an allophone of /e/ in final unstressed position, for instance, in the word ᲛᲗᲗ *mine* ['minə] 'affair, matter, issue'.

Ayeri also possesses a number of diphthongs, these are: /ai ei ɔi ʊi au/, spelled ⟨ay⟩, ⟨ey⟩, ⟨oy⟩, ⟨uy⟩, and ⟨au⟩. Furthermore, there are long equivalents of the short vowels: /i: e: a: o: u:/; in romanization, long vowels are marked with a macron ⟨̄⟩ over the letter. Long vowels are lexicalized in a few words, for example:

- (7) a. ခဉ်း *nīsa* ‘wanted’, ကုန််း *pasīsa* ‘interesting’;
 b. ခဉ်း *arēn* ‘anyway, however’, ကုန််း *lēra* ‘whore’;
 c. ကုန််း *lā* ‘tongue’, ယုန််း *yāng* ‘he’ (he.A);
 d. ခဉ်း *nōn* ‘will, intention’; and
 e. ခဉ်း *babūan* ‘barbarian’.⁴

Otherwise, long vowels result from two same vowels next to each other, for instance:

- (8) ခဉ်း *aja-* ‘play’ + ခဉ်း *-an* ‘NMLZ’ → ခဉ်း *ajān* ‘game, play’.

Morphophonologically, long vowels also occur in double-marked relative pronouns where the agreement marker for the relative clause’s head has been omitted, for instance, ခဉ်း *sinā* ‘of which, about which’, as in the following example:

- (9) *Le turayāng taman sinā ang ningay tamala vās.*
Le tura-yāng [taman-Ø]₁ si-Ø₁-na ang ning=ay.Ø tamala vās
 PT.INAN send=3SG.M.A letter-TOP REL-PT.INAN-GEN AT tell=1SG.TOP yesterday 2SG.P

‘The letter which I told you about yesterday, he sent it.’

This is to disambiguate it from the plain genitive-marked relative pronoun ခဉ်း *sina* ‘which.GEN’:⁵

- (10) *tamanreng ledanena nā sina koronvāng*
taman-reng [ledan-ena nā]₁ si-na₁ koron-vāng
 letter-A.INAN friend-GEN 1SG.GEN REL-GEN know=2SG.A

‘the letter of my friend which you know’

As pointed out in (7c), the word ကုန််း *lā* ‘tongue’ ends in a long vowel, so the question is what happens when a case suffix beginning with a vowel is appended. To avoid a hiatus, a glide /j/ may be inserted, so both of the following renditions are possible:

⁴ I have gone years without dictionary entries for /u:/, but it has always seemed slightly odd to me to lack a vowel in that position when all other vowels can be long. Therefore, ခဉ်း *babūan* ‘barbarian’ and its adjective ခဉ်း *babū* ‘barbarian (adj.)’ were coined as ကုန််း *prankaye*—things ‘that you put in specifically to make things fit’, another new coining this decision resulted in. Note, however, that it should have always been possible to form words like ခဉ်း *kūbo* ‘as though bitter’, from ခဉ်း *ubo* ‘bitter’ + ခဉ်း *ku-* ‘like, as though’.

⁵ A variant which combines the allomorphs of the relativizer and the genitive case marker in the opposite way also exists: ခဉ်း *s-* + ခဉ်း *-ena* → ခဉ်း *sena*.

- (11) a. *Aku lāas!*
 Aka-u lā-as
 swallow-IMP tongue-P
 ‘Shut up!’
 b. *Aku lāyas!*
 (idem)

With diphthongs—as described above—, /ɪ/ coalesces with a following /j/ to /j/, but the initial vowel will not become tense, thus:

- (12) ၵိပုၼ် *tipuyya* [ti'pu.ja] ‘on the grass’ (grass-LOC).

Moreover, /u/ is commonly realized as [w] when followed by a vowel, for example in ၵုၼ်ကၢ *huākaya* ['wa:kaja] ‘frog’ or ရှိ *rua-* [rwa] ‘have to, must’. [w] may also be an allophone of /uj/, as in ၼ်း *adauyi* [a'dawi] ‘then’, ၼ်း *edaui* [e'dawi] ‘now’, or ၼ်း *nekuyi* ['nekwi] ‘eyebrows’. The negative suffix ၼ်း *-oy* is also commonly contracted to [w] before a diphthong:

- (13) ၼ်းမိၼ် *mingoyay* → *minguay* [miŋ'wai] ‘I cannot’ (can-NEG=ISG.TOP).

1.2 Phonotactics

For the purpose of this statistical analysis, most of the available translations into Ayeri from late 2008 to July 2016 have been used as a text corpus;⁶ example sentences from various blog articles have also been added, as well as dictionary entries for all nouns, adjectives, adverbs, pronouns, adpositions, conjunctions, and numerals if they were not prefixes or suffixes.⁷ Borrowings have been deleted if they could not reasonably be words in Ayeri. Altogether, the corpus comprises 5,500 words, which

⁶ These texts are: A Medieval Neighborhood Dispute (2015), A Message from the Emperor (2012), Article 1 of the Universal Declaration of Human Rights (2011), The Beginning of Tolstoy’s *Anna Karenina* (2014), Conlang Christmas Card Exchange 2008/09 (2009), Conlang Holiday Card Exchange 2010/11 (2011), Conlang Relay 15 (2008), Conlang Relay 17 (2010), Conlang Relay 18 (2011), The First Two Chapters from Saint-Exupéry’s *Le Petit Prince* (2013), The Four Candles (2010), Honey Everlasting (2014), LCC4 Relay (2011), The Lord’s Prayer (2015), The North Wind and the Sun (2016), The Origin of the Wind (2009), Ozymandias (2011), Please Call Stella ... (2008), Psalm 23 (2013), The Scientific Method (2014), The Sheep and the Horses (2012), Sugar Fairies (2011), The Upside-Down Ice Skater (2009). The texts can be accessed from Becker (2016: Examples).

⁷ This section updates and extends a previous analysis of the phonological makeup of dictionary entries (Becker 2010). The previous study had its focus on gathering frequency statistics for word generation, however, we want to know about words generally here.

is a very small figure for such a study, but there are only so many texts available unfortunately. Words may occur more than once.

Among the dictionary entries, verbs have notably been ignored, since verb stems alone do not constitute independent words—they are always inflected in some way, so that they may end in consonants or consonant clusters that independent words cannot end in. This also has repercussions on syllabification and stress, which depend on the inflection of the verb stem:

Figure 1.3: Syllabification of inflected verbs

Suffix	<i>ca-</i> ‘love’	<i>gum-</i> ‘work’	<i>babr-</i> ‘mumble’
- <i>ay</i> (1SG)	cá.y	gu.máy	ba.bráy
- <i>va</i> (2SG)	cá.va	gúm.va	ba.brá.va
- <i>yam</i> (PTCP)	cá.yam	gúm.yam	bá.bryam

For the purpose of gathering statistics on phonemes, the words from translated texts were converted to IPA first. Fortunately, this is rather easy as Ayer’s romanization is very straightforward. Syllable breaks have also been inserted semi-automatically.

1.2.1 Number of syllables per word

First, let us see how many syllables words commonly have (see Table 1.1). The higher the syllable count, the more likely it is for them to be compounds or inflected words.

Table 1.1: Frequency of words with different numbers of syllables (n = 5500)

Segment	Count	Percentage
2 syllables	2277	41.40%
3 syllables	1393	25.33%
1 syllable	1201	21.84%
4 syllables	547	9.95%
5 syllables	74	1.35%
6 syllables	8	0.15%

Two-syllable words make up the bulk of the sample, which is not surprising since 1,072 entries (55.43%) in the dictionary subsample are disyllabic: most of Ayer’s roots are disyllabic. Unsurprisingly, most monosyllabic words are function words like the ones cited below. In the following, I will quote a few examples for each number of syllables per word:

- (14) a. ၼာ *ang* (AT),
 နှ *nay* ‘and’,
 ရှိ *rua* ‘must’;
- b. ပါဏိ *datau* ‘normal’,
 ဘေး *nasay* ‘near to’;
- c. ၼာဝေ *avanyāng* ‘he sinks’ (sink=3SG.M.A),
 ၼာဘင် *tovale* ‘a cloak’ (cloak-P.INAN);
- d. ဘယ်ဘုံ *binyanveno* (corner.beautiful, a place name),
 မိမိ *mitanena* ‘of the palace’ (palace-GEN);
- e. ဘယ်ပေး *haruyamanas* ‘a beating’ (beat-PTCP-NMLZ-P),
 နိမိ *sungkorankihas* ‘geography’ (science.map);
- f. နိမိ *kaytomayanena* ‘of righteousness’ (righteous-NMLZ-GEN),
 နိမိ *nasimayajang-ben* ‘all followers’ (follow-AGTZ-PL-A=all).

Table 1.2 shows the frequencies of syllable types by position in a word. It is important to note here that phonemes which consist of more than one segment—affricates, diphthongs, and long vowels—have been counted as only one of C (consonant) or V (vowel), respectively. The following subsections will elaborate on which sounds the Cs and Vs correspond to. Moreover, it is important to note that medial syllables have not been further distinguished by position in the word for the sake of this analysis, so anything between the second and the fifth medial syllable is treated the same. It would furthermore be possible to calculate the frequencies of one syllable type following the other, however, no such calculations have been carried out here.

In all positions, CV is the most common syllable type, followed by CVC. With a very big margin, V is the next most common syllable type, which is also most common in initial syllables and least common in monosyllabic words. The cases with only a few attestations are the following:

- (15) a. Initial CVCC:
 လိန် *linktang* /lin.k.'taŋ/ ‘they try’ (try=3PL.M.A),⁸
 လိမ် *silvnang* /silv.'naŋ/ ‘we see’ (see=1PL.A);
- b. Final CCCV:
 မိဂရိ *migrjo* /'mi.grjo/ ‘flourishes’ (flourish-3SG.N),
 မိဂရိ *subryo* /'su.brjo/ ‘ceases’ (cease-3SG.N);
- c. Single V:
 အိ *ay* /aɪ/ ‘I’ (1SG.TOP).

The medial and final VC cases may seem like an oddity, but they are mostly due

⁸ The verb stem is found in the dictionary as လိန် *linka-*, with a final *-a*, and thus is possibly an entry changed at a later point, or the example from the text (Sugar Fairies) chosen here contains an error.

Table 1.2: Frequency of syllable types per word (n = 5500)

Type	Initial		Medial		Final		Single		Total	
CV	2896	67.36%	1974	72.02%	2109	49.06%	578	48.13%	7557	60.26%
CCV	55	1.28%	24	0.88%	46	1.07%	32	2.66%	157	1.25%
CCCV	—	—	—	—	2	0.05%	—	—	2	0.02%
CVC	761	17.70%	610	22.25%	1902	44.24%	298	24.81%	3571	28.48%
CCVC	29	0.67%	10	0.36%	85	1.98%	9	0.75%	133	1.06%
CVCC	2	0.05%	—	—	—	—	—	—	2	0.02%
V	488	11.35%	95	3.47%	67	1.56%	2	0.17%	652	5.20%
VC	68	1.58%	28	1.02%	88	2.05%	282	23.48%	466	3.72%
Total	4299	100.00%	2741	100.00%	4299	100.00%	1201	100.00%	12540	100.00%

to the previous syllable ending in /ŋ/, with that syllable also containing a lax vowel, which means that this syllable must be closed. An alternative explanation would be to assume that /ŋ/ is ambisyllabic, or actually /n.g ~ ŋ.g/, but realized as [ŋ]. The high number of single-syllable VC is due to *ᐱᓂ ang* ‘AT’, which alone appears 255 times in the sample (4.63% of all words, 21.23% of monosyllabic words, 90.43% of monosyllabic VC words).

1.2.2 Phonemic makeup of initial syllables

The statistics in the following sections have been gathered from the IPA conversions of translated texts and dictionary entries mentioned above. The transcribed words have been split into syllables and then the collected contents of each position group were written into separate plain text files, one each for:

- all initial syllables of polysyllabic words,
- all medial syllables of polysyllabic words,
- all final syllables of polysyllabic words, and
- all monosyllabic words.

Monosyllabic words are both initial and final syllables at the same time; they have been counted separately for the purpose of this analysis. Onsets, nuclei and codas have been matched by regular expressions; the command line tools *grep*, *sort*, and *uniq* were used to aggregate all occurring variants for each syllable segment as well as their absolute frequencies:⁹

```
(16) C = (? : t f | d ʒ | [ptkbgdmnŋvshrɭjw])
      V = (? : [ae] : ? ɪ | əʊ | [ieaou] : ? | [ɪɛʊə])
```

As we have seen above (Table 1.2), CCV syllables only make up 1.28% of initial syllables, insofar it is no surprise that consonant clusters all appear at the bottom of Table 1.3. There also seem to be combination patterns in that initial clusters exist for all plosives plus /r/, and almost all bilabials plus /j/, with the exception of /bj/, however, /nj/ is added to the group instead. Combinations with /w/ only occur for /b/, /r/, and /s/, which do not share an obvious connection. Syllables without a consonant filling the onset position are marked with ‘Ø’; these numbers correspond to the VC and VCC rows in Table 1.2.

Perhaps most striking about the nuclei of initial syllables presented in Table 1.4 is that plain vowels occur most frequently. As mentioned above, lax vowels are counted here as allophones of tense ones as their distribution is complementary and

⁹ However, *sort* was unable to handle all IPA characters, so *sed 'γ/εɪʊə:ʃʒŋ/EIʊ@:SZN/'* had to be used to compensate by transcribing everything into X-SAMPA.

Table 1.3: Frequency of onsets in initial syllables (n = 4299)

Phoneme	Frequency	Percentage
Ø	556	12.93 %
s	488	11.35 %
t	432	10.05 %
m	418	9.72 %
k	380	8.84 %
n	375	8.72 %
p	334	7.77 %
b	231	5.37 %
d	172	4.00 %
v	164	3.81 %
l	159	3.70 %
r	134	3.12 %
j	126	2.93 %
g	111	2.58 %
h	99	2.30 %
tʃ	30	0.70 %
pr	27	0.63 %
nj	27	0.63 %
kr	8	0.19 %
br	8	0.19 %
tr	6	0.14 %
dʒ	4	0.09 %
gr	3	0.07 %
w	2	0.05 %
sw	1	0.02 %
rw	1	0.02 %
pj	1	0.02 %
mj	1	0.02 %
bw	1	0.02 %

Table 1.4: Frequency of nuclei in initial syllables (n = 4299)

Phoneme	Frequency	Percentage
a	1847	42.96 %
i	1011	23.52 %
<i>i</i>	802	18.66 %
<i>ɪ</i>	209	4.86 %
e	705	16.40 %
<i>e</i>	523	12.17 %
<i>ɛ</i>	164	3.81 %
<i>ə</i>	18	0.42 %
u	260	6.05 %
<i>u</i>	228	5.30 %
<i>ʊ</i>	32	0.74 %
o	227	5.28 %
<i>o</i>	188	4.37 %
<i>ɔ</i>	39	0.91 %
a:	109	2.54 %
aɪ	88	2.05 %
eɪ	40	0.93 %
e:	4	0.09 %
ɔɪ	3	0.07 %
ʊɪ	1	0.02 %
o:	1	0.02 %
i:	1	0.02 %
e:ɪ	1	0.02 %
aʊ	1	0.02 %

are listed here for the sake of completeness. This is the reason why the plain vowels are presented as grouped with their allophones in this table as well as in subsequent ones. Long vowels and diphthongs find themselves below the 5% threshold, and the words with single occurrences are:

- (17) a.  *kuysān* ‘comparison’,
 b.  *nōn* ‘will, intention’,
 c.  *nīsa* ‘wanted’,¹⁰
 d.  *sēyaya* ‘will overcome’ (FUT-overcome-3SG.M),
 e.  *sautan* ‘cork’.

As the diphthong [e:i] only occurs due to allophony, it should not be counted as a phoneme for the purposes of this analysis. On the other hand, the same could be said for a lot of cases of [a:] included here—this caveat applies to all nouns derived from verbs ending in *-a* with the very common nominalizing suffix  *-an*, as exemplified in (8) above. Similarly, the 18 instances of /ə/ reported here are mostly from tense prefixes also mentioned above, for instance,  *məkōronay* ‘I knew’ (PST-know=1SG.TOP).

Table 1.5: Frequency of codas in initial syllables (n = 4299)

Phoneme	Frequency	Percentage
Ø	3441	80.04 %
n	298	6.93 %
ŋ	243	5.65 %
r	129	3.00 %
l	88	2.05 %
m	74	1.72 %
s	20	0.47 %
t	2	0.05 %
h	2	0.05 %
tʃ	1	0.02 %
ŋk	1	0.02 %
lv	1	0.02 %
k	1	0.02 %

Initial-syllable codas (Table 1.5) are far less diverse than consonant onsets: there are only 10 attested segments in comparison to 28 for onsets (not counting empty

¹⁰  *nīsa* and  *nōn* are both related to  *no* ‘want, plan’.

codas of C(C)V syllables, which constitute the majority by a large margin), and the only two cluster attested are /ŋk/ in the word linktang ‘they try’ (try=3PL.M.A), and /lv/ in the word silvnang ‘I see’ (see=IPL.A). There only being two incidences of a CC cluster is very probably an effect of the small sample size. Furthermore, the only unvoiced single coda consonants attested are /s/, /h/, /t/, /tʃ/ and /k/, the latter two only once, /h/ twice:

- (18) a. mehvāng ‘you are supposed to’ (be.supposed.to=2SG.A),¹¹
 robtang ‘they bite’ (bite=3SG.M.A);
 b. mutva ‘you rub’ (rub=2SG.TOP),
 patlay ‘cousin’;
 c. sik-sik ‘tits’;
 d. vacvāng ‘you like’ (like=2SG.A).

1.2.3 Phonemic makeup of medial syllables

The onsets of medial syllables (Table 1.6) show properties very similar to those of initial syllables. The order of most common consonants may different here—for example, the most common onset is /r/, not Ø or /s/—, but there are no restrictions on consonants to appear in this position, with the exception of /ŋ/ for reasons stated above (see section 1.2.1). Regarding initial clusters, there are further attestations for plosive plus /r/ (except for /kr/). As for clusters with /j/, the only one with a bilabial is /bj/, but the set is extended to /sj/ and /kj/. For clusters with /w/, only /sw/ and /kw/ occur here, while attestations for /bw/ and /rw/ as in initial-syllable onsets are lacking. This does not mean that those combinations are not principally possible in this position, however.

As with onset consonants, vowel nuclei of medial syllables (Table 1.7) do not show significant differences compared to those of initial syllables either. /a/ is more common here, and /o/ and /u/ switch places. Instead of /e:i/, there is an attestation of /u:/ (see footnote 4), for which there is more reason to be counted as a phoneme than for /e:i/. The sequences /i:/ and /u:/ also only occur once and twice, respectively, namely in the following words:

- (19) a. pasīsa ‘interesting’;
 b. puluyley ‘a mirror’ (mirror-P.INAN),
 tipuyya ‘on the grass’ (grass-LOC).

¹¹ The dictionary entry for the verb is mya- , so this may be an instance of my changing a word in the dictionary with the old one staying in the text (The Four Candles).

Table 1.6: Frequency of onsets in medial syllables (n = 2741)

Phoneme	Frequency	Percentage
Ø	123	4.49%
r	343	12.51%
n	260	9.49%
j	233	8.50%
t	222	8.10%
d	213	7.77%
k	189	6.90%
s	170	6.20%
m	169	6.17%
l	149	5.44%
v	148	5.40%
h	147	5.36%
p	119	4.34%
g	92	3.36%
b	89	3.25%
tʃ	20	0.73%
dʒ	15	0.55%
tr	11	0.40%
dr	8	0.29%
pr	7	0.26%
w	6	0.22%
sj	2	0.07%
br	2	0.07%
sw	1	0.04%
kw	1	0.04%
kj	1	0.04%
bj	1	0.04%

Table 1.7: Frequency of nuclei in medial syllables (n = 2741)

Phoneme	Frequency	Percentage
a	1480	53.99%
i	480	17.51%
<i>i</i>	387	14.12%
<i>ɪ</i>	93	3.39%
e	254	9.26%
<i>e</i>	206	7.52%
<i>ɛ</i>	48	1.75%
o	194	7.08%
<i>o</i>	119	4.34%
<i>ɔ</i>	75	2.74%
u	120	4.38%
<i>u</i>	101	3.68%
<i>ʊ</i>	19	0.69%
a:	110	4.01%
aɪ	51	1.86%
ɔɪ	33	1.20%
eɪ	5	0.18%
e:	5	0.18%
aʊ	5	0.18%
ʊɪ	2	0.07%
u:	1	0.04%
i:	1	0.04%

The word in (19a), *పాసి* *pasīsa* ‘interesting’, is rather transparently constitutes a causative derivation of the verb *పాసు* *pasy-* ‘wonder, be curious, be interested’, essentially meaning ‘making one wonder/curious’—the causative suffix *-isa* can as well be used to derive adjectives with a causative or resultative meaning. Nonetheless it should count as a lexeme in its own right, since it possesses idiomatic meaning.

With medial-syllable codas (Table 1.8) again, sonorants and /s/ make up the largest number of consonants in this position; /t/ and /g/ only occur once each in

- (20) a. *పాంగిలాన్* *pangitlan* ‘money change’,¹² and
 b. *తెలుగులు* *telugtong* ‘they survive’ (survive=3PL.N).

Table 1.8: Frequency of codas in medial syllables (n = 2741)

Phoneme	Frequency	Percentage
Ø	2093	76.36%
n	313	11.42%
ŋ	193	7.04%
r	48	1.75%
m	39	1.42%
s	32	1.17%
l	21	0.77%
t	1	0.04%
g	1	0.04%

As documented in Table 1.2 above, Ayeri very strongly favors CV syllables in medial positions, hence the high count of zero segments here.

1.2.4 Phonemic makeup of final syllables

The onsets of final syllables of polysyllabic words (Table 1.9) show the greatest amount of variety, which is due to Ayeri mostly using suffixes for grammatical purposes. Hence it is no surprise that combinations with /j/ and, indeed, /j/ itself as an onset, are especially common, since /j/ is also what a number of very common suffixes start with, for example the plural marker :ṽ -ye, the locative marker :ṽ -ya, the dative and participle marker :ṽ -yam, as well as third-person animate pronoun agreement suffixes, and the various first-person and third-person animate pronominal clitics. Figure 1.3 above shows exemplarily how verbs resyllabify when suffixes are attached. Even though single-segment onsets are strongly preferred, Cr, Cw, and especially C(C)j seem to be generally permissible.¹³

¹² The word for ‘money’ is ṽ pangis, so (20a) is probably a compound, albeit not a fully transparent one. The word for ‘change’ is ṽ tila-, and there seems to be a nominalizing ṽ -an. Ayeri allows noun–verb compounds to have a nominalized verb in the second position in spite of it being the head—noun–noun compounds mostly come in head-initial order. Possibly, what happened at the morpheme borders is that ṽ tilān underwent metathesis to *ṽ itlān to match the rhyme of ṽ pangis. *ṽ pangisitlān then underwent irregular haplology (and shortening of the nominalizing suffix) to ṽ pangitlan.

¹³ The sequence /sj/ poses difficulty here as there are examples for /Vs.jV/ as well as for /V.sjV/, and I cannot tell for sure if there is a strict rule in operation. It seems that /V.sjV/ is more likely to occur when the second syllable is stressed, whereas /Vs.jV/ is more likely to occur when the first syllable is stressed. Ayeri’s own Tahano Hikamu orthography would not show the difference either, since /sja/ is spelled ṽ either way, and there is no heeding morpheme breaks

Table 1.9: Frequency of onsets in final syllables (n = 4299)

Phoneme	Frequency	Percentage	Phoneme	Frequency	Percentage
Ø	155	3.61%	pr	7	0.16%
j	1101	25.61%	kj	6	0.14%
n	528	12.28%	hj	5	0.12%
r	398	9.26%	bj	5	0.12%
t	268	6.23%	tw	4	0.09%
s	244	5.68%	sw	4	0.09%
l	238	5.54%	sj	4	0.09%
k	199	4.63%	kw	3	0.07%
d	184	4.28%	kr	3	0.07%
m	154	3.58%	br	3	0.07%
v	144	3.35%	vr	2	0.05%
h	128	2.98%	rw	2	0.05%
p	115	2.68%	nw	2	0.05%
g	103	2.40%	tʃj	1	0.02%
dʒ	73	1.70%	rj	1	0.02%
b	73	1.70%	nj	1	0.02%
tʃ	52	1.21%	mw	1	0.02%
vj	26	0.60%	grj	1	0.02%
pj	22	0.51%	dv	1	0.02%
dʒj	17	0.40%	dr	1	0.02%
tr	10	0.23%	brj	1	0.02%
w	9	0.21%			

Nuclei of final syllables (Table 1.10) do not bear striking differences to nuclei in other positions. /a:/ comes out second here due to the common nominalizer *-an*, which lengthens the vowel of verb stems ending in /a/, as demonstrated in (8). /aɪ/ is also fairly common here as it is the topic-marked first-person pronoun/pronominal clitic; for the same reason, /a:ɪ/ occurs a number of times—the vowel-lengthening rule applies here as well, so its status as a phoneme is marginal. All instances of /e:/ in the sample are from the word *arēn* ‘anyway, however’; all evidence for /i:/ is from *sirī* ‘due to which’ (see section 1.1.2). The only evidence for /u:/ in the sample is from *babū* ‘barbarian (adj.)’.

The list of coda consonants in final syllables (Table 1.11) is very slightly more restrictive than even that of coda consonants in medial syllables (see Table 1.8), since

in placing the diacritic. /CsjV/ will be /C.sjV/ in any case, since Ayeri avoids final consonant clusters if possible, see Table 1.2.

Table 1.10: Frequency of nuclei in final syllables (n = 4299)

Phoneme	Frequency	Percentage
a	2408	56.01%
a:	316	7.35%
o	411	9.56%
o	298	6.93%
ɔ	113	2.63%
i	289	6.42%
ɪ	147	3.42%
ɨ	142	3.30%
aɪ	254	5.91%
u	207	4.82%
u	155	3.61%
ʊ	52	1.21%
e	209	4.85%
ɛ	127	2.95%
ə	81	1.88%
ɐ	1	0.02%
eɪ	103	2.40%
ɔɪ	42	0.98%
a:ɪ	23	0.54%
ʊɪ	14	0.33%
aʊ	14	0.33%
e:	5	0.12%
i:	3	0.07%
u:	1	0.02%

Table 1.11: Frequency of codas in final syllables (n = 4299)

Phoneme	Frequency	Percentage
Ø	2224	51.73 %
n	899	20.91 %
ŋ	651	15.14 %
s	244	5.68 %
m	225	5.23 %
l	34	0.79 %
r	21	0.49 %
k	1	0.02 %

the only non-sonorant attested is /k/, which only occurs in *ṣik-ṣik* ‘tits’ again, which—besides being a vulgar term, thus maybe slightly more dispositioned to allow for deviating phonotactics—looks quite like onomatopoeia, possibly for the sound of sucking.¹⁴

1.2.5 Phonemic makeup of single syllables

Onsets of single syllables (Table 1.12) appear to be the least varied category. Still, none of the basic set of consonant morphemes (see Figure 1.1) is missing—the frequency order is just completely different from the other onsets surveyed, not merely a mixture of initial and final syllables. Consonant clusters with /j/, /w/ and /r/ exist here as well. Combinations with /j/ are only present for /m/ and /n/, while /r/ again combines with plosives; /w/ combines with /n/ and /r/ at least, which we have already seen in final-syllable onsets (see Table 1.9). Whereas /mj/ has only occurred once in initial-syllable onsets so far (see Table 1.3), it occurs a few more times here, all in the word *ḡ mya* ‘be supposed to’, which is very commonly used as an unconjugatable modal particle.

A consonant onset that can only be found in monosyllables is /ŋ/,¹⁵ in *ṇḡs* -*ngas* ‘almost’, a quantifier suffix that has managed to sneak in due to being marked as an adverb in the dictionary, since it can modify a verb:

¹⁴ Kroonen (2013: 489–490) identifies PGmc **sūgan-*, **sūkan-* ‘to suck’ as an iterative of PGmc **sukkōn-*, **sugōn-* ‘to suck’ and reconstructs PIE **souk-neh₂-*. However, he does not say anything about the Germanic word being onomatopoeic in origin.

¹⁵ At least according to the analysis chosen here, see section 1.2.1 for an explanation.

Table 1.12: Frequency of onsets in single syllables (n = 1201)

Phoneme	Frequency	Percentage
Ø	284	23.65%
n	231	19.23%
s	147	12.24%
j	144	11.99%
k	51	4.25%
v	48	4.00%
m	46	3.83%
l	44	3.66%
t	41	3.41%
d	33	2.75%
r	26	2.16%
h	23	1.92%
mj	16	1.33%
p	13	1.08%
tʃ	9	0.75%
g	9	0.75%
nj	8	0.67%
rw	7	0.58%
b	7	0.58%
pr	5	0.42%
dʒ	3	0.25%
tr	2	0.17%
nw	1	0.08%
ŋ	1	0.08%
kr	1	0.08%
br	1	0.08%

- (21) *Apayeng-ngas.*
 Apa-yeng-ngas
 laugh=3SG.F.A=almost
 ‘She almost laughed.’

Here, ၵာန *-ngas* modifies the verb complex like any other adverb:

- (22) *Apayeng babo.*
 Apa-yeng baho
 laugh=3SG.F.A loudly
 ‘She laughs loudly.’

However, whereas ခဏ် *babo* ‘loud’ is treated as a separate unit in terms of intonation, ၵာန *-ngas* is unstressed and binds to what it follows:

- (23) a. ၵာနၵာန ၵာန *Apayeng-ngas*. [apa'jeŋas];
 b. ၵာနၵာန ခဏ် ၵာန *Apayeng babo*. [apa'jeŋ 'baxo].

As with onset consonants of monosyllabic words, nuclei of this syllable type are the least diverse group again (Table 1.13). One segment that is notably absent is /au/, and the marginally phonemic /e:/ is not present either. By having /a/, /aɪ/, /a:/ at the top, monosyllabic words behave similar to final syllables of polysyllabic words (see Table 1.10), however, the order of the most common vowels bears more similarities to that of initial and medial syllables (see Tables 1.4 and 1.7). The very uncommon /o:/ features twice in this group, namely in two instances of the word ခဏ် *nōn* ‘will, intention’.¹⁶

Like the other syllable segments of monosyllabic words, coda consonants (Table 1.14) as well show the lowest degree of variety among all the coda consonants of the various syllable classes discussed so far. The order is basically the same as that of final-syllable codas (see Table 1.11), though /ŋ/ supersedes /n/ and there is some attestation of final /h/. As noted above, the prevalence of /ŋ/ is due to the agent-topic marker ၵာ *ang* (see section 1.2.1). /h/ only occurs in the interjections ခဏ် *ah!* and ခဏ် *āh!*, so its status as an actual phoneme in this position is marginal at best.

1.2.6 Cross-syllable consonant clusters

Since a table detailing every combination with its absolute and relative frequency would be too large here, Table 1.15 gives the attested combinations ordered by brack-

¹⁶ Ayeri used to have ခဏ် *-on* as a nominalizer beside ခဏ် *-an*, however, it was not very productive and has long fallen out of use. ခဏ် *nōn* is thus, in fact, originally a nominalization of ခဏ် *no-* ‘want, plan’.

Table 1.13: Frequency of nuclei in single syllables (n = 1201)

Phoneme	Frequency	Percentage
a	568	47.29%
aɪ	171	14.24%
a:	140	11.66%
i	113	9.41%
i	65	5.41%
ɪ	48	4.00%
e	104	8.66%
ɛ	65	5.41%
ɐ	34	2.83%
ə	5	0.42%
o	45	3.75%
ɔ	30	2.50%
o	15	1.25%
u	20	1.67%
a:ɪ	14	1.17%
ɔɪ	10	0.83%
i:	6	0.50%
eɪ	5	0.42%
ʊɪ	3	0.25%
o:	2	0.17%

Table 1.14: Frequency of codas in single syllables (n = 1201)

Phoneme	Frequency	Percentage
Ø	612	50.96%
ŋ	377	31.39%
n	105	8.74%
s	58	4.83%
m	36	3.00%
l	6	0.50%
h	4	0.33%
r	3	0.25%

Table 1.15: Frequency of cross-syllable consonant clusters (n = 1270)

Interval [%]	Consonant cluster
0.00 ... 0.09	g.t, h.t, h.v, k.s, l.n, lv.n, m.bj, m.d, m.dʒ, m.l, m.n, m.pr, m.r, n.dv, n.g, n.h, n.w, ŋ.dʒj, ŋ.kw, ŋ.m, ŋ.n, ŋ.rj, ŋ.t, ŋk.t, r.b, r.dʒ, r.g, r.l, r.m, r.sj, r.tʃ, r.v, s.dʒ, s.h, s.l, s.n, s.p, s.v, t.v, tʃ.v (0.08%).
0.10 ... 0.24	l.bj, m.br, m.t, n.s, ŋ.b, ŋ.h, ŋ.p, ŋ.w, r.dʒj, r.pj, s.dʒj, s.m, t.l (0.16%); l.dʒ, l.p, m.k, n.sj, ŋ.dʒ, ŋ.g, ŋ.s, r.pr (0.24%).
0.25 ... 0.49	m.v, r.s, s.r (0.31%); n.r, s.t (0.39%); m.pj, n.dʒj, r.d (0.47%).
0.50 ... 0.74	ŋ.kj, ŋ.v, r.k, r.n (0.55%); l.b, l.t, ŋ.r (0.71%).
0.75 ... 1.00	r.p, r.t (0.87%); l.vj (0.94%).
1.0 ... 2.4	m.j (1.18%); ŋ.l (1.34%); n.tʃ (1.50%); n.dʒ (2.13%); n.v (2.28%); l.j (2.36%).
2.5 ... 4.9	m.p (2.52%); s.j (2.60%); n.l (2.91%); l.v (3.15%); m.b (3.23%); ŋ.k (3.78%).
5 ... 9	n.t (5.28%); n.d (6.85%); ŋ.j (7.32%); r.j (8.98%).
10+	n.j (25.35%).

ets. As can be expected, bilabials cluster mostly with bilabials (83/112 purely bilabial CC combinations = 74.11%), alveolars with alveolars (317/948 = 33.44%), and velars with velars (59/207 = 28.51%). However, at least for alveolars and velars, the score is even higher with /j/: 52.64% and 44.93%, respectively. /j/ is also the most common second consonant overall, at 47.8% of all consonant clusters; /n.j/ is the most common cluster at a total of 25.35%. Alveolars provide the highest variety of both first and second consonants, with 6 different phonemes making up 74.65% of C₁, and 8 different phonemes making up 28.74% of C₂.

Labiodentals and glottals occur least frequently, on the other hand: There is only one cluster with /v/ as a first consonant, namely, /lv.n/ (0.08%). For /h/, there are two, which are /h.v/ and /h.t/ (0.16%). Altogether, however, there are 97 combinations in /v/ (7.64%)—most commonly /l.v/ (3.15%) and /n.v/ (2.28%)—while there are only 4 in /h/ (0.31%): /n.h/, /s.h/, and twice /ŋ.h/.

At 924 first consonants (72.76%), the nasals /m/, /n/, and /ŋ/ make up the largest group going by manner of articulation, followed by the tap /r/, which appears 175 times (13.78%) as the first consonant. For second consonants, approximants constitute the largest group at 669 combinations (52.68%), followed by 387 pairs with plosives second (30.47%).

1.3 Notes on prosody

1.3.1 Stress

Ayeri uses dynamic accent, that is, stress is based on differences in the loudness of syllables, among others.¹⁷ Which syllable is stressed depends on a mixture of which position in a word a syllable occupies and the phonemic shape of it. In fact, English, which also has phonemic stress in pairs such as *record* /'rɛkərd/ (noun) and /rɪ'kɔrd/ (verb) that Ayeri lacks, does a similar thing (examples adapted from Halle 1998: 552):

- (24) *admire* /æd'maɪər/ — *admirable* /'ædmərəbl/ [English]
carnivore /'karnɪvɔr/ — *carnivorous* /kɑr'nɪvərəs/
ignore /ɪg'nɔr/ — *ignorant* /'ɪgnərənt/

Stress does not stay at fixed intervals in these words and they even change their sound structure a little, but there are a number of variables which can nonetheless be formally described and applied here (564–565).¹⁸ To demonstrate how word stress moves around in Ayeri, the complete declension paradigm for ᑭᑦ *niva* ‘eye’ is presented in Figure 1.4.

Figure 1.4: Declension paradigm for Ayeri ᑭᑦ *niva* ‘eye’

	Singular		Plural	
TOP	<i>ní.va</i>	‘the eye’	<i>ni.vá.ye</i>	‘the eyes’
A	<i>ni.vǎng</i>	‘eye’	<i>ni.va.jǎng</i>	‘eyes’
P	<i>ni.vǎs</i>	‘eye’	<i>ni.vá.jas</i>	‘eyes’
DAT	<i>ni.vá.yam</i> ¹⁹	‘to the eye’	<i>ni.vá.jyam</i>	‘to the eyes’
GEN	<i>ni.vá.na</i>	‘of the eye’	<i>ni.va.yé.na</i>	‘of the eyes’
LOC	<i>ni.vá.ya</i>	‘at the eye’	<i>ni.vá.jya</i>	‘at the eyes’
CAUS	<i>ni.va.í.sa</i>	‘due to the eye’	<i>ni.va.jí.sa</i>	‘due to the eyes’
INS	<i>ni.vá.ri</i>	‘with the eye’	<i>ni.va.yé.ri</i>	‘with the eyes’

¹⁷ For a discussion of terms, see Kager (2007), for instance.

¹⁸ Halle (1998) takes a generativist approach rather than a more modern Optimality-Theory based one like Kager (2007) does, who only deals with fixed-stress systems in this introductory article, though Halle’s article is still informative. Simplifying a lot, English essentially tries to construct trochaic feet from the right edge of the word. If the last syllable’s vowel is not light, it is skipped and stress moves to the antepenultimate syllable; this process is recursive for words with multiple feet, although some suffixes introduce irregularities in rule application.

¹⁹ Final-syllable stress is possible as well, also in the plural.

It may appear that in the table above, stress is always on the penultimate syllable, which is indeed the case for most forms quoted there, but compare the superficially unmarked form \tilde{n} *niva*, which is disyllabic with stress on the first (= penultimate) syllable, to the agent and patient singular forms, $\tilde{n}\tilde{v}\tilde{a}ng$ *nivāng* and $\tilde{n}\tilde{v}\tilde{a}s$ *nivās*, respectively. These are also disyllabic, however, they are stressed on the second (= ultimate) syllable. Similarly, compare the agent and patient plural forms to each other: the agent plural form $\tilde{n}\tilde{v}\tilde{a}j\tilde{a}ng$ *nivajang* is trisyllabic and has its main stress on the third (= ultimate) syllable, while the equally trisyllabic patient plural form $\tilde{n}\tilde{v}\tilde{a}j\tilde{a}s$ *nivajas* is stressed on the second (= penultimate) syllable again.

It should have become clear that even though the basic form \tilde{n} *niva* has first-syllable stress, *ni* will not necessarily carry stress across the whole paradigm. It should also have become clear that the basic algorithm to determine stressed syllables in Ayeri has something to do with counting syllables from the right edge of a word, although some complications need to be factored in. The following sections will try to describe these formally.

Analysis of stress patterns in disyllabic words

The basic foot in Ayeri is a trochee, and for the most part it does not matter whether the syllable is open or closed, or whether there are complex onsets or codas, or no onsets or codas at all:²⁰

- (25) a. \acute{x} \times ||
 ba - *ri* ‘pithy, striking’
- b. \acute{x} \times ||
 sa - *yan* ‘hole, cave’
 sem - *ba* ‘comb’
- c. \acute{x} \times ||
 bri - *ba* ‘grace’
 ba - *brya* ‘(he) mumbles’
 a - *gu* ‘chicken’

It can be deduced from words with more than two syllables that stress assignment is trochaic. Stress assignment furthermore runs from right to left, so that in a word with more than two syllables, the last two syllables form a full foot:

²⁰ In the following, a syllable will be marked by $\langle x \rangle$ and receives an acute accent $\langle \acute{} \rangle$ when carrying primary stress, a grave accent $\langle \grave{} \rangle$ when carrying secondary stress, and no accent when unstressed. Feet are marked by horizontal lines $\langle | \rangle$; the end of a word is marked by two horizontal lines $\langle || \rangle$.

- (26) a. × | × × ||
 ba - *ha* - *lan* ‘target, goal’
 jar - *ma* - *ya* ‘pilgrim’
- b. × × | × × ||
 ho - *ra* - *ma* - *ya* ‘sinner’
 ya - *ma* - *na* - *ti* ‘causer’

In the case of (26b), the stressed syllables of the first foot bear secondary stress while those of the second foot bear primary stress. Complications, then, come in the form of syllables ending in /ŋ/, containing a long vowel, or containing a diphthong, or a combination of those features. Ayeri does not have syllables that contain a diphthong and also end in /ŋ/, though, since consonant codas after a diphthong are largely avoided.²¹ Since the presence or the absence of a certain element that is suspected to have an effect on stress assignment is a yes–no decision, we can make a matrix of binary features:

Figure 1.5: Types of heavy syllables

	[+ DIPH, – ŋ]	[– DIPH, + ŋ]	[– DIPH, – ŋ]
[+ LONG]	++	++	++
[– LONG]	+	+	–

The feature matrix above (Figure 1.5) shows the various kinds of syllable types that we will now see have a manipulative effect on trochaic stress assignment. These syllable types can be considered ‘heavy’ in that they attract stress and thus modify the regular assignment of stress to every other syllable from the right edge of a word. For the time being, we will only test their effects on disyllabic words as the most common type. As will be shown in the following example, heavy syllables in ultimate positions attract stress while quasi-regular results are produced when they are in penultimate position and the ultimate syllable is not heavy:

- (27) a. × × ||
 ma - *tay* ‘summer, wet season’
 pa - *dang* ‘mind; heart, mood’
 ka - *nāy* ‘I marry’ (marry=1SG.TOP)
 bras - *yāng* ‘he bathes’ (bathe=3SG.M.A)
 na - *rān* ‘word; speech’
- b. × × ||
 kār - *yo* ‘strong’
 key - *nam* ‘humans, people’
 kan - *ka* ‘mind; heart, mood’

²¹ It might thus be possible to alternatively analyze diphthongs in /ɪ/ as /Vj/ sequences, essentially.

Unfortunately, there are no disyllabic examples for the feature sets [+LONG, –DIPH, +η] and [+LONG, +DIPH, –η] in the first syllable (syllables of the type /C(C(j))V:η/ or /C(C(j))Vɪη/). If there were, they would group with (27b).

So far, we have only looked at heavy syllables combined with regular/light ones. In the following case, however, another property of heavy syllables will become apparent: long syllables outweigh those containing a diphthong or ending in /η/. They are essentially superheavy, which is why some of the fields in Figure 1.5 are marked with two plus signs. The following examples show what happens when heavy syllables are combined with other heavy syllables. Let us start by examining the various combinations possible between [–LONG, +DIPH, –η] and the elements from the [+LONG] row (28a), and the possible combinations between [–LONG, –DIPH, +η] and the [+LONG] row (28b).

- (28) a. × × ||
 bay – *bāy* ‘I govern’ (govern=1SG.TOP)
 say – *lyāng* ‘he sails’ (sail=3SG.M.A)
 kay – *vān* ‘container’
- b. × × ||
 kong – *āyn* ‘we enter’ (enter=IPL.TOP)
 keng – *vāng* ‘you notice’ (notice=2SG.A)
 lang – *-vā* ‘in the most tiresome way’ (tiresome=SUPL)

We can see here that these words have primary stress invariably on the last/long syllable in spite of a heavy syllable preceding in the examples in (28b). The question then is, however, what happens if we invert this order. This is more problematic than it sounds, however, as initial [+LONG, +DIPH, –η] and [+LONG, –DIPH, +η], as well as final [–LONG, +DIPH, +η] do not occur, insofar there will only be one possible combination here—the reverse pattern of ၵၵၵၵၵၵ *lang-vā* ‘in the most tiresome way’ from (28b) above, also compare with (27):

- (29) × × ||
 cā – *nang* ‘love’ (love-A)

There is only one pattern possible here, which is very little to make a point, however, other words following this syllable pattern, like ၵၵၵၵၵၵ *nāreng* ‘rather’, for example, behave in the same way. A long syllable has precedence over other kinds of heavy syllables, so ၵၵၵၵၵၵ *-nang* does not take away stress from ၵၵၵၵၵၵ *cā-* as one might expect from the examples in (27a). Another question is what happens if we pit elements from the [±LONG] rows against another feature combination of the same row. As above, we will start with the [–LONG] row:

- (30) a. \times $\acute{\times}$ ||
 bay - *tang* 'blood'
- b. \times $\acute{\times}$ ||
 pang - *lay* 'goddess'

In the case of examples for [+LONG] pattern combinations, we need to keep in mind again that initial [+LONG, +DIPH, -η] and [+LONG, -DIPH, +η] are not attested, so again, there will only be one possible combination of two syllables with a long vowel:

- (31) $\grave{\times}$ $\acute{\times}$ ||
 mā - *sāy* 'I traveled' (PST-travel=ISG.TOP)

Combining two long syllables with each other will result in both being stressed, which is otherwise avoided in Ayeri, as we will see later. Moreover, the following patterns emerge if we combine each pattern with itself; the combinatorial restrictions mentioned above apply again, of course:

- (32) a. \times $\acute{\times}$ ||
 kay - *vay* 'without'
 dang - *reng* 'bell' (bell-A.INAN)
- b. $\grave{\times}$ $\acute{\times}$ ||
 bā - *mā* 'parents, mom-and-dad'

As demonstrated in (28), the last heavy syllable will receive primary stress, except if two long syllables collide, in which case the first long syllable will receive secondary stress.

To summarize the above findings:

1. Ayeri assigns trochaic stress from the right edge of a word. A foot thus consists of two syllables, of which the first is stressed.
2. Syllables ending in /η/ or ones containing a diphthong are considered heavy. They attract stress and take it away from a preceding stressed syllable if the following syllable is not stressed already.
3. Syllables containing a long vowel are considered superheavy and override both light and heavy syllables in attracting stress, since long vowels cannot be unstressed.
4. Primary stress is assigned to the last stressable syllable, or otherwise the last heavy syllable. In the rare case of two long/superheavy syllables after another, the first syllable receives secondary stress and reduces in duration.

5. Secondary stress is assigned to syllables that are eligible for word stress but which are not in the final foot.

Analysis of stress patterns in trisyllabic words

So far, we have only considered all the possible combinations of two heavy and light syllables. Doing the same for all combinations of three and more syllables would be possible, though the list of examples were to become even longer. Since the feature pair $[\pm \text{DIPH}, \pm \eta]$ behaves the same way throughout and both features are in complementary distribution, we need not test iterations of them separately, but can subsume them under the label $[\pm \text{HEAVY}]$. The parameters that need testing, then, are $[\pm \text{HEAVY}]$ in combination with $[\pm \text{LONG}]$. There are 4 possible outcomes for these two features, which in the case of three syllables leads us to $(2 \times 2)^3 = 64$ theoretically possible combinations. For this reason, I want to point out just a few cases, since the general rules sketched out above still apply.

First, let us look at $[+ \text{HEAVY}, - \text{LONG}]$ combined with $[- \text{HEAVY}, - \text{LONG}]$ in all positions (Figure 1.6). Finding words that fit the respective permutations is not too much of a problem, especially in cases where there is only one heavy syllable.

Figure 1.6: Stress patterns for $[+ \text{HEAVY}, - \text{LONG}]$ in trisyllabic words

$-H -H +H$	<i>prantanley</i>	$\times \times \acute{x} $	‘question’ (question-P.INAN)
$-H +H -H$	<i>sarayya</i>	$\times \acute{x} \times $	‘(he) bows’ (bow-3SG.M)
$+H -H -H$	<i>taykondam</i>	$\times \acute{x} \times $	‘break (n.)’
$-H +H +H$	<i>ralanghay</i>	$\times \times \acute{x} $	‘thumbnail’
$+H -H +H$	<i>kaybunay</i>	$\acute{x} \times \acute{x} $	‘by the way’
$+H +H -H$	<i>maykongas</i>	$\times \acute{x} \times $	‘harbor’ (harbor-P)
$+H +H +H$	<i>panglay-kay</i>	$\acute{x} \times \acute{x} $	‘a few goddesses’ (goddess=few)

It becomes clear from Figure 1.6 that the rules stated at the end of the previous section (p. 35) also hold in the case of trisyllabic words whose syllables alternate short syllables based on the $[\pm \text{HEAVY}]$ feature: ပြဏတၢ်လၢၤ *prantanley*, ရၢလၢၣ်ဂၢၢ် *ralanghay*, ကၢၤပၤပၤ *kaybunay*, and ပၢၣ်လၢၣ်ကၢၤ *panglay-kay* receive final-syllable stress since this is their last heavy syllable. The first syllables of တၢ်ယၢၢ် *taykondam* and မၢၤပၤ *maykongas*, on the other hand, lose the secondary stress they would normally be assigned as two stressed syllables after another are normally avoided; the requirement of long syllables to not be unstressed does not come into effect here. တၢ်ယၢၢ် *taykondam* is also an example for the rule that even if a syllable is not heavy, the last syllable that can be assigned stress will receive primary stress.

Carrying out the same analysis as above and moving the feature [+ LONG] through the various positions, we receive the results depicted in Figure 1.7.²² Since long syllables override stress of both light and heavy syllables as pointed out above (p. 35), the example words in this chart contain both of these syllable types. It was not too hard finding examples for all the slots in this case either, except that words with two long syllables in succession are rather rare. Still, only the case of three long syllables must remain unattested.²³

Figure 1.7: Stress patterns for [\pm HEAVY, + LONG] in trisyllabic words

-L -L +L	<i>peraysān</i>	x x ˈ	‘paste’
-L +L -L	<i>raypānya</i>	x ˈ x	‘at the stop’ (stop-LOC)
+L -L -L	<i>nōneri</i>	ˈ x x	‘deliberate, intentional’
-L +L +L	<i>mə-cān-cān</i>	x ˈ ˈ	‘whatever fling’ (whatever=fling)
+L -L +L	<i>sānisān</i>	ˈ x ˈ	‘copula; clutch (n.)’
+L +L -L	<i>lēāyon</i>	ˈ ˈ x	‘manwhore’
+L +L +L	—	—	—

Again, we can see that long syllables attract stress, in that the final syllables of ပဲရယ်ဆံ့ *peraysān* and ဆံ့နီဆံ့ *sānisān* are stressed even though the penultimate syllable is heavy on the virtue of containing a diphthong. As it is in an unstressed position and there is no requirement for the syllable to be stressed, the first syllable of ရယ်ပယ်နီ *raypānya* loses stress adjacent to the stressed long penultimate syllable. နီဆံ့ *nōneri* and လီယောန် *lēāyon* display a secondary-stressed and a primary-stressed syllable next to each other, in the first case due to the rule that long syllables must not be unstressed and ဆံ့ *-eri* forming a valid disyllabic foot that receives regular trochaic stress, and in the second case due to two long syllables next to each other, of which the first—again—must not be unstressed. မေ့ဆံ့ *mə-cān-cān* is interesting insofar as the long-syllable stress rules operate on the second foot regularly, while the marker မေ့ *mə-* ‘whatever’ is by default unstressed, so even if it is added to stressed monosyllabic words like ဆံ့ *hin* ‘box’, the foot of မေ့ဆံ့ *mə-hin* ‘which box so ever’ would appear iambic, even though the syllable ဆံ့ *hin* itself is not heavy.

²² For more precision, modifications will be made to the symbols given in footnote 20: let a double acute (ˆˆ) denote superheavy syllables with primary stress, and a double grave (˘˘) denote superheavy syllables with secondary stress.

²³ It would be possible to construct a word with three long syllables if the habitative suffix ဆံ့ *-asa* did not delete the vowel at the end of the verb stem if there is one. မာဆံ့ *māsāy* ‘I traveled’ (PST-travel=ISG.TOP) would then become *မာဆံ့ဆံ့ **māsāsāy* ‘I used to travel’ (PST-travel-HAB=ISG.TOP) instead of the actual form မာဆံ့ *māsasāy*; the verb stem is ဆံ့ *asa-* ‘travel’.

A further exception is formed by monosyllabic quantifying clitics like ၵ်း -*ben* ‘all, every’ or ၵ်း -*ngas* ‘almost’. These are unstressed also when following an unstressed syllable of their host if they contain a short vowel.

Stress in compounds

Ayeri has a number of lexicalized compound nouns that are treated as one word morphologically (33a). This is in contrast to compounds that are not as established terms, or formed ad hoc (33b):

- (33) a. *Ang bengay kardangirayya ya Litareng.*
 Ang beng-ay.Ø kardang.iray-ya ya Litareng
 AT attend=1SG.TOP school.high-LOC LOC= Litareng
 ‘I attend university in Litareng.’
- b. *Ang pasyye Pila sungkoranyam kibas.*
 Ang pasy-ye Ø=Pila sungkoran-yam kahas
 AT be.interested.in-3SG.F TOP=Pila science-DAT map
 ‘Pila is interested in geography.’

For purposes of surveying stress patterns, we will only deal with the kind in (33a), though it may be noted that when not being overtly inflected, the second kind of compound will be treated as a word as well: ၵ်း ၵ်း ၵ်း *sungkorankihas* ‘geography’. Another kind of indivisible compound as in (33a) is one formed from reduplication, for instance, ၵ်း ၵ်း *kusang-kusang* ‘model’, from ၵ်း *kusang* ‘double’. Figure 1.8 gives several examples along with their stress patterns. As a reference for the various rules in operation, consider the list above (p. 35).

The first word, ၵ်း ၵ်း *apan-apan*, is not very noteworthy but I included it nonetheless as a reference for regular stress assignment to light syllables. The word decomposes into two feet, each of them has trochaic stress, which does not change when reduplicated. Per rule, the first syllable of the word receives secondary stress while the penultimate syllable bears primary stress. ၵ်း ၵ်း *kusang-kusang* is following the normal rules as well in that a heavy syllable takes stress from a light one. This does not change in reduplication.

ၵ်း ၵ်း *depangcāti* is noteworthy since it follows the same stress pattern as ၵ်း ၵ်း *apan-apan* in spite of consisting of one foot with a heavy second syllable (ၵ်း *de-pang*) and another with a superheavy first syllable (ၵ်း *cāti*). To avoid a clash, stress is not shifted to the heavy syllable in ၵ်း *depang*, since it is not strictly necessary for it to be stressed:

- (34) $(*dépang \rightarrow depáng) + cāti \rightarrow \left\{ \begin{array}{l} *depàng + cāti \\ dèpang + cāti \end{array} \right\}$

Figure 1.8: Examples of stress patterns in compounds

Word	Pattern	Translation	Constituents					
			Word	Pattern	Translation	Word	Pattern	Translation
<i>apan-apan</i>	˘ × ˘ ×	‘extensive’	<i>apan</i>	˘ ×	‘wide’	<i>apan</i>	˘ ×	‘wide’
<i>depangcāti</i>	˘ × ˘˘ ×	‘cuckold’	<i>depang</i>	× ˘	‘fool’	<i>cāti</i>	˘˘ ×	‘lover’
<i>kusang-kusang</i>	× ˘ × ˘	‘model’	<i>kusang</i>	× ˘	‘double’	<i>kusang</i>	× ˘	‘double’
<i>latunkema</i>	˘ × ˘ ×	‘tiger’	<i>latun</i>	˘ ×	‘lion’	<i>kema</i>	˘ ×	‘stripe’
<i>malingkaron</i>	˘ × ˘ ×	‘coast, seashore’	<i>maling</i>	× ˘	‘shore’	<i>karon</i>	˘ ×	‘water’
<i>māvaganeng</i>	˘˘ × × ˘	‘mother’s siblings’	<i>māva</i>	˘ ×	‘mother’	<i>ganengan</i>	× ˘ ×	‘siblings’
<i>pikunanding</i>	˘ × × ˘	‘mustache’	<i>piku</i>	˘ ×	‘beard’	<i>nanding</i>	× ˘	‘lip’
<i>sapayyila</i>	˘ × ˘ ×	‘limbs’	<i>sapay</i>	× ˘	‘hand’	<i>yila</i>	˘ ×	‘foot’

In the case of *မာလ်ကရုၤ malingkaron* again the rule operates that prohibits two stressed non-long syllables after another. Thus, even if the first component *မာလ် maling* contains a heavy syllable, stress will not move there. In *လၢတုၤကမၤ latunkema*, the syllable /tun/ is assimilated to [tʊŋ] before the /k/ onset of the next syllable. For one, however, this does not make it heavy, and second, even if it did, stress would stay on the first syllable of the word for the same reason as in *မာလ်ကရုၤ malingkaron*. The same rule of stress hiatus avoidance operates in *ဆာပယီၤ sapayyila*.

Besides the shortening of the second component of the compound, *မာၤသၢၤဂၢၢ်ၤ māvaganeng* retains the stress pattern of its constituents. Since /ma:/ is not in a final foot, it receives secondary stress. Moreover, *မာၤသၢၤဂၢၢ်ၤ māvaganeng* and *ပိကုၤနၢၤသၢၤပိကုၤ pikunanding* both show that it is acceptable for two light syllables to follow each other.

1.3.2 Intonation

Peterson (2015: 66) writes that if “you’re creating a language on your own and you’re the only speaker, intonation is usually not high on the list of features to focus on, but intonational flavoring is well worth it (read: crucial) when it comes to making an authentic language.” Indeed, this has so far been a rather neglected topic in my work on Ayeri. Even though I made a handful of recordings in the past, I have never considered intonation much. Yet, of course, the spoken words in those recordings do not sound like robot speech either, so there must be intonational patterns that I have been subconsciously applying.²⁴

Since intonation contours are notoriously difficult to display in print, I will give very approximate graphs of pitch in the respective examples for each surveyed pattern. Certainly there will be other patterns as well which would require more detailed gradations, but for the time being, I will only try to briefly describe those that are most prominent.

Declarative statements

Declarative statements have a gradually falling pitch contour based around an average pitch height, not deviating considerably on both ends:



‘The North Wind blew with all of his might.’

²⁴ Whenever this happens, the fallback is likely to be a mixture of German and English, since those are the languages I am most familiar with.

Yes-no questions

Since Ayeri does not use a particle or word order to mark closed questions as such, intonation is used to mark the difference from a declarative statement. To achieve a strong contrast, questions exhibit gradually rising intonation:

(36)



<i>Ang</i>	<i>gibayo</i>	<i>Pintemis</i>	<i>minganeri-ben</i>	<i>yona?</i>
Ang	giha-yo	Ø=Pintemis	mingan-eri=hen	yona
AT	blow-3SG.N	TOP=North Wind	ability-INS=all	3SG.N.GEN.

‘Did the North Wind blow with all of his might?’

‘Wh-’ questions

Unlike English, Ayeri marks open questions with an in-situ question word. Open questions are thus marked by the question word causing a sharp rise and fall in the overall contour of the question. The first half of the clause has the rising contour of a question, the second half has gradually falling pitch.

(37)



<i>Ang</i>	<i>engyo</i>	<i>mico</i>	<i>sinya</i>	<i>luga</i>	<i>toya</i>	<i>sam?</i>
Ang	eng-yo	mico	sinya-Ø	luga	toya	sam
AT	be.more-3SG.N	strong	who-TOP	among	3PL.N.LOC	two

‘Who was the stronger of the two?’

Lists

List statements have the general gradual downward slope of declarative statements, but the individual items can nonetheless be marked by a pitch rise on the primary accent of each item.

(38)



<i>Le</i>	<i>vacyeng</i>	<i>seygo,</i>	<i>disu,</i>	<i>betay</i>	<i>nay</i>	<i>vasra.</i>
Le	vac-yeng	seygo-Ø,	disu-Ø,	betay-Ø	nay	vasra-Ø
PT.INAN	like=3SG.F.A	apple-TOP,	banana-Ø,	berry-Ø	and	nut-Ø

‘She likes apples, bananas, berries and nuts.’

Complement and relative clauses

Complement clauses are characterized by the short spike at the end of the preceding main clause followed by a short break which together signal the beginning of a new syntactic unit within the context of the current sentence, which is broadly similar to list statements. Otherwise, statements with complement clauses as well bear the overall downward-sloping contour of declarative statements if included in such.

- (39) 
- Ang manga rantong, engyo mico sinyāng.*
 Ang manga ran-tong, eng-yo mico sinyā-ang
 AT PROG argue=3PL.N.A, be.more=3SG.N strong who-A
 ‘They were arguing who is stronger.’

Relative clauses, on the other hand, do not receive special prosodic marking, but are treated the same as other basic sentence types. They display a continuous downward slope if part of a declarative statement, or a continuous upward slope if part of a question:

- (40) a. 
- Lugaya asāyāng si sitang-naykonyāng kong tova.*
 Luga-ya asāya-ang si sitang-naykon-yāng kong tova-ya
 pass-3SG.M traveler-A REL self=wrap=3SG.M.A inside cloak-LOC
 ‘A traveler passed who had wrapped himself into a cloak.’
- b. 
- Adareng asāyās si le ninyāng tova?*
 Ada-reng asāya-as si le nin-yāng tova-Ø
 that-A.INAN traveler-P REL PT.INAN wear=3SG.M.A coat-TOP
 ‘Is that the traveler who wore the coat?’

Contrast

Ayeri uses a kind of topic system for highlighting constituents in a clause by morphosyntactic means, but this is still different from emphasis on semantic grounds, for example when the speaker wants to highlight a semantic difference in the same syntactic position, as in the following example, which presents a possible answer to the question posed in (40b):

(41)



Adareng asāyās si le nin-yāng kegan.
 Ada-reng asāya-as si le nin-yāng kegan-Ø
 that-A.INAN traveler-P REL PT.INAN wear=3SG.M.A hat-TOP

‘It is the traveler who wore the *hat*.’

We can see here a spike towards the end of the utterance where the word *kegan* ‘hat’ is placed. This word receives extra stress for contrast with *tova* ‘coat’, which is what the other person had asked about.

2 Writing system

In the previous chapter, example words were given in Ayerī's script,  *Tabano Hikamu*, wherever possible. Thus, it seems advisable to include a description of Ayerī's native writing system here as well. Literally,  *Tabano Hikamu* means 'Round Script' (script round), which is an old formation based on the word  *taban-* 'write' that stuck. The current word for 'script' is  *tabanan* 'writing'. Tahano Hikamu was originally named thus because of an earlier draft for a script that never made it very far beyond the drawing board and which was a lot more angular and boxy, see Figure 2.1—Tahano Hikamu was a lot more bubbly in comparison, especially early on (Figure 0.2).¹

As we have seen in the previous chapter, Ayeri's prosody strongly emphasizes the syllable as a unit. Thus, it is not a surprise that Ayeri's native script, Tahano Hikamu, is an alphasyllabary similar to the Brāhmī alphabets of India and Southeast Asia (Salomon 1996; Court 1996). Scripts like these are

based on the unit of the graphic “syllable” [...], which by definition always ends with a vowel (type V, CV, CCV, etc.). Syllables consisting of a vowel only (usually at the beginning of a word or sentence) are written with the *full* or *initial vowel signs* [...]. But when, as is much more frequently the case, the syllable consists of a consonant followed by a vowel, the vowel is indicated by a diacritic sign attached to the basic sign for the consonant [...]. (Salomon 1996: 376)

For Tahano Hikamu the definition that a syllable consisting only of a vowel is written with an initial vowel sign is only true under certain circumstances, as we will see below. Moreover, Brāhmī scripts are often characterized by conjuncts of clustered consonants which may become quite large and sometimes behave in an idiosyncratic way. Consonant conjuncts like Devanāgarī त्व ⟨tva⟩ from त ⟨ta⟩ + व ⟨va⟩ or idiosyncratic conjuncts like क्ष ⟨kṣa⟩ for क ⟨ka⟩ + ष ⟨ṣa⟩ are not known in Tahano Hikamu, however. Tahano Hikamu also does not know subscript notation for consonant clusters and special diacritics marking coda consonants like in Javanese (Kuipers and McDermott 1996: 478–479). This does not mean, however,

¹ Unfortunately, there is no documentation of the Box script surviving that I know of.

Figure 2.1: Box script and Hikamu



(a) Old and aborted draft: Box script



(b) Ayeri's native script: Tahano Hikamu

that final consonants are simply omitted in writing, since closed syllables are reasonably common enough in Ayeri to warrant indicating them. Thus, there is “a special mark to eliminate the vowel of the previous syllable, thereby leaving a consonant in a syllable-final position.” (Kuipers and McDermott 1996: 476) That is, a diacritic exists which marks the absence of an inherent vowel, rendering the syllable consonant-only.

Another difference from Brāhmī-family scripts is that vowel length and diphthongs in [i] are indicated by dedicated diacritics, so the long vowels are not doubled versions of their short counterparts. Like in Kharoṣṭhī—another historically important ancient script of India—initial vowels are not represented by unique graphemes but they are all written like post-consonantal vowel diacritics (Salomon 1996: 377), though in Tahano Hikamu with a character without an inherent sound value. For this reason, the character is indicated in the table below as \emptyset ; its native name is ṛṇṇ *ranyan* ‘nothing’.² Similar to a number of Brāhmī scripts, Tahano Hikamu puts diacritics not only below or above consonant bases, but also before them. This, however, is not limited to vowel graphemes as in Devanāgarī ि ⟨i⟩ or Javanese ꦺ ⟨e, é/è⟩ (Kuipers and McDermott 1996: 478).³

² I will give the native names of graphemes here, but will refer to them by their English names for clarity in the running text.

³ Kuipers and McDermott (1996) do not say, but it looks likely to me that both are related, since they are both functionally the only prepended vowel diacritics and both represent a high front sound.

2.1 Consonants

Tahano Hikamu is mainly based on consonant bases that are modified by diacritics. Since the vowel /a/ is so highly frequent in Ayeri, it is also the vowel that is *inherent* to every consonant grapheme if not further modified by vowel diacritics. Consonant letters are simply referred to as *pa*, *ta*, *ka*, ... Figure 1.1 displays all the main consonants. The customary collation is—similar to the IPA table—roughly grouping the letters according to their sound value by anteriority (front → back) and sonority (low → high). The script is monocameral, that is, there is no distinction between capital letters and minuscule letters as in the Latin, Greek, Cyrillic, Georgian, and Armenian alphabet. It is also written in lines from left to right.

Figure 2.2: The consonant graphemes

/pa/	/ta/	/ka/	/ba/	/da/	/ga/
ᠠ	ᠲ	ᠬ	ᠪ	ᠳ	ᠭ
/ma/	/na/	/ɲa/	/va/	/sa/	/ha/
ᠮ	ᠨ	ᠨᠠ	ᠪᠠ	ᠰ	ᠬᠠ
/ra/	/la/	/ja/	/Ø/		
ᠷ	ᠯ	ᠵ	ᠯ		

ᠯ, which in Ayeri has no sound value but is used as a base for initial vowels, may also serve as the character for /ʔa/. What is, moreover, interesting about ᠨᠠ ⟨nga⟩ is that even though before, /ɲ/ was treated strictly as a coda consonant in the previous chapter, it is in fact treated as an onset consonant in writing if a vowel is following:

- (1) ᠠ + ᠨᠠᠭᠢᠰ
 /pa/ /ɲis/
 ᠠᠨᠠᠭᠢᠰ *pangis* /paŋ.is/ ‘money’

Tahano Hikamu knows a few ligatures. First of all, when two ᠨ ⟨na⟩ are in succession within a word, they will form a ligature ᠨᠠᠨᠠ ⟨nana⟩:

- (2) ᠨ + ᠨ → ᠨᠠᠨᠠ
 /na/ /na/ /nana/

This is distinct from conjuncts like in Devanāgarī et al., though, since the unmodified sound value will still be /nana/, not */nna/, so the inherent vowel of each ᠨ

⟨na⟩ is not deleted, and each \prec ⟨na⟩ retains the ability to be modified by diacritics. Tahano Hikamu also has a few ligatures of the kind you would find in Brāhmī scripts, however:

- (3) a. $\text{𑌕𑌃} \langle \text{kwa} \rangle \leftarrow \text{𑌕} \langle \text{ka} \rangle + \text{𑌃} \langle \text{va} \rangle$,
 b. $\text{𑌕𑌃} \langle \text{tsa} \rangle \leftarrow \text{𑌕} \langle \text{ta} \rangle + \text{𑌃} \langle \text{sa} \rangle$, and
 c. $\text{𑌕𑌃} \langle \text{ksa} \rangle \leftarrow \text{𑌕} \langle \text{ka} \rangle + \text{𑌃} \langle \text{sa} \rangle$.

These conjunct letters are, however, not normally employed by Ayeri. Figure 2.3 shows all additional consonants, added to write other languages. Individual languages may adapt the sound values slightly to fit their own purposes.

Figure 2.3: Additional consonant graphemes

/fa/	/wa/	/tsa/	/za/	/ja/	/za/
𑌕	𑌕	𑌕	𑌕	𑌕	𑌕
/ɕa/	/ksa/	/kwa/	/xa/	/ya/	
𑌕	𑌕	𑌕	𑌕	𑌕	

2.2 Vowels

As mentioned above, vowels are written as diacritics that are added to consonants. In principle, every consonant has two slots for vowels, a primary one atop it, and a secondary one below it. Vowels added to consonants in the primary slot delete their inherent /a/:

- (4) $\text{𑌕} \rightarrow \text{𑌕}$
 /pa/ /pe/

Figure 2.4: Primary vowel graphemes

	/i/	/e/	/a/	/o/	/u/	/ə/	/au/
Diacritics	𑌕	𑌕	(𑌕)	𑌕	𑌕	𑌕	𑌕
Independent	𑌕	𑌕	𑌕	𑌕	𑌕	𑌕	𑌕

Figure 2.4 gives the primary vowel signs. Of the vowel signs given there, only ခ် ⟨ə⟩ is not used in Ayeri. ခ် ⟨au⟩ is the only diphthong for which a dedicated grapheme exists, even though its occurrence is rather limited. The independent vowel graphemes are used at the beginning of words or inside words when there is no other way to spell the vowel, which is occasionally the case for secondary vowels. Secondary vowels are vowels that are not parts of diphthongs (even though another language might use them to spell diphthongs that are not covered by default), but follow the vowel of a syllable directly. They are attached underneath a consonant base, for example:

- (5) ဟ → ဟ် → ဟျ
 /ja/ /je/ /jea/

In fact, the principle that every consonant base with its diacritics represents one syllable is slightly violated here, which is also the reason why secondary vowels very occasionally need to be spelled as independent vowels, for example when the secondary vowel is long, as in the word ရွာန် *ruān* ‘duty’:

- (6) ဂ် → ဂ်ရှ် (ရှ်)
 /ru/ /rwa:/ /ru:a/

Example (6) uses a diacritic, ရှ်, to indicate length. If it is put directly under ဂ် *ru* (the ခ် diacritic moves down where it is not in the way), the syllable will incorrectly spell /ru:a/ instead of the intended /rua:/. This is because diacritics modify consonants and primary vowels, but there is no way to modify a secondary vowel directly. Figure 2.5 gives a list of secondary vowels corresponding to that of primary vowels above. The vowels as well are just referred to by their sound value; ‘primary’ and ‘secondary’, ‘superscript’ and ‘subscript’ or ‘upper’ and ‘lower’ may be chosen to disambiguate their positions; the native names may use ရှ် *iray* ‘high’ and ရှ် *eyra* ‘low’ to disambiguate, so ရှ် *e iray* denotes the superscript ⟨e⟩ diacritic while ရှ် *e eyra* denotes its subscript counterpart.

Figure 2.5: Secondary vowel graphemes

/i/	/e/	/a/	/o/	/u/	/ə/	/au/
ိ	ဲ	ာ	ဝ	ု	့	ွ

As a further exception, those consonant bases with an ascender (ခ် ⟨ka⟩, ည် ⟨da⟩, ည် /ဇာ/ move the primary vowel to the secondary slot below the consonant by default while indicating the vacancy of the primary slot at the top with a dot. This is done to avoid crossing the ascender of the consonant with a vowel diacritic:

$$(7) \quad \begin{array}{ccc} \text{𐌵} & \rightarrow & \text{𐌵} & \rightarrow & \text{𐌵} \\ /ka/ & & /ka.i/ & & /ki/ \end{array}$$

If the primary vowel slot were not silenced by the \circ diacritic, it could reasonably be assumed that the consonant is not losing its inherent /a/ and the vowel below the consonant indicates a secondary vowel, spelling /CaV/. If, however, a secondary vowel is *actually* added, primary and secondary vowels will be assigned the regular primary and secondary slots, respectively, again (8a). This condition also holds true for subscript diacritics (8b).

$$(8) \quad \begin{array}{ll} \text{a.} & \begin{array}{ccc} \text{𐌵} & \rightarrow & \text{𐌵} \\ /ki/ & & /ki.e/ \end{array} \\ \text{b.} & \begin{array}{ccc} \text{𐌵} & \rightarrow & \text{𐌵} \\ /ki/ & & /ki:/ \end{array} \end{array}$$

The order of secondary vowels and subscript diacritics is iconic insofar as it follows the order of sounds in the syllable. Thus, secondary vowels appear below the consonant-doubling diacritic, 𐌵 , while they appear above the syllable-final homorganic nasal diacritic, 𐌶 :

$$(9) \quad \begin{array}{ll} \text{a.} & \begin{array}{ccc} \text{𐌵} & \rightarrow & \text{𐌵} \\ /ppa/ & \rightarrow & /ppea/ \end{array} \\ \text{b.} & \begin{array}{ccc} \text{𐌵} & \rightarrow & \text{𐌵} \\ /peN/ & \rightarrow & /peaN/ \end{array} \end{array}$$

2.3 Diacritics

We have already encountered a few diacritics, though Tahano Hikamu comes with a lot more, some of which undergo non-trivial positioning and repositioning rules. As vowels are primarily expressed as superscripts, diacritics are primarily realized as subscripts, so in the following I will first describe subscript diacritics; then prepended diacritics, which Ayeri also has a number of, both as graphemes in their own right and as allographs of other subscript diacritics; and then, lastly, superscript diacritics.

2.3.1 Subscript diacritics

Figure 2.6 shows the bottom-attaching diacritics. The ‘large diacritics’ cause the secondary slot of consonants to move down below the diacritic. ‘Small diacritics’

Figure 2.6: Bottom-attaching diacritics

Native name	Function	Example
Large diacritics		
  <i>tupasati</i> ‘long-maker’	Lengthens the primary vowel of the syllable	<i>pa</i> → <i>pā</i>
  <i>eyra</i> ‘low ya’	⟨ya⟩ following another consonant, also across syllables. Marks palatalization of  ⟨ta⟩,  ⟨da⟩,  ⟨ka⟩,  ⟨ga⟩ and  ⟨ya⟩ in Ayeri.	<i>ara</i> → <i>arya</i> ; <i>ta</i> → <i>ca</i>
  <i>ringaya</i> ‘raiser’	Palatalizes a consonant (not used in Ayeri)	<i>ta</i> → <i>tʃa</i> , <i>tʃa</i>
  <i>ulangaya</i> ‘breather’	Aspiration or frication of a consonant (not used in Ayeri)	<i>ta</i> → <i>tʰa</i> , <i>θa</i>
  <i>raypāya eyra</i> ‘low stopper’	Glottal stop coda or glottalization of a consonant (consonant letters with ascenders; not used in Ayeri)	<i>ka</i> → <i>kaʔ</i> ; <i>da</i> → <i>dʰa</i>
Small diacritics		
  <i>gondaya</i> ‘extinguisher’	Deletes the inherent /a/ of a consonant, e.g. in consonant clusters or closed syllables	<i>para</i> → <i>pra</i> , <i>par</i>
  <i>vināti</i> ‘nasalizer’	Indicates a homorganic nasal or nasalizes the vowel, depending on the language	<i>pada</i> → <i>panda</i> /panda/ or /pāda/
  <i>kusangisāti</i> ‘duplicator’	Indicates a geminated or otherwise double consonant	<i>pala</i> → <i>palla</i>

can attach in this place as well as secondary vowels, as does the homorganic nasal diacritic ၂ in this diacritic-fraught example:

- (10) $\text{၁၉၃} + \text{ဂ်ၵ်း} \rightarrow \text{၁၉ၵ်း}$
 /tʃa:n/ /pu'lu/ /,tʃa:mpu'lu/
- ၁၉ၵ်း *cāmpuluy* 'heterosexual'

It also needs to be noted that diacritics like ၉ are applied progressively to words as a whole, not stopping at morpheme and syllable boundaries, so even though *toryeng* 'she sleeps' may be composed of ၉: *tor*- 'sleep' + ၵ်း *-yeng* (=3SG.F.A) and syllabifies as /tor.'jeŋ/, the spelling is not *၉ၵ်း as one might expect, but ၉ၵ်း.

Even though the primary position for small diacritics is underneath consonants, the diacritic deleting the inherent vowel, ၂, very commonly also appears after a consonant letter at the end of words:

- (11) $\text{၂} \quad \text{၉ၵ်း} \quad \text{ၵ်း} \quad \text{၉ၵ်း}$
Ya nimreng pangan narānyena.
Ya nim-reng pangan-Ø narān-ye-na
 LOCT appear=3SG.INAN.A end-TOP word-PL-GEN
- 'It appears at the end of words.'

This strategy is advantageous in that Tahano Hikamu leaves very little space between individual words: ၂၉ၵ်းၵ်း၉ၵ်း . With the dot after the consonant, word boundaries are more visible.

2.3.2 Prepended diacritics

Example (10) leads us directly to the next class of diacritics—ones that are prepended to the consonant letter, either because they are simply placed there or because of allography. Let us first list those diacritics that appear in front of consonants obligatorily (Figure 2.7).

As Figure 2.7 shows, the only obligatorily prepended diacritic that Ayeri uses is the one that marks diphthongs, ၂. It needs to be noted here that ၂ changes into ၂ (ya) proper when a vowel follows, but stays ၂ when a ၂ (ya) follows:

- (12) a. $\text{၂} \text{ haday}$ 'hero' $\rightarrow \text{၂} \text{ hadayang}$ 'the hero' (hero-A);
 b. $\text{၂} \text{ tipuy}$ 'grass' $\rightarrow \text{၂} \text{ tipuyya}$ 'in the grass' (grass-LOC).

⁴ In a Tahano Hikamu orthography I devised for English once, ၁ was used for /ə/, as in the NURSE vowel in American English: ၁ nurse.

Figure 2.7: Obligatorily prepended diacritics

Native name	Function	Example
၂ ဂုဏ်တန်ခွေ <i>lentankusang</i> 'double-sound'	Marks a diphthong with /ɪ/	ဂံ <i>pe</i> → ဂံ <i>pey</i>
၃ တိလမယ <i>tilamaya</i> 'changer'	Marks raised vowels (i.e. umlaut; not used in Ayeri)	ဂံ <i>po</i> → ဂံ <i>/pø/</i>
၃ ဟိယမယ <i>hiyamaya</i> 'roller'	Marks retroflex consonants (not used in Ayeri) ⁴	တံ <i>ta</i> → တံ <i>/t̪a/</i>

Figure 2.8: Allographically prepended diacritics

Native name	Function	Example
၁ တုပာသိမာရ် <i>tupasati marin</i> 'anterior long-maker'	Lengthens the primary vowel of the syllable	နံ <i>sya</i> → နံ <i>syā</i> , နံ <i>na</i> → နံ <i>nā</i>
၂ ယာမာရ် <i>ya marin</i> 'anterior ya'	⟨ya⟩ following another consonant, also across syllables.	နံ <i>na</i> → နံ <i>nya</i>
၂ ရိဂယာမာရ် <i>ringaya marin</i> 'anterior raiser'	Also used as an allograph for the palatalization proper diacritic.	နံ <i>/sʰa/</i> → နံ <i>/sʰj/</i>
၂ ဝလံဂယာမာရ် <i>ulangaya marin</i> 'anterior breather'	(Pre-)Aspiration or frication of a consonant (not used in Ayeri)	ဂံ <i>nga</i> → ဂံ <i>/ŋʰa/</i> ; တံ <i>ta</i> → တံ <i>/hʰta/</i>

Besides ᳵ , there are also a number of diacritics that are also obligatorily prepended to consonants, but do so as context-sensitive allographs (Figure 2.8). The selection of the variant diacritics is not random or up to the aesthetic eye of the writer (even though the device itself is certainly a matter of aesthetics), but it is governed by rules. The prepended forms listed in Figure 2.8 are thus triggered

1. when there is no stem or bowl for the regular subscript diacritic to attach to, which is the case for ᳵ <na>, ᳶ <nga>, ᳷ <va>, and ᳸ <wa>:

$$\begin{array}{ll}
 (13) \quad \text{a. } \text{ᳵ} \rightarrow \text{ᳵᳵ} & \text{c. } \text{᳷} \rightarrow \text{᳷᳷} \\
 \quad \quad \quad /na/ & \quad \quad \quad /na:/ \\
 \quad \quad \quad \text{b. } \text{ᳶ} \rightarrow \text{ᳶᳶ} & \text{d. } \text{᳸} \rightarrow \text{᳸᳸} \\
 \quad \quad \quad /ŋa/ & \quad \quad \quad /ŋa:/ \\
 \quad \quad \quad & \quad \quad \quad /wa/ \quad \quad \quad /wa:/
 \end{array}$$

2. when a large subscript diacritic would be added after another large subscript diacritic—this position can only be occupied once, so further large subscripts are prepended:

$$\begin{array}{ccccccc}
 (14) & & + \text{ᳶ} & & + \text{᳷} & & + \text{᳸} \\
 \text{ᳵ} & \rightarrow & \text{ᳵᳶ} & \rightarrow & 2\text{ᳵᳶ} & \rightarrow & 2\text{ᳵᳶ᳷} & \rightarrow & 22\text{ᳵᳶ᳷} \\
 /ta/ & & /t^h a/ & & /t^h j a/ & & /t^h j i/ & & /t^h j i:/
 \end{array}$$

The order of diacritics follows the logic of the respective language's phoneme inventory, so if there are, for example, retroflex consonants and both dental and retroflex consonants can be aspirated, retroflexion would be marked first, then aspiration. If there is a palatalization contrast on top of this, the diacritic would be added after aspiration.

When adding large diacritics to stemless consonants, they are prepended from the beginning, as we saw in (13), and just like in (14), this principle continues:

$$\begin{array}{ccccccc}
 (15) & & + \text{ᳶ} & & + \text{᳸} & & + \text{ᳵᳵ} \\
 \text{ᳵ} & \rightarrow & 2\text{ᳵ} & \rightarrow & 22\text{ᳵ} & \rightarrow & 222\text{ᳵ} \\
 /na/ & & /n j a/ & & /n j a:/ & & /n j a: ɿ/
 \end{array}$$

3. with consonants directly following ᳵ <na>, to avoid a clash with its swash:

$$(16) \quad \underset{/na/}{\text{န}} + \underset{/pa:/}{\text{ပ}} \rightarrow \underset{/napa:/}{\text{နပ}} \quad (*\text{နပ})$$

An exception to this exception occurs, however, when the consonant is not directly following. In this case, no reordering happens, only န ⟨na⟩ *may* reduce its swash in size to accommodate the following prepended diacritic:⁵

$$(17) \quad \underset{/na/}{\text{န}} + \underset{/pai/}{\text{ပိ}} \rightarrow \underset{/napai/}{\text{နပိ}} \quad (? \text{နပိ})$$

4. in other cases where a clash of subscript diacritics needs to be avoided:

$$(18) \quad \underset{/di/}{\text{သိ}} + \underset{/pa:/}{\text{ပ}} \rightarrow \underset{/dipa:/}{\text{သိပ}} \quad (*\text{သိပ})$$

Alternatively, the following solution is permissible:

$$(19) \quad \underset{/di/}{\text{သိ}} + \underset{/pa:/}{\text{ပ}} \rightarrow \underset{/dipa:/}{\text{သိပိ}}$$

When two long syllables follow each other, as in *bāmā* ‘mom-and-dad’, one of the length diacritics should definitely be pulled to the front:

$$(20) \quad \begin{array}{l} \underset{/ba:/}{\text{မိ}} + \underset{/ma:/}{\text{မိ}} \rightarrow \underset{/ba:ma:/}{\text{မိမိ}} \quad (? \text{မိမိ}) \\ \text{or:} \quad \underset{/ba:/}{\text{မိ}} + \underset{/ma:/}{\text{မိ}} \rightarrow \underset{/ba:ma:/}{\text{မိမိ}} \end{array}$$

⁵ The font I am using here is designed so that the reduced combination looks nicer, but if unreduced, န ⟨na⟩’s swash is not so long as to cross the descender of ပ either in this particular case.

2.3.3 Superscript diacritics

Ayeri's standard position for diacritics is below consonants, but sometimes it is nicer to put them on top, especially for the letter ၵ ⟨na⟩ due to its swash, as well as for ၶ ⟨va⟩ since the space below its flag is empty otherwise, thus not providing much of a visual connection. The only diacritic that is normally attaching to the top of consonants is that for the glottal stop—we have already encountered its subscript allograph earlier. Since Ayeri's phoneme inventory does not possess a phonemic glottal stop or glottalization, this diacritic is not used in Ayeri. The list of superscript diacritics is given in Figure 2.9.

Figure 2.9: Superscript diacritics

	Native name	Function	Example
◌̇	ၵၵၵၵၵၵ <i>godaya ling</i> 'upper extinguisher'	Deletes inherent /a/ of consonant, e.g. in consonant clusters or closed syllables	$\text{ၶၵ} \textit{vara} \rightarrow \text{ၶၵ} \textit{vra}$
◌̈	ၵၵၵၵၵၵ <i>vināti ling</i> 'upper nasalizer'	Indicates a homorganic nasal or nasalizes the vowel, depending on language/context	$\text{ၵၵ} \textit{naka} \rightarrow \text{ၵၵ̈} \textit{nanka} / \text{ၵၵၵ} \textit{nanka} / \text{ၵၵၵ̈} \textit{nanka}$
◌̄	ၵၵၵၵၵၵၵၵ <i>kusangisāti ling</i> 'upper duplicator'	Indicates a geminated or otherwise double consonant	$\text{ၵၵ} \textit{pana} \rightarrow \text{ၵၵ̄} \textit{panna}$
◌̌	ၵၵၵၵ <i>raypāya</i> 'stopper'	Glottal stop coda or glottalization of a consonant (not used in Ayeri)	$\text{ၵ} \textit{ta} \rightarrow \text{ၵ̌} / \text{taʔ}/;$ $\text{ၶ} \textit{sa} \rightarrow \text{ၶ̌} / \text{s'a}/$

At times, it may be necessary to attach both a superscript diacritic and a vowel sign above a consonant. In this case, the consonant-modifying diacritic is placed first and the vowel diacritic on top of it—this is exactly equivalent to the rule exemplified for subscript diacritics in (9).

2.4 Numerals

Ayeri uses a duodecimal number system, that is, a system based on the powers of 12, which is a typological rarity.⁶ There is a digit for zero, so the system is positional, like the Hindu–Arabic digits used by the Latin alphabet. The numerals for the numbers from 1 to 12 are shown in Figure 2.10.

Figure 2.10: The numerals

1 12	2 𐄀	3 12	4 7	5 𐄁	6 0
7 𐄂	8 𐄃	9 𐄄	10 𐄅	11 𐄆	12 𐄇

2.5 Punctuation and abbreviations

Tahano Hikamu’s system of manipulating the sound of syllables is very sophisticated, so it comes as no surprise that it is also host of a large number of punctuation marks. Figure 2.11 lists the ones commonly encountered, Figure 2.12 the ones not so commonly encountered.

«*⟨.⟩* does not look very much like a dot or a point, but it is derived from a sign that looks like two circles stacked on top of each other, similar to :*⟨-⟩* (see Figure 0.2). There is no mark for a comma as such, so :*⟨-⟩* or –*⟨-⟩* cannot be used in this way. Instead of a comma, a wide word space is used to separate syntactic units. A long dash –*⟨—⟩* is also sometimes found at the end of paragraphs or texts to mark their end. The strong exclamation mark 𐄈 may appear in its exclamatory function at the end of a line, but does not necessarily indicate strong emphatic force in this case, but just an emphatic statement.

Regarding the less common marks, some of these seem like all to bland copies of modern punctuation, especially the brackets and the decimal point. Still, however, they may serve their purpose sometimes, and the brackets 𐄉𐄊 maybe come with the redeeming notion that they push off the text around the inclusion rather than encapsulating the inclusion within it, so the visual effect is slightly different. The name brackets 𐄋 are interesting and maybe useful insofar as many names in Ayeri are derived from common words, for example, 𐄌𐄍 *Ajān*, a male name, is literally ‘play, game’, relating to a playful character; 𐄎𐄏 *Migoray*, a female name, literally means ‘flower’. The name brackets, then, make it unmistakeably clear that a proper

⁶ And one possibly overrepresented by fictional languages due to its rarity in natural languages.

Figure 2.11: Common punctuation marks

	Native name	Function	Example
။	၎်း <i>dan</i> ‘dot’	Full stop	ဓာယျာံ။ <i>Sarayāng</i> . ‘He left.’
:	၎်း၎်း <i>dan-dan</i> ‘little dot’	A separator for small things, like clitics and abbreviations; divides the constituents of reduplication	အိ၎်း၎်း <i>ada-nanga</i> ‘this house’; နာမ် ၄: <i>pd</i> ‘၄ hrs’; ၎်း၎်း <i>dan-dan</i> ‘dot-dot, little dot’
—	ပု၎်း <i>puntān</i> ‘dash’	General sign for a longer pause, equivalent to a dash, colon, semicolon, brackets	ယံ—ဓာ်း <i>Yan – saru!</i> ‘Yan – go!’
၎်း	မံ၎်း <i>damprantan</i> ‘question point’	Marks questions	မံ၎်း <i>Manisu?</i> ‘Hello?’
၎်း	မံ၎်း <i>dambahān</i> ‘shouting point’	Marks exclamations; strong exclamations may be marked by the ၎်း variant.	မံ၎်း <i>Manisu!</i> ‘Hello!’; ဟံ <i>Yi!</i> ‘Urgh!’

Figure 2.12: Less common punctuation marks

	Native name	Function	Example
၎်း	မံ၎်း <i>danarān</i> ‘speaking point’	Quotation marks	ဓာယျာံ ‘မံ၎်း’ <i>Narayāng</i> “ <i>Manisu!</i> ” ‘He says, “Hello!”’
၎်း	မံ၎်း <i>dankayvo</i> ‘beside-point’	Bracketing of text	ဓာ်း၎်း <i>bahis (larau)</i> ‘a (nice) day’
၎်း	မံ၎်း <i>dangaran</i> ‘name-point’	Explicitly marks a name as such. For the closing name parenthesis, ၎်း can be found as well.	အိ၎်း၎်း <i>Ajān Savati</i> ; ပိ၎်း၎်း <i>Pila Lay Maran</i>
၎်း	မံ၎်း <i>dansinday</i> ‘number-point’	Marks (duo)decimal fractions	၁၈.၇၄၈၈၀ <i>17.45B82</i> ‘19.37482’
၎်း	မံ၎်း <i>adrumaya</i> ‘breaker’	Marks line breaks within a phrase	

Two very common abbreviations are symbolic in nature, like the ampersand & in the Latin alphabet, and incidentally, they correspond to it in that the very common small word *ṛ nay* ‘and’ may be abbreviated as ṛ. Based on this, its reduplicated form *ṛṛ naynay* ‘furthermore, also’ may be abbreviated as ṛ̐.

Over the course of the years since Tahano Hikamu’s inception, I have liked to experiment with different styles of writing, that is, I tried applying a number of different writing styles to the script to change its look and feel while still staying true to the overall character shapes and the system behind the script. The example text I will be using to illustrate the different styles in the following is an Ayeri translation of the first article of the United Nations *Universal declaration of human rights* (Becker 2011):

[All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards each other in a spirit of brotherhood.] (United Nations 1948: Article 1)

Figure 2.13: Tahano Hikamu, ‘book style’

ကံကပိဉ်ဒုဗ္ဗေသနာဝါရီဒုဗ္ဗေသနာဝါရီဒုဗ္ဗေသနာ
ဝါရီဒုဗ္ဗေသနာဝါရီဒုဗ္ဗေသနာဝါရီဒုဗ္ဗေသနာ

⁷ For examples, see Everson (2008), or *Wikipedia*.

it to Tahano Hikamu at some point. As mentioned above as well, there are no subscript letters and in Ayeri, and the number of large swirling diacritics is also rather low, so there is still definitely a difference in appearance. The ‘angular’ style is also the one that is comparable in function to our bold face or italic style letters, since it is used in captions or to highlight special text within running text. This letter style (ဆွဲ၃ *binya* ‘angular’) is displayed in Figure 2.14.

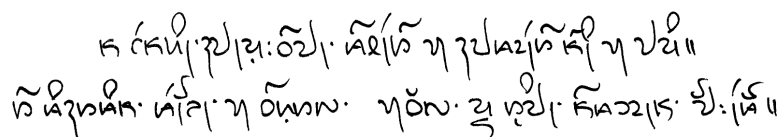
Figure 2.14: Tahano Hikamu, ‘angular style’



The greatest difference to the ‘book’ style is that many of the main strokes double to become a thick and a parallel thin line and the shape of န <na> changes to have its swirl straightened into a simple descending line. The vowel carrier ခ changes to a flattened *O*-like circle, and the bottom curl in ခ <ta> changes to a wedge. While the right side of the န <sa> character in the ‘book style’ consists of two strokes—a flag and a downwards bow, both independently attached to the main stem—they connect here to form an *R*-like shape.

Neatly reproducing the shapes of either the ‘book’ style or the ‘angular’ style by hand goes rather slowly, so I was wondering what daily handwriting could look like. Of course, this presupposes pen and paper again; Salomon (1996: 377) mentions that inscriptions of Brāhmī and related scripts have been found on copper plates and plates made of other metals, besides stone. Metal plates can be inscribed with metal styluses and should allow similar shapes as modern pens. Wax tablets—a staple in European literacy until the use of paper became widespread—should as well allow for relative freedom of stroke direction. Figure 2.15 shows what Tahano Hikamu might look like quickly jotted down by hand.

Figure 2.15: Tahano Hikamu, ‘hand style’



Many letter shapes become simplified, specifically ခ <ba>, န <ga>, န <ka>, န <na>, န <nga>, the vowel carrier ခ, and the vowel ဝ <i>. Not shown here is the the vowel length diacritic, ခ, which is simplified to a reverse *C* shape. The abbreviation န *na* ‘and’ is used throughout, though in a shape that is more similar to its ‘angular’ form န. န <na> is also taken from the ‘angular’ style န, which opens the possibility that

this is actually the basic shape rather than the ‘book’ style’s 𐄢, or both are different developments from a shared ancestor.

Most recently, I also wondered what Tahano Hikamu might look like if they were adapted to European blackletter style with its characteristic broken arches. This, of course, constitutes a sharp contrast to Ayeri’s usual look and feel, which made the experiment all the more interesting, though decidedly non-‘canonic’. Figure 2.16 shows what our example passage might have looked like at a time when Gothic book hands flourished.

Figure 2.16: Tahano Hikamu, ‘blackletter style’



The letter shapes from the ‘book’ style stay largely intact here, though all curves are broken up into at least two strokes, and strokes from the bottom left to the top right, which would push a quill in a way that causes ink to splatter, are avoided completely. The characters that differ most are 𐄢 (ga), 𐄢 (ra), 𐄢 (nga), and the vowel carrier 𐄢. 𐄢 (na) again appears in the ‘angular’ shape, though without its descender word-internally and in the abbreviation 𐄢 *nay*. 𐄢 (ta) comes with a horizontal stroke instead of a curl at the bottom; 𐄢 (sa) gains a descender, as does 𐄢 (ra). Not shown here either are changes to the ‘large’ diacritics.

3 Morphological typology

The first chapter dealt with the smallest constituent parts of words—speech sounds, which ones there are, and how they assemble into valid words. Consequentially, the following chapters will be about the next step up from this: morphemes, the atoms of meaning. First we will have a more general look at which kinds of morphemes there are, and then look at them more closely by part of speech. This chapter on morphological typology will first deal with general questions about Ayeri’s degree of synthesis, and then will try to answer questions about the kinds of processes the various morpheme classes carry out in the language.

3.1 Typology

For the largest part, Ayeri is an *agglutinative* language since it modifies word roots with affixes for the purposes of inflection and derivation, and these affixes, in the form of suffixes more specifically, can be stacked, especially on verbs; the average number of morphemes per word is thus greater than 1:

- (1) *Le kondasayāng hemaye pruyya nay napayya kayvay.*
Le kond-asa-yāng hema-ye-Ø pruy-ya nay napay-ya kayvay
PT.INAN eat-HAB=3SG.M.A egg-PL-TOP salt-LOC and pepper-LOC without
‘He always eats his eggs without salt and pepper.’

The verb root 𑌕𑌃: *kond-* ‘eat’ is inflected here for a habitual action with the suffix 𑌕𑌃𑌃𑌃 -*asa*, and also carries a person-inflection clitic, 𑌕𑌃𑌃𑌃 -*yāng*, marking a third person singular masculine agent. With the exception of person-inflection clitics, affixes tend to encode a single grammatical function. Verbs are not the only part of speech that can inflect; nouns and the relativizing conjunction can as well:

- (2) a. *Ang mətabanay tamanyeley yeyam.*
 Ang mə-tahan-ay.Ø taman-ye-ley yeyam.
 AT PST-write=ISG.TOP letter-PL-P.INAN 3SG.F.DAT
 ‘I wrote letters to her.’
- b. *Le turayāng taman sinā ang ningay tamala vās.*
 Le tura-yāng taman-Ø si-Ø-na ang ning=ay.Ø tamala vās
 PT.INAN send=3SG.M.A letter-TOP REL-PT.INAN-GEN AT tell=ISG.TOP yesterday 2SG.P
 ‘The letter which I told you about yesterday, he sent it.’

The principle of not conflating several grammatical functions into a single suffix can be observed in (2a) regarding the word *tamanyeley* ‘letters’, in which the plural marker *-ye* is distinct from the inanimate-patient case marker *-ley*. Strictly speaking, the pronoun *yeyam* ‘to her’ is also composed, namely of the third person feminine base form *ye* and the dative case marker *yam*. Example (2b) is one we have already encountered before (p. 11). Here, the relative pronoun, *sinā* ‘of/about which’ is inflected for genitive case, and stress on the usually unstressed last syllable suprasegmentally marks that this form is contracted from *sileyena* (*si-ley-ena*, REL-P.INAN-GEN).

So far, we have concentrated on suffixes, but there are a number of prefixes as well; (2a) exhibits the past prefix *ə:* *mə-* (which is actually redundant in this case). There are also deictic prefixes on nouns, however. In the following example, the prefix *eda-* ‘this-’ joins the noun *peham* ‘carpet’ to indicate a specific carpet.

- (3) *Le no intoyyang eda-peham.*
 Le no int-oy-yang eda-peham-Ø
 PT.INAN want buy-NEG=ISG.A this=carpet-TOP
 ‘I do not want to buy this carpet.’

Besides prefixes and suffixes, Ayeri also possesses at least one grammatical morpheme of the kind Zwicky (1977) calls a ‘bound word’. These are cases where morphemes which are

always bound and always unaccented show considerable syntactic freedom, in the sense that they can be associated with words of a variety of morphosyntactic categories. Frequently, such a *bound word* is semantically associated with an entire constituent while being phonologically attached to one word of this constituent, and ordinarily the bound word is located at the very margins of the word, standing outside even inflectional affixes. (6)

This is the case with the marker *manga*, which is treated as an independent word, but can modify verbs and prepositions—heads of verb phrases (VPs) and prepositional phrases (PPs), respectively—is unstressed and appears at the margin of its modification target:

- (4) a. *Ang manga yavaya ayon bariley.*
 Ang manga yava-ya ayon-Ø bari-ley
 AT PROG roast-3SG.M man-TOP meat-P.INAN
 ‘The man is roasting meat.’
- b. *Ya mətapyyāng maritay misley manga luga bari.*
 Ya mə-tapy-yāng maritay mis-ley manga luga bari-Ø
 LOCT PST-put=3SG.M.A before spit-P.INAN DYN between meat-TOP
 ‘The meat, he had put a spit through it before.’

In (4a), *ᵐᵃᵐᵃᵐᵃ* *manga* modifies the verb *ᵐᵃᵐᵃ* *yava-* ‘roast’ and indicates that this is a temporarily ongoing action, like the English progressive, except not as strongly grammaticalized.¹ In (4b), *ᵐᵃᵐᵃ* *manga* modifies the preposition, on the other hand, to indicate that it is dynamic: *ᵐᵃᵐᵃ* *luga* by itself means ‘among, between’, while its dynamic form *ᵐᵃᵐᵃᵐᵃᵐᵃ* *manga luga* means ‘through; during, while, for’.

As we have seen in the examples above, person suffixes on verbs are single morphemes that encode more than one property, for example *ᵐᵃᵐᵃ* *-yeng* encodes the person features third person, feminine, singular, and agent. Personal pronouns, of which the person clitics on verbs are an instance, are the main case of fusion among agglutination in Ayeri, although some of the forms, like *ᵐᵃᵐᵃᵐᵃ* *yeyam* ‘to her’ above, can be decomposed into root and suffix without problem.²

Perpendicular to the axis isolation–agglutination runs the axis analytic–synthetic. On the latter axis, Ayeri scores mostly as *synthetic*, since it prefers compactness over spreading a construction over several words, though it does not incorporate object noun phrases (NPs), so it is not going as far as being polysynthetic. It is nonetheless theoretically possible, due to suffixation being a prominent pattern, to form foot-long words like

- (5) *da-mətabasongoyyang-ikan*
 da=mə-taha-asa-ong-oy=yang=ikan
 such=PST-have-HAB-IRR-NEG=ISG.A=much
 ‘I would not much used to have had such’

¹ I suppose, a better parallel is the so-called *rheinische Verlaufsform* ‘Riparian progressive’ (*sein* ‘be’ + *am/beim* ‘at the’ + infinitive) in German, a construction common in the colloquial language which parallels the English progressive construction and is not yet fully grammaticalized (Eisenberg et al. 2016: 435). Speakers will thus accept both *Er lernt gerade*, literally ‘He studies right now’, and *Er ist am Lernen* ‘He is studying’.

² Originally, Ayeri’s personal pronouns were indeed agglutinative as well, so *ᵐᵃᵐᵃ* *yeng* ‘she’ used to be *ᵐᵃᵐᵃᵐᵃᵐᵃ* *iyegang* (*iy-e-ang*, 3SG-F-A). This also gives an explanation to Boga et al. (2016)’s observation that Ayeri’s plural pronouns are formed “[v]ielleicht sogar zu regelmäßiḡ” ([15]; ‘possibly in an even too regular way’).

Cases of analytic morphology are compound prepositions as we have seen one in (4b), but verbs as well show analytic structures not only with the progressive marker, but also with modals:

- (6) *Ming sahooyang dabas.*
 Ming saha-oy-yang dabas
 can come-NEG=ISG.A today
 ‘I can’t come today.’

Most of the information the VP contains in this example is marked on the content verb, *ᄃᆞᆫ* *saha-* ‘come’, except for ability, which is expressed by the particle *ᄃᆞᆫ* *ming* ‘can’. *ᄃᆞᆫ* *ming* is an uninflected form of the verb expressing ability and may be counted as an auxiliary verb in that the full semantic content of the VP is spread out over two verb forms, one major, one minor.³ Consider also the following example in which *ᄃᆞᆫ* *ming* is inflected like a regular verb:

- (7) *Da-mingya ang Diyan.*
 Da-ming-ya ang Diyan.
 so-can-3SG.M A Diyan
 ‘Diyan can (do it).’

3.2 Morphological processes

3.2.1 Prefixation

Prefixes in Ayeri apply mainly to verbs, but nouns, pronouns, adjectives and conjunctions can also appear with them, some of which may be clitics; further tests need to be performed to determine their exact status. With verbs, prefixes that are most certainly ‘true’ prefixes—that is, morphemes that have been semantically bleached by grammaticalization to the point where they only express grammatical functions (Lehmann 2015: 157ff.) and which subcategorize words rather than phrases (Klavans 1985: 117)—are the tense prefixes marking both three degrees of past tense and three degrees of future tense, for example:

- (8) *Ang səsarāyn ya Makapetang.*
 Ang sə-sara-ayn.Ø ya Makapetang
 AT FUT-go=IPL.TOP LOC Makapetang
 ‘We will go to Makapetang.’

³ *ᄃᆞᆫ* *manga* has, in fact, a verbal counterpart *ᄃᆞᆫ* *manga-* ‘move; remove’ as well, which served as the origin of both the progressive and the dynamic marker.

Here, the prefix ၵ *sə-* marks future tense on the verb, ၵၵ *sara-* ‘go’. The other tense prefixes are ၵၵ *kə-* (NPST), ၵ *mə-* (PST), ၵၵ *və-* (RPST), and ၵ *pa-* (NFUT) and ၵၵ *ni-* (RFUT). Besides this set of prefixes, there are also a number of proclitics that can appear with verbs, though not exclusively. These are the anaphora ၵ *da-* ‘thus, so, such’ and the reflexive marker ၵၵၵ *sitang-* ‘self’:

- (9) *Da-mingya ang Diyan.*
 Da-ming-ya ang Diyan.
 so-can=3SG.M A Diyan
 ‘Diyan can (do it).’

- (10) *Sitang-kecāng.*
 Sitang-ket-yāng
 self-wash=3SG.M.A
 ‘He washes himself.’

ၵၵၵ *sitang-* can also be used as a preverb in situations where the agent is also the instrument, so both of the following two sentences are equivalent in meaning:

- (11) a. *Sa apicāng nanga ikan sitang-yari.*
 Sa apit-yāng nanga ikan sitang-yari
 PT clean=3SG.A house complete self=3SG.M.INS
 ‘He cleaned the whole house by himself.’
 b. *Sa sitang-apicāng nanga ikan.*
 Sa sitang-apit-yāng nanga ikan
 PT self-clean=3SG.A house complete
 (idem)

Example (11a) shows the more common application of ၵၵၵ *sitang-*, that is, as a reflexive modifier of pronouns. The prefix ၵ *da-* can as well be used with noun phrases and is part of the demonstrative set of prefixes, ၵ *da-* ‘such’, ၵၵ *eda-* ‘this’, and ၵၵၵ *ada-* ‘that’:

- (12) *eda-ganang*
 eda-gan-ang
 this=child-A
 ‘this child’

The demonstrative prefixes are also used to form the demonstrative pronouns ၵၵၵ *edanya* ‘this one’, ၵၵၵ *adanya* ‘that one’ and ၵၵၵ *danya* ‘such one’. A special case in this regard is the postposition ၵၵၵ *da-nārya* ‘in spite of, despite’ where ၵ *da-* combines with the conjunction ၵၵၵ *nārya* ‘but, although, except’. Originally, ၵၵၵ

dikapisa ‘respective’ is derived from da- + ikapisa ‘bound, dependent’, which is an example for a combination with an adjective. There is also a fixed adverbial expression using one of these prefixes, eda-tadayyam ‘for the time being, for now’ (this=time-DAT).

Last but not least, the prefix ku- ‘like, as though’ can be used with both adjectives and nouns (or, more precisely, phrases containing nominals):

- (13) a. *ku-koyaya*
 ku-koya-ya
 like=book-LOC
 ‘like in a book’
 b. *ku-prasi*
 like=sour
 ‘as though (it were) sour’

An example of a set-phrase adverbial consisting of ku- and a verb is ku-nasya ‘as follows’, nasy- meaning ‘follow’. What is curious here is that this fossilized form is lacking person marking and is just extended with an epenthetic *-a* since *-sy* is not a permissible coda. The expected form would be *ku-nasyareng (like=follow=3SG.INAN.A).

Following Klavans (1985), who suggests that clitics best be defined as “affixation at the phrasal level,” (117) a very common kind of clitical prefix to the verb *phrase* are the topic markers. They are counted as parts of the VP but do not interact with it regarding stress assignment (they are always unstressed) while always being in an initial position, preceding any other preverbal elements:

- (14) a. *Ang tabanya tamanley.*
 Ang tahan-ya taman-ley
 AT write-3SG.M letter-P.INAN
 ‘He writes a letter.’
 b. *Ang mətabanya tamanley.* ‘He wrote a letter.’
 c. *Ang manga mətabanya tamanley.* ‘He was writing a letter.’
 d. *Ang manga no mətabanya tamanley.* ‘He was wanting to write a letter.’

3.2.2 Suffixation

As a largely agglutinative language, most grammatical marking in Ayeri is done by means of suffixes. These occur mainly with nouns and verbs, however, quantifiers take the shape of suffixes as well. Quantifiers, then, may modify content words almost regardless of their part of speech—noun, verb, adjective or adverb. The

most pervasive examples of suffixation are certainly those of case marking on nouns and of person marking on verbs, for example:

- (15) *Sa pəharuyang va manga miday tangya vana suyareri, vimyon!*
 Sa pə-haru-yang va.Ø manga miday tang-ya vana suyar-eri, vimyon
 PT NFUT-beat=ISG.A 2SG.TOP DYN around ears-LOC 2SG.GEN ladle-INS, monkey!
 ‘I’ll beat you around your ears with a ladle, you monkey!’

This example shows marking of *tang* ‘ears’ with the locative case suffix *-ya* and the marking of *suyar* ‘ladle’ with the instrumental case suffix *-eri*; the previous examples already provide instances of the exceedingly common markers for agent and patient case, *-ang* and *-as*, respectively. Besides case, nouns can also be marked for plural with the suffix *-ye*, and verb roots may be extended by the mood markers *-ong* (IRR), *-asa* (HAB) and *-oy* (NEG), the last of which should be the most frequently occurring. The mood suffixes can also be stacked, leading to the long word in (5) above. Person marking on verbs comes as agreement suffix or as a clitic personal pronoun depending on whether an agent NP proper is present or not for the verb to agree with; in (15), a cliticized agent pronoun *-yāng* ‘he’ (3SG.M.A) appears.

As mentioned above, quantifiers appear as enclitics on almost any type of content word, like on the adverb *para* ‘fast’ in the following example:

- (16) *Tigalyeng para-ma.*
 Tigal-yeng para-ma
 swim=3SG.F.A fast=enough
 ‘She swims fast enough.’

3.2.3 Reduplication

There are two patterns of reduplication for verbs, one with complete reduplication of the imperative form to create a hortative statement (17a), and one with partial reduplication as a way to express that an action takes place again, that is, partial reduplication expresses a frequentative, as it were (17b). The imperative iterative, then, has a hortative function as well (17c):

- (17) a. *naru-naru*
 nara-u-nara-u
 speak-IMP~HORT
 ‘let us speak’

- b. *na-narayeng*
 na-nara-yeng
 ITER~speak=3SG.F.A
 ‘she speaks again’
- c. *na-naru*
 na-nara-u
 ITER~speak-IMP
 ‘let us speak again’

With nouns, full reduplication is used to create a diminutive form (18a), though some reduplications are also lexicalized and may use roots from other parts of speech as well to form nouns, for instance, the words in (18b–d). There are also a number of adjectives for which there exists a lexical reduplication with an intensifying meaning; (19) lists a few examples. This, however, is not a productive derivation strategy.

- (18) a. *veney* ‘dog’ → *veney-veney* ‘little dog, doggie’
 b. *gan* ‘child’ → *gan-gan* ‘grandchild’
 c. *kusang* ‘double (adj.)’ → *kusang-kusang* ‘model’
 d. *veh-* ‘build’ → *veha-veha* ‘tinkering’
- (19) a. *apan* ‘wide’ → *apan-apan* ‘extensive’
 b. *kebay* ‘alone’ → *kebay-kebay* ‘all alone’
 c. *pisu* ‘tired’ → *pisu-pisu* ‘exhausting’

3.2.4 Suprasegmental modification

As written above (section 1.1.2), the case agreement on a complex-marked relative pronoun can drop out under certain circumstances and is replaced by compensatory stress on the secondary case marker, which lengthens the syllable’s nucleus vowel:

- (20) ... *tamanley* *sinā* (**sina*) *ang* *ningay* *tamala* *vās*
 ... [taman-ley]₁ si-Ø₁-na (*si-na₁) ang ning=ay.Ø tamala vās
 ... letter-P.INAN REL-PT.INAN-GEN (*REL-GEN) AT tell=1SG.TOP yesterday 2SG.P
- ‘... the letter which (*whose) I told you about yesterday’

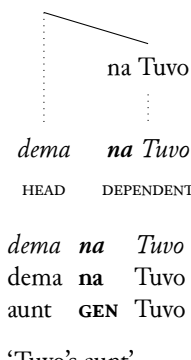
This can be reinterpreted so that the vowel length/stress itself is what signifies the agreement of the relativizer with the preceding NP. Which grammatical role the relativizer’s head instantiates as an agreement controller is essentially underspecified, hence I will gloss it as -AGR in the following example instead of as full -P.INAN:

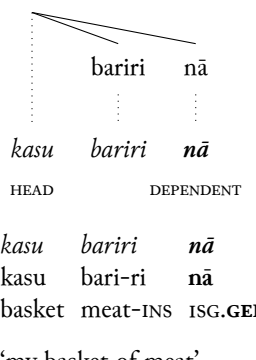
- (21) /si.lei.'ena/ → /si.'na(:)/
 /si-lei-ena/ → /si-'-na(:)/
 REL-P.INAN-GEN REL-AGR-GEN

Since ɹ *na* as a light syllable cannot be stressed in word-final position under normal circumstances, it has to lengthen to ɹ̄ *nā*.

3.3 Marking strategies

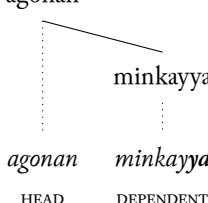
With regards to the dichotomy head–dependent marking, Ayeri is rather thoroughly dependent marking, albeit with the exception of agreement morphology on the verb. This is exhibited, for instance, in the expression of possessive relationships, where the dependent is marked for genitive case:

- (22) a. *dema*


dema *na* *Tuvo*
 HEAD DEPENDENT
dema *na* *Tuvo*
 aunt GEN *Tuvo*
 'Tuvo's aunt'
- b. *kasu*


kasu *bariri* *nā*
 HEAD DEPENDENT
kasu *bariri* *nā*
 basket meat-INS ISG.GEN
 'my basket of meat'

In (22a), 𐌆𐌹𐌸 *Tuvo* is grammatically in possession of her 𐌆𐌹𐌸 *dema* 'aunt'; the possessee forms the head of the phrase while it is modified by the possessor, which receives the marking. In (22b), 𐌆𐌹𐌸 *kasu* 'basket' forms the head and thus also the possessee while ɹ̄ *nā* 'my' serves as the possessor and thus as the dependent possessor; the genitive case is, again, marked on the dependent. A further example of dependent marking is that the locative case is marked on the prepositional object while the preposition itself, as the head of the PP, does not receive marking:

- (23) *agonan* *minkayya*
agonan *minkay-ya*
 outside village-LOC
 'outside of the village'
- agonan*

agonan *minkayya*
 HEAD DEPENDENT

The relativizer, likewise, may agree in case with the noun phrase in the matrix clause to which it links the relative clause. This typically happens if the relativizer,

at the surface level of the sentence, cannot be immediately adjacent to the NP which the relative clause modifies, for example, when an adjective or a possessive pronoun is following the noun:

- (24) *sangalas kivo sas ...*
sangal-as kivo s-as ...
 room-P small REL-P ...
 ‘the small room which ...’



The only instance of head-marking there is in Ayeri is person-marking on the verb, which manifests when the NP following the verb (agent or patient) is not pronominal and thus there is no pronoun to cliticize to the verb stem, but the verb still receives a suffix that indicates a relation with, usually, the agent NP:

- (25) *Malya ang Amān.*
Mal-ya ang Amān
 sing-3SG.M A Amān
 ‘Amān sings.’



Sentences containing more than one NP also have topic marking on the verb, so that the verb agrees with one of the NPs in topicality. This may be the NP it has person agreement with or any other NP. The topicalized NP as a dependent of the verb is, in turn, zero-marked, so that the marking relationship for topics is bilateral and thus mixed:

- (26) *Sa manya ang Ajān Pila.*
Sa man-ya ang Amān Ø Pila
 PT greet-3SG.M A Ajān TOP Pila
 ‘Pila, Ajān greets her.’



In this example, the verb exhibits canonic agreement with the agent, $\text{ႰႰႰႰ} Ajān$, in person and number. It is additionally marked for a patient topic, $\text{ႰႰႰ} Pīla$, and thus serves as an agreement target for two different controller NPs. The agreement relation is of a different kind for each of the two NPs, however.

4 Grammatical categories

While the previous chapter was about general mechanisms of marking in Ayeri, this chapter will dive into the various parts of speech in order to define their morphology with a closer look. I will begin with nouns as the main carriers of meaning, then deal with other parts of speech that regularly feature in the noun phrase—pronouns, adjectives, and adpositions. Following this, there will be a discussion of verbs and adverbs before moving on to numerals and conjunctions.

4.1 Nouns

Nouns in Ayeri have *gender* and *number* as their inherent grammatical properties. Besides common nouns, there are, of course, also proper nouns (i.e. names) and nominalizations. Nouns, as the heads of NPs, are also assigned *case* by the VP, which is a third grammatical property they display. For an illustration of the declension paradigms, compare Figures 4.1–4.4.

Figure 4.1: Declension paradigm for Ayeri  *badan* ‘father’ (animate; consonantal root)

		Singular		Plural
TOP	<i>badan</i>	‘the father’	<i>badanye</i>	‘the fathers’
A	<i>badanang</i>	‘father’	<i>badanjang</i>	‘fathers’
P	<i>badanas</i>	‘father’ (obj.)	<i>badanjas</i>	‘fathers’ (obj.)
DAT	<i>badanyam</i>	‘to the father’	<i>badanjyam</i>	‘to the fathers’
GEN	<i>badanena</i>	‘of the father’	<i>badanyena</i>	‘of the fathers’
LOC	<i>badanya</i>	‘at the father’	<i>badanjya</i>	‘at the fathers’
CAUS	<i>badanisa</i>	‘due to the father’	<i>badanjisa</i>	‘due to the fathers’
INS	<i>badaneri</i>	‘with the father’	<i>badanyeri</i>	‘with the fathers’

Figure 4.2: Declension paradigm for Ayeri māva ‘mother’ (animate; vocalic root)

		Singular		Plural
TOP	<i>māva</i>	‘the mother’	<i>māvaye</i>	‘the mothers’
A	<i>māvāng</i>	‘mother’	<i>māvajang</i>	‘mothers’
P	<i>māvās</i>	‘mother’ (obj.)	<i>māvajas</i>	‘mothers’ (obj.)
DAT	<i>māvayam</i>	‘to the mother’	<i>māvajyam</i>	‘to the mothers’
GEN	<i>māvana</i>	‘of the mother’	<i>māvayena</i>	‘of the mothers’
LOC	<i>māvaya</i>	‘at the mother’	<i>māvajya</i>	‘at the mothers’
CAUS	<i>māvaisa</i>	‘due to the mother’	<i>māvajisa</i>	‘due to the mothers’
INS	<i>māvāri</i>	‘with the mother’	<i>māvayeri</i>	‘with the mothers’

Figure 4.3: Declension paradigm for Ayeri kirin ‘street’ (inanimate; consonantal root)

		Singular		Plural
TOP	<i>kirin</i>	‘the street’	<i>kirinye</i>	‘the streets’
A	<i>kirinreng</i>	‘street’	<i>kirinyereng</i>	‘streets’
P	<i>kirinley</i>	‘street’ (obj.)	<i>kirinyeley</i>	‘streets’ (obj.)
DAT	<i>kirinyam</i>	‘to the street’	<i>kirinjyam</i>	‘to the streets’
GEN	<i>kirinena</i>	‘of the street’	<i>kirinyena</i>	‘of the streets’
LOC	<i>kirinya</i>	‘at the street’	<i>kirinjya</i>	‘at the streets’
CAUS	<i>kirinisa</i>	‘due to the street’	<i>kirinjisa</i>	‘due to the streets’
INS	<i>kirineri</i>	‘with the street’	<i>kirinyeri</i>	‘with the streets’

4.1.1 Gender

Grammatical gender in Ayeri consists of two tiers which are subdivided into four classes based on a mixture of semantic and epistemic properties, see Figure 4.5. The animate gender refers, broadly speaking, to entities that are considered alive or are closely associated with living entities, such as events, concepts, or activities executed by living things. The ‘masculine’ and ‘feminine’ subcategories are applied to humans, animals whose sex is known (for example on behalf of breeding them or keeping them as pets), and gods—basically anything that shows sexual dimorphism or is assumed to be an exponent of it as well as nouns referring to such entities in a functional way, for instance, badan ‘father’ and māva ‘mother’. The remainder falls into the ‘neuter’ category—plants, for instance, body parts, or

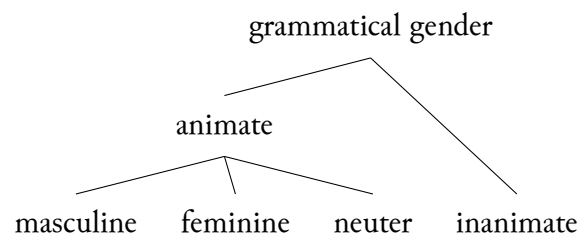
Figure 4.4: Declension paradigm for Ayeri ^ḥ *pera* ‘measure’ (inanimate; vocalic root)

	Singular		Plural	
TOP	<i>pera</i>	‘the measure’	<i>peraye</i>	‘the measures’
A	<i>perareng</i>	‘measure’	<i>perayereng</i>	‘measures’
P	<i>peraley</i>	‘measure’ (obj.)	<i>perayeley</i>	‘measures’ (obj.)
DAT	<i>perayam</i>	‘to the measure’	<i>perajyam</i>	‘to the measures’
GEN	<i>perana</i>	‘of the measure’	<i>perayena</i>	‘of the measures’
LOC	<i>peraya</i>	‘at the measure’	<i>perajya</i>	‘at the measures’
CAUS	<i>peraisa</i>	‘due to the measure’	<i>perajisa</i>	‘due to the measures’
INS	<i>perari</i>	‘with the measure’	<i>perayeri</i>	‘with the measures’

animals whose sex is unknown. The ‘inanimate’ category typically contains tools or materials. Furthermore, animals and plants change their category to inanimate as well if they serve as food. There are exceptions to either group, where elements appear in them for no obviously discernable reason. In order to illustrate, here are a few examples for each category:

- (i) a. Animate masculine:
^ḥ *badan* ‘father’, ^ḥ *netu* ‘brother’, ^ḥ *aguyan* ‘rooster’, ^ḥ *Ajān*, ^ḥ *Latun*;
- b. Animate feminine:
^ḥ *māva* ‘mother’, ^ḥ *kina* ‘sister’, ^ḥ *aguvay* ‘hen’, ^ḥ *Maba*, ^ḥ *Trānay*;
- c. Animate neuter:
^ḥ *adang* ‘palm tree’, ^ḥ *mino* ‘color’, ^ḥ *ikam* ‘deer’, ^ḥ *kadān* ‘harvest’, ^ḥ *cān* ‘love’, ^ḥ *nanga* ‘house’, ^ḥ *tampu* ‘luck’, ^ḥ *yila* ‘foot’;
- d. Inanimate:
^ḥ *abal* ‘sand’, ^ḥ *bema* ‘egg’, ^ḥ *kahan* ‘spear’, ^ḥ *melung* ‘yogurt’, ^ḥ *nusān* ‘damage’, ^ḥ *payutān* ‘mathematics’.

Figure 4.5: Grammatical genders in Ayeri



There are also a number of doublets like French *le livre* ‘the book’ and *la livre* ‘the pound’, for instance, ႁႃႃ *banan* (an.) ‘kindness, charity’ or ႁႃႃ *binu* (an.) ‘color’ on the one hand, and ႁႃႃ *banan* (inan.) ‘quality’ or ႁႃႃ *binu* (inan.) ‘paint’ on the other. Gender is reified by case marking as well as verb agreement; it is not possible to read the gender of a noun from its phonological makeup. The following example illustrates differences in case marking and agreement (inherent information on grammatical features underneath the NPs):

- (2) a. *Ang konja badan hemale.*
 Ang kond-ya badan-Ø hema-ley
 [3SG.M.AN] [3SG.INAN]
 AT.AN eat-3SG.M.AN father-TOP egg-P.INAN
 ‘Father eats an egg.’
- b. *Sa tombara kahanreng burang.*
 Sa tomb-ara kahan-reng burang-Ø
 [3SG.INAN] [3SG.N.AN]
 PT.AN kill-3SG.INAN spear-A.INAN animal-TOP
 ‘The animal, the spear kills it.’

In example (2a), the noun in the agent NP, ႁႃႃ *badan* ‘father’, bears the features [+ ANIMATE, + MASCULINE], which triggers the animate agent topic agreement marker ႁႃႃ *ang* on the verb, since the agent NP is also topicalized. The verb also agrees in person and number with the agent NP by way of the person marker ႁႃႃ *-ya* for third person singular masculine. The object of the sentence, ႁႃႃ *hema* ‘egg’, on the other hand bears the feature [− ANIMATE], so it receives the inanimate patient case marker ႁႃႃ *-ley* rather than its animate counterpart ႁႃႃ *-as*.

In (2b), on the other hand, we see an inanimate agent, ႁႃႃ *kahan* ‘spear’, so the verb receives the marker ႁႃႃ *-ara* for third person singular inanimate rather than its animate neuter counterpart ႁႃႃ *-yo*. That the agent of the clause is inanimate is also shown by the (non-topicalized) NP’s case marking: ႁႃႃ *kahan* carries the marker ႁႃႃ *-reng*, which marks it as an inanimate agent. The object of the sentence, ႁႃႃ *burang* ‘animal’, is also the topic, hence topic agreement on the verb uses the marker ႁႃႃ *sa* according to the NP being animate, rather than its inanimate counterpart ႁႃႃ *le*.

4.1.2 Number

Ayeri only distinguishes singular and plural in nouns, which receive plural marking; verbs, then, agree with agent NPs in number in the canonical case. Ordinarily, nouns in Ayeri are countable, however, there is also a group of uncountable nouns as well as a (small) group of nouns which are always plural. As above, I will list a few words from each group in the following example:

(3) a. Countable nouns:

ၼံၼုၼ် *ajam* ‘toy’ ၼံၼုၼ်း *ajamye* ‘toys’,
 ပုၼ် *devo* ‘head’ ပုၼ်း *devoye* ‘heads’,
 ၼံၼ် *inun* ‘fish’ ၼံၼ်း *inunye* ‘fish’ (pl.),
 နဲၼ် *netu* ‘brother’ နဲၼ်း *netuye* ‘brothers’;

b. Uncountable nouns:

ၼံၼ်း *abal* ‘sand’, ၼံၼ်း *bakay* ‘stuff’, ၼံၼ်း *gabān* ‘hope’, ၼံၼ်း *mingan* ‘ability’;

c. Plurale tantum nouns:

ၼံၼ်း *burang* ‘lifestock, cattle’,¹ ၼံၼ်း *ganengan* ‘siblings’, ၼံၼ်း *keynam* ‘people’, ၼံၼ်း *tang* ‘ears’.

Most concrete things that exist as clearly separate entities are countable, also, for instance, animals and livestock—fish, deer, sheep etc. are thus countable, unlike in English; pants, pliers, scissors, glasses, etc. are by default singular as well. Uncountable, on the other hand, are materials in general or abstract concepts. There is also a number of nouns which is plural by default, most notably entities which often occur in groups, but there is as well the odd word for which there seems to be no reason to be included in this group, for instance, ၼံၼ် *bino* ‘paint’, and ၼံၼ် *gimbay* ‘sorrows’. A few body parts are also plurale tantum nouns, especially those which occur in pairs (ၼ် *niva* ‘eye’ is a notable exception).

As demonstrated in (3a), the noun plural marker is ပုၼ် *-ye*, which in native orthography also occurs in the variant နဲ or န်. As described above (section 1.1.1, p. 7), the plural marker may also be reduced to [dʒ] <-j> before case suffixes that begin with /j/ or with a vowel other than /e/, like ၼံၼ် *-ang* (A) or ပုၼ် *-yam* (DAT):

- (4) a. ပုၼ်းၼံၼ် *diranang* (uncle-A) + ပုၼ် *-ye* (PL) → ပုၼ်းၼံၼ်း *diranjang* (uncle-PL-A),
 b. ပုၼ်းၼံၼ် *diranena* (uncle-GEN) + ပုၼ် *-ye* (PL) → ပုၼ်းၼံၼ်း *diranyena* (uncle-PL-GEN),
 c. ပုၼ်းၼံၼ် *diranyam* (uncle-DAT) + ပုၼ် *-ye* (PL) → ပုၼ်းၼံၼ်း *diranjyam* (uncle-PL-DAT).

For plurale tantum, to express a singular entity, it is always possible to use a genitive phrase like —ၼံၼ်း... *-ena men* ‘one of ...’ (...-GEN one), for instance:

- (5) a. *Nupayon tangang nā.*
Nupa-yon tang-ang nā
 hurt-3PL.N ears-A ISG.GEN
 ‘My ears hurt.’

¹ Specifically in this meaning; ၼံၼ်း *burang* can also simply mean ‘animal’, in which case there is a plural form ၼံၼ်း *burangye* ‘animals’.

- b. *Na nupareng tang nā men.*
 Na nupa-reng tang-Ø nā men
 GENT hurt-3SG.INAN.A ears-TOP 1SG.GEN one
 ‘One of my ears, it hurts.’

Number in nouns can also be manipulated by quantifiers which attach to declined nouns as suffixes. In this case, when plurality is indicated by the quantifier, the noun is not additionally marked for number; the verb, however, keeps agreeing in number:

- (6) a. *Ajaton ganjang kivo.*
 Aja-yon gan-ye-ang kivo
 play-3SG.N child-PL-A small
 ‘The small children are playing.’
 b. *Ajaton ganang-ikan kivo.*
 Aja-yon gan-ang-ikan kivo.
 play-3SG.N child-A=many small
 ‘Many small children are playing.’

Likewise, when nouns are modified by numerals, plurality is not normally marked again on the noun. In example (7a), we see a plural noun, and in (7b) the same phrase is repeated again with plurality implied by the use of a numeral; the plural noun itself appears unmarked in its singular form in this case.

- (7) a. *Ang no vehya sitang-yām nangajas veno nay biro.*
 Ang no veh-ya.Ø sitang-yām nanga-ye-as veno nay hiro
 AT want build-3SG.M.TOP self=3SG.M.DAT house-PL-P pretty and new
 ‘He wants to build himself pretty new houses.’
 b. *Ang no vehya sitang-yām nangās sam veno nay biro.*
 Ang no veh-ya.Ø sitang-yām nanga-as sam veno nay hiro
 AT want build-3SG.M.TOP self=3SG.M.DAT house-P two pretty and new
 ‘He wants to build himself two pretty new houses.’

An exception to this is the use of words for the numeral powers, like 𐌂𐌆𐌔 *lan* ‘dozen’, 𐌂𐌆𐌔𐌆𐌔 *menang* ‘gross’, 𐌂𐌆𐌔𐌆𐌔𐌆𐌔 *samang* ‘myriad’, etc. in an unspecified way like ‘dozens of people’. In this case, to convey that the numeral is not to be understood as a precise value, the modified noun will appear in the plural—even if it is a plurale tantum like 𐌂𐌆𐌔𐌆𐌔 *keynam* ‘people’:

- (8) *Bengyon keynamjang menang*
 Beng-yon keynam-ye-ang menang
 attend-3SG.N people-PL-A gross
 ‘Hundreds of people attended.’

4.1.3 Case

As demonstrated in the declension tables at the beginning of this section (Figures 4.1–4.4), Ayeri’s NPs are marked for case, which is governed by the verb. Since Ayeri uses a split alignment system with some additional complications, it is not very straightforward, in my opinion, to use the classical labels of nominative (S/A) and accusative (O), or of absolutive (S/P) and ergative (O) for the first two core roles. Hence, I will be using the terms ‘agent’ and ‘patient’, which I hope brings about some more clarity, especially when discussing the mentioned complications later on.

Agent

To quote Fillmore (2003 [1968]), what I call ‘agent’ here is “the case of the typically animate perceived instigator of the action identified by the verb” (46). Fillmore himself qualifies this definition, however, in that the “escape qualification ‘typically’ expresses my awareness that contexts which I will say require agents are sometimes occupied by ‘inanimate’ nouns like robot or ‘human institution’ nouns like nation” (46, footnote 31). Payne (1997) summarizes about prototypical agents with regards to their topicality that a “less technical way of expressing this fact is to say that people identify with and like to talk about things that act, move, control events, and have power” (151).

Agents in Ayeri frequently embody the properties quoted by both Fillmore and Payne in this regard, including Fillmore’s caveat. However, importantly, ‘agent’ in Ayeri is a macrorole that may be applied to, for instance, instruments, experiencers, and less typical actors as well, namely, in absence of more prototypical candidates for agenthood in a sentence. It thus comes very close to a nominative, except that it does not need to be locus of the sentence’s topic—although agents very typically are, as Payne (1997: 151) goes on to note.² Thus, the first NP after the verb in all of the following examples is treated as an agent; the agent is marked by the suffix *ṣṣṣ*

² This is the main reason I spoke of ‘complications’ above: Ayeri’s notion of ‘subject’ is somewhat problematic due to topicalization, which is why I try to avoid complicating terminology by using ‘nominative’ for agent topics and ‘ergative’ for agent non-topics, and ‘accusative’ for patient non-topics and ‘absolutive’ for patient topics.

-*ang* for animate referents and the suffix 𐑦𐑦𐑦 -*reng* for inanimate referents; names and verbal topic agreement are marked by 𐑦𐑦𐑦 *ang* and 𐑦𐑦𐑦 *eng*, respectively:

- (9) a. *Ang tinkaya Yan kunangley.*
Ang tinka-ya **Ø** **Yan** kunang-ley
 AT open-3SG.M TOP Yan door-P.INAN
 ‘Yan opens the door.’
- b. *Le tinkaya ayonang kunang.*
 Le tinka-ya **ayon-ang** kunang-Ø
 PT open-3SG.M man-A door-TOP
 ‘The door is opened by a/the man’,
 or: ‘The door, a/the man opens it.’
- c. *Eng tinkāra tinkay kunangley.*
Eng tinkā-ara **tinkay-Ø** kunang-ley
 AT.INAN open-3SG.INAN key-TOP door-P.INAN
 ‘The key opens the door.’
- d. *Tinkāra kunangreng.*
 Tinka-ara **kunang-reng**
 open-3SG.INAN door-A.INAN
 ‘The door opens.’
- e. *Sā tinkaya ang Yan kunangley yan.*
 Sā tinka-ya **ang Yan** kunang-ley yan.Ø
 CAUT open-3SG.M A Yan door-P.INAN 3SG.M.TOP
 ‘They make Yan open a/the door’,
 or: ‘Because of them, Yan opens the door.’

In predicative constructions, the constituent which a quality is assigned to or about which a judgement is made is also assigned the agent case:

- (10) a. *Tinkayreng tado.*
Tinkay-reng tado
 key-A.INAN old
 ‘The key is old.’
- b. *Ang Yan nimpayās ban.*
Ang Yan nimpaya-as ban
 A Yan runner-P good
 ‘Yan is a good runner.’

With regards to constituents’ roles in ditransitive verb frames, donors are represented by agents in Ayeri as well, since they are the origin of whatever is conceptually passed on to the recipient party:

- (11) *Le ilya ang Yan tinkay yam Cānlay.*
 Le il-ya **ang Yan** tinkay-Ø yam Cānlay
 PT give-3SG.M A **Yan** key-TOP DAT Cānlay
 ‘The key, Yan gives it to Cānlay.’

Patient

Patients are less of a definitional problem than agents in Ayeri, since in transitive sentences, they are very typically undergoers, that is, the constituent that is acted on or affected by the action expressed by the verb. This is the default case assigned to objects—but also to predicative nominals. In ditransitive sentences, the theme is represented by the patient. Animate patients are marked by 𐀓𐀥 -*as*, inanimate ones with 𐀓𐀥 -*ley*; for names and verbal topic agreement, the markers are 𐀓 *sa* and 𐀓𐀥 *le*, respectively:

- (12) a. *Ang silvye Briha sa Taryan.*
 Ang silv-ye Ø Briha **sa** Taryan
 AT see-3SG.F TOP Briha **P** Taryan
 ‘Briha sees Taryan.’
- b. *Sa manye ang Briha Taryan.*
 Sa man-ye ang Briha Ø Taryan
 PT greet-3SG.F A Briha TOP Taryan
 ‘Taryan is greeted by Briha’,
 or: ‘Taryan, Briha greets him.’
- (13) a. *Ang rimaye Briha kunangley*
 Ang rima-ye Ø Briha **kunang-ley**
 AT close-3SG.F TOP Briha **door-P.INAN**
 ‘Briha closes a/the door.’
- b. *Le rimaye ang Briha kunang*
 Le rima-ye ang Briha **kunang-Ø**
 PT.INAN close-3SG.F A Briha **door-TOP**
 ‘The door is closed by Briha’,
 or: ‘The door, Briha closes it.’
- (14) *Ang ilya Taryan koyaley yam Kandan.*
 Ang il-ya Ø Taryan **koya-ley** yam Kandan
 AT give-3SG.M TOP Taryan **book-P.INAN** DAT Kandan
 ‘Taryan gives Kandan a book.’

As the translations of the examples above show, topicalizing the patient can be used to create an effect similar to English's passive voice, except that the patient will not become marked by the agent case—this is a notable difference from the nominative. Even if the agent NP is omitted, the patient NP will not be changed to the agent case, since that would reverse the direction of action:

- (15) *Manya sa Taryan. ≠ Manya ang Taryan.*
 Man-ya sa Taryan Man-ya ang Taryan
 greet-3SG.M P Taryan greet-3SG.M A Taryan
 'Taryan is greeted.' ≠ 'Taryan greets.'

This example shows that the case of the NP will not change, however, the verb will: it now agrees with the next argument in line, the patient NP. It will not do so, however, if the order of arguments is just scrambled, as exemplified by the following example. This is to say that the verb does not simply agree with whichever NP follows it, even if it can be assumed that verb agreement in Ayeri developed along similar lines in-world, which will become especially apparent in the discussion of pronouns.

- (16) *Sa manye Taryan ang Briha.*
 Sa man-ye Ø Taryan ang Briha
 PT greet-3SG.F TOP Taryan A Briha
 ↑
 person agreement
 'Taryan is greeted by Briha',
 or: 'Taryan, Briha greets him.'

Besides being the default case for objects, the patient case is also assigned to predicative nominals, by analogy with transitive sentences and in spite of the likening nature of the construction:

- (17) *Ang Yan nimpayās ban.*
 Ang Yan nimpaya-as ban
 A Yan runner-P good
 'Yan is a good runner.'

Dative

The most typical use of the dative is for the recipient NP in a ditransitive clause; as such, it may be a recipient proper or the entity to whose benefit the action is carried out. A number of transitive verbs also use the dative for their object, for example, when it is the target of address. The dative can furthermore be used to mark movement toward a place. The case suffix for datives is *-yam* for both animate

and inanimate entities. Names and verbal topic agreement are marked equally by *uə* *yam*. Verbs do not exhibit person agreement with dative NPs, since experiencers are treated as agents.

- (18) a. *Ang ilya Taryan koyaley ayonyam.*
 Ang il-ya Ø Taryan koya-ley **ayon-yam**
 AT give-3SG.M TOP Taryan book-P.INAN **man-DAT**
 ‘Taryan gives a book to the man.’
- b. *Ang ilya Taryan koyaley yam Kandan.*
 Ang il-ya Ø Taryan koya-ley **yam Kandan**
 AT give-3SG.M TOP Taryan book-P.INAN **DAT Kandan**
 ‘Taryan gives Kandan a book.’
- c. *Yam ilya ang Taryan koyaley ayon.*
 Yam il-ya ang Taryan koya-ley **ayon-Ø**
 DATT give-3SG.M A Taryan book-P.INAN **man-TOP**
 ‘The man is given a book by Taryan’,
 or: ‘The man, Taryan gives him a book.’

The three examples in (18) show the regular use of the dative as the case the recipient of the theme appears in. What distinguishes Ayeri from a pure split-S language is that all constituents can serve as topics, not just agents and patients with regards to their function as syntactic subjects. Thus, it is also possible for dative NPs to appear as topics—person agreement is unaffected by this, though. The following example shows the addressee of a speech act in the dative case; the message is treated as the theme which is passed on:

- (19) *Ang ningye māva ninganas ganyam yena.*
 Ang ning-ye māva-Ø ningan-as **gan-yam** yena
 AT tell-3SG.F mother-TOP story-P **child-DAT** 3SG.F.GEN
 ‘The mother tells her child a story.’

As mentioned above, the dative can also take on an allative meaning insofar as it marks the target of a motion, as displayed in (20a). As an extension of this purpose, the adpositional object may as well appear in the dative, since Ayeri cannot distinguish, for instance, ‘up’ from ‘to the top of’ with just the preposition, in this case *ṛṅ* *ling* ‘on top of’. With the adpositional object in the locative case (see below), the phrase in (20b) would imply that the man were literally going to the top of the temple, that is, possibly ending up on its roof.

- (20) a. *Ang nimpye lay māvayam yena.*
 Ang nimp-ye lay-Ø **māva-yam** yena
 AT run-3SG.F girl-TOP **mother-DAT** 3SG.F.GEN
 ‘The girl runs to her mother.’
- b. *Ang saraya ayon manga ling natrangyam.*
 Ang sara-ya ayon-Ø manga ling **natrang-yam**
 AT go-3SG.M man-TOP DYN top **temple-DAT**
 ‘The man goes up to the temple.’

Genitive

The genitive is used to mark possessors; attributive genitives follow the possessee. It can also be used for ablative meanings, that is, to mark the place from which a motion originates, in analogy to the dative’s allative use. The genitive is marked on common nouns with the suffix ʔ *-na*. If a noun stem ends in a consonant, the marker becomes ʔ *-ena*, compare Figures 4.1–4.4 above. Names and verbal topic agreement are marked by ʔ *na*. There is no animacy distinction in the genitive case.

- (21) a. *Pakur ledanang netuna nā*
 Pakur ledan-ang **netu-na** nā
 sick friend-A **brother-GEN** 1SG.GEN
 ‘My brother’s friend is sick.’
- b. *Kopo dilengyereng ajānena*
 Kopo dileng-ye-reng **ajān-ena**
 difficult rule-PL-A.INAN **game-GEN**
 ‘The rules of the game are difficult.’
- c. *Ang nakasyo tamo ibangya na Niyas.*
 Ang nakas-yo tamo-Ø ibang-ya **na** Niyas
 AT grow-3SG.N wheat-TOP field-LOC **GEN** Niyas
 ‘There is wheat growing on Niyas’s field.’
- d. *Na nakasyo tamoang ibangya Niyas.*
 Na nakas-yo tamo-ang ibang-ya Ø Niyas
GENT grow-3SG.N wheat-A field-LOC **TOP** Niyas
 ‘Regarding Niyas, there is wheat growing on his field.’

Futhermore, Ayeri does not make a distinction between alienable and inalienable possession, so that typically inalienable entities such as body parts, relatives and family members, or personal items and tools are all treated as described above. Consider the following example for illustration:

- (22) *Ang puntaye māva nā mitrangas yena sembari yena.*
 Ang punta-ye māva-Ø **nā** mitrang-as **yena** semba-ri **yena**
 AT brush-3SG.F mother-TOP **1SG.GEN** hair-P **3SG.F.GEN** comb-INS **3SG.F.GEN**
 ‘My mother is brushing her hair with her comb.’

The above examples show the regular use of the genitive as a marker of possession. The following examples, on the other hand, show the genitive in its ablative function, first without qualification by a preposition, then with the preposition *avan* ‘at the bottom of’, which together with the genitive assumes the meaning ‘down from’:

- (23) a. *Ang sabaya Vetayan rimanena.*
 Ang saha-ya Ø Vetayan **riman-ena**
 AT come-3SG.M TOP Vetayan **city-GEN**
 ‘Vetayan comes from the city.’
 b. *Sahu manga avan mehirena, Niva!*
 Saha-u manga avan **mehir-ena**, Niva
 come-IMP DYN at.bottom **tree-GEN**, Niva
 ‘Come down from the tree, Niva!’

Locative

The locative marks basic locations, often the default that is associated with a verb. It is also the case in which adpositional objects normally appear, besides the special cases using the dative and the genitive mentioned above. Common nouns are marked by *-ya*;³ names and verbal topic agreement use the marker *ya*. There is no difference made between animate and inanimate referents in the locative.

- (24) a. *Ang nedraya paray binya*
 Ang nedra-ya paray-Ø **hin-ya**
 AT sit-3SG.M cat-TOP **box-LOC**
 ‘The cat sits in the box.’
 b. *Ang naraya Ajān ya Kaman*
 Ang nara-ya Ø Ajān **ya Kaman**
 AT speak-3SG.M TOP Ajān **LOC Kaman**
 ‘Ajān speaks to Kaman.’

³ Older texts still exhibit an allomorph *-ea*, used especially in combination with the plural suffix *-ya*, giving *-yēa*. The modern language uses *-ya*.

- c. *Ya mica ang Kaman Visambinang*
Ya mit-ya ang Kaman Ø Visamhinang
 LOCT live-3SG.M A Kaman TOP Visamhinang
 ‘Kaman lives in Visamhinang’,
 or: ‘Visamhinang is where Kaman lives.’

The example sentences in (24) show locative NPs that are not further specified by adpositions so that the correct interpretation may be dependent on context and the experience of the addressee. Example (24a) is an instance of this circumstance, insofar as experience tells that cats like to sit inside boxes, so further specifying the position with the preposition *kong* ‘inside’ would be emphasizing that the cat is not sitting just anywhere, but really *inside* the box as opposed to on top of it, for instance. The following example has the cat sitting on top of the box:

- (25) *Ang nedraya paray ling binya.*
Ang nedra-ya paray-Ø ling hin-ya
 AT sit-3SG.M cat-TOP on.top box-LOC
 ‘The cat sits on the box.’

Ayeri also has a number of postpositions, which do not change marking on the adpositional object, however:

- (26) *Ang mican edaya tenyanya tan pesan.*
Ang mit-yan edaya tenyan-ya tan pesan
 AT live-3PL.M here death-LOC 3PL.M.GEN until
 ‘They lived here until their death.’

Causative

The causative marks the cause or causer of an action, the instigator or the reason on behalf of which an agent is acting. It is thus similar to the agent case, though it does not replace it in Ayeri; verbs do not exhibit person agreement with causers even though their action logically supersedes or precedes that of the agent in the embedded event. Dixon writes that a “causer refers to someone or something (which can be an event or state) that initiates or controls the activity. This is the defining property of the syntactic–semantic function A (transitive subject)” (Dixon 2000: 30). According to Comrie (1989: 176), the causee—the agent of the event controlled by the causer—normally takes the highest place in hierarchy of syntactic constituents that is not already filled, in this case, by the causer. This observation, however, is complicated by Ayeri’s more or less semantics-based case marking as well as topicalization. In the following, I will simply give examples of nominal marking for

cause as before; a discussion of the morphosyntax of Ayeri's morphological causative constructions will be deferred to the section on valency-increasing operations.

Causers or causes are marked by ႁႃ -isa for common nouns; names and verbal topic agreement use the marker ႁႃ sã. As stated above, verbs do not agree with causers even though they have agent-like semantics. There is no animacy distinction in the marking of causers.

- (27) a. *Ang rua sarāyn seyaranisa.*
 Ang rua sara-ayn.Ø seyaran-isa
 AT must leave=IPL.TOP rain-CAUS
 'We had to leave due to the rain.'
- b. *Ang yomāy edaya sã Apican.*
 Ang yoma-ay.Ø edaya sã Apican
 AT be=ISG.TOP here CAUS Apican
 'I am here because of Apican.'
- c. *Sã nimpvāng hakasley yan.*
 Sã nimp-vāng hakas-ley yan.Ø
 CAUT run=2SG.A mile-P.INAN 3PL.M.TOP
 'You run a mile because of them',
 or: 'Due to them, you run a mile',
 or: 'They make you run a mile.'

Regarding the typological oddities mentioned above, example (27c) shows what happens in Ayeri with regards to the marking of causers. Essentially, the causer topic was grammaticalized to express a causation relationship.

Instrumental

The instrumental marks the means by which an action is carried out by an agent. This can be a tool as well as an animate being by whose help the action is brought about. The instrumental thus, in effect, marks secondary agents; verbs, however, never show person agreement with instrumental NPs. Common nouns are marked by ႁႃ -ri when ending in a vowel and with ႁႃ -eri when ending in a consonant; names and verbal topic agreement receive marking by ႁႃ ri. With nouns ending in -e, as well as the plural marker ႁႃ -ye, there is variation regarding whether ႁႃ -ri or ႁႃ -eri is used, so that in the case of the plural marker both ႁႃ -yeri and ႁႃ -yēri occur. In passive-like constructions, it is not grammatical to reintroduce the agent as an instrumental; the agent simply remains in the clause in this case, though as a non-topic constituent.

- (28) a. *Ang visye Pila seygoley tibangeri yena.*
 Ang vis-ye Ø Pila seygo-ley **tihang-eri** yena.
 AT cut-3SG.F TOP Pila apple-P.INAN **knife-INS** 3SG.F.GEN
 ‘Pila cuts an apple with her knife.’
- b. *Ang liboyya-ma badan nibanyeri (nibanyēri).*
 Ang liha-oy-ya-ma badan-Ø **nihan-ye-ri (nihan-ye-eri)**
 AT earn-NEG-3SG.M=enough father-TOP **nihan-PL-INS (nihan-PL-INS)**
 ‘Father did not earn enough with his fruits.’
- c. *Ang lingya Mindan mehiras ri Kadijān.*
 Ang ling-ya Ø Mindan mehir-as **ri Kadijān.**
 AT climb.up-3SG.M TOP Mindan tree-P **INS Kadijān**
 ‘Mindan climbs a tree with Kadijān’s help.’
- d. *Ri tavya gino ang Kan nimpur.*
 Ri tav-ya gino ang Kan **nimpur-Ø**
 INST become-3SG.M drunk A Kan **wine-TOP**
 ‘Kan becomes drunk on the wine’,
 or: ‘The wine, Kan becomes drunk on it.’

The instrumental may also be used for comitative meanings where the instrumental NP describes an attribute of its antecedent, for example:

- (29) *Ang pegayo sinyā kasuley bariri nā?*
 Ang pega-yo sinyā-Ø kasu-ley **bari-ri** nā
 AT steal-3SG.N who-TOP basket-P.INAN **meat-INS** 1SG.GEN
 ‘Who stole my basket of meat?’

In this case, *bari* is marked as an instrumental since it is an attribute of sorts to *kasu*: the instrumental NP describes what its antecedent contains or entails more specifically: it is a basket *with* meat in it. Note, however, that this comitative use of the instrumental is different from mere accompaniment. Thus, it is not possible to say

- (30) **Ang sabaya Ajān ri Pila*
 Ang saha-ya Ø Ajān **ri Pila**
 AT come-3SG.M TOP Ajān **INS Pila**

to express ‘Ajān comes (together) with Pila’. The sentence in (30) would instead imply that Pila helps Ajān to come, for example, because he has a sprained ankle and thus needs support to go places. To express accompaniment, instead, the preposition *kayvo* ‘with, along, beside’ has to be used; the prepositional object appears in the locative case:

- (31) *Ang sabaya Ajān kayvo ya Pila*
 Ang saha-ya Ø Ajān kayvo ya Pila
 AT come-3SG.M TOP Ajān with LOC Pila
 ‘Ajān comes (together) with Pila.’

Theoretically, it should be possible as well to use the instrumental together with prepositions for some kind of prolativ meaning. The adposition would indicate the place *by way of* a motion is happening:

- (32) *Ang pukay manga luga labaneri.*
 Ang puk-ay.Ø manga luga lahan-eri
 AT jump-1SG.TOP DYN top fence-INS
 ‘I jump over the fence.’

This use of the instrumental is unattested in previous translations into Ayeri, however, but could be considered a stylistic alternative—in the case of the example above, to a construction with the word for ‘over’, *eyrarya*:

- (33) *Ang pukay manga eyrarya labanya.*
 Ang puk-ay.Ø manga eyrarya lahan-ya
 AT jump-1SG.TOP DYN over fence-LOC
 ‘I jump over the fence.’

A more literal translation of *manga luga labaneri* is ‘by way of the top of the fence’, though without the verbosity of the English translation, as both ways to express the circumstance are about equally long in Ayeri.

Case-unmarked nouns

Case endings are applied to nouns in Ayeri only if the word is actually in a syntactic context where case can be applied. Thus, the unmarked form is the citation form, not the one declined for agent. This is the case when addressing people—one might speak of an unmarked vocative:

- (34) a. *Raypu, petāya!*
 Raypa-u, petāya
 stop-IMP, idiot
 ‘Stop it, you idiot!’
 b. *Sabu edaya, Diras!*
 Saha-u edaya, Diras
 come-IMP here, Diras
 ‘Come here, Diras!’

Imperative forms have underlying second-person agents, so both the ‘idiot’ in (34a) and Diras in (34b) would be the implied agents of their sentences, yet neither the noun nor the name are marked by the agent markers ṣṣṣ *-ang* and ṣṣṣ *ang*, respectively. Another case where nouns are not necessarily marked for case is attested in translations for the prefix ṣṣṣ *ku-* ‘like, as though’ when the phrase acts as an adverb or an object complement:

- (35) a. ... *nay ang mya rankyon sitanyās ku-netu.*
 ... *nay ang mya rank-yon.Ø sitanya-as ku-netu*
 ... and AT be.supposed.to treat-3PL.N.TOP each.other-P like=brother
 ‘... and they shall treat each other like brothers.’⁴ (Becker 2011)
- b. ... *ang nunaya ku-vipin ...*
 ... *ang nuna-ya.Ø ku-vipin ...*
 ... AT fly-3SG.M like=bird ...
 ‘... he (would) fly like a bird ...’ (Becker 2012: 14)

Strikingly, in example (35a), ṣṣṣ *netu* ‘brother’ in ṣṣṣ *ku-netu* ‘like brothers’ is not even inflected for plural; its placement after the object is likely an effect of translation: adverbs have a strong tendency to appear right after the verb, and a position immediately to the right of the verb is attested for adjectival object predicates as well. In (35b), on the other hand, ṣṣṣ *ku-vipin* ‘like a bird’ is feasibly interpretable as an adverb, since it follows the verb and acts as a modifier to it, not as a complement.

4.1.4 Prefixes on nouns

All of the nominal morphology we have so far dealt with in this section was suffixing. As mentioned in the previous section already (p. 67), however, there are also a number of prefixes that can be applied to nouns. I have just given two examples of the prefix ṣṣṣ *ku-* ‘like, as though’ above, but ṣṣṣ *ku-* can apply not only to nouns themselves. In fact, it rather attaches to whole NPs, which makes it a clitic according to Klavans (1985: 117), and a special clitic in Zwicky’s terminology, since no corresponding full form exists in its place, comparable to the English possessive clitic *’s*, for instance (Zwicky 1977: 3, 13; 1985: 295; Zwicky and Pullum 1983: 510). To cite from the Ayeri translation of Kafka’s short story “Eine kaiserliche Botschaft” again:

⁴ The original English text this was translated from has “and should act towards one another in a spirit of brotherhood” (United Nations 1948: Article 1).

- (36) ... *saylingyāng kovaro naynay, ku-ranyāng palung.*
 ... *sayling-yāng kovaro naynay, ku-ranya-ang palung*
 ... *progress=3SG.M.A easy also, like=nobody-A else*

‘... he also got on easily, like nobody else.’

(Becker 2012: 12)

In this example, we can see ku- attaching to a properly inflected NP adjunct. It is case-marked for agent since it can be understood to refer to the verb sayling- ‘progress’ in the main clause, insofar ranyāng palung ‘nobody else’ can replace -yāng ‘he’.

Besides ku- , there are also the demonstrative prefixes da- ‘such’, eda- ‘this’, and ada- ‘that’, which have already been mentioned in the previous section as well. The demonstrative prefixes undergo coalescence with nouns beginning with $a-$, that is, they form phonological words with their hosts for all means and purposes. The demonstrative prefixes are special clitics as well, since no contemporary free form exists.

- (37) a. *da-nanga kāryo*
 such=house big
 ‘such a big house’
 b. *edāyon nake*
 eda-ayon nake
 this=man tall
 ‘this tall man’
 c. *ada-envan alingo*
 that=woman clever
 ‘that clever woman’

Moreover, there is a prefix mə- in complementary distribution with the demonstrative prefixes, which adds a meaning along the lines of ‘just any’, ‘whatsoever’, ‘some’ to the noun. Note that this prefix is distinct from the morpheme indicating an inspecific quantity.

- (38) a. *Ang lampyo mə-veney kayvo kirinya.*
 Ang lamp-yo mə-veney-Ø kayvo kirin-ya
 AT walk-3SG.N some=dog-TOP along street-LOC
 ‘Some dog is walking along the street.’
 b. *Ang noyan mēntānley pegamayayam.*
 Ang no-yan mə-entān-ley pegamaya-yam
 AT want=3SG.M.TOP some=punishment-P.INAN thief-DAT
 ‘They demanded some kind of punishment for the thief.’

4.1.5 Compounding

With regards to the classification of compounds, Bauer (2001) gives some helpful typological guidelines. Besides the compound types recognized by Sanskrit grammarians—endocentric (*tatpuruṣa*), coordinative (*dvandva*), adjectival-endocentric (*karmadhāraya*), and exocentric (*bahuvrīhi*)—he also adds synthetic compounds, which Sanskrit did not have (697). Overall, he finds that determinative, or endocentric, compounds are the most common ones in the languages of the world (697), especially if the head refers to a location or source of sorts (702).

Gaeta (2008), then, adds to Bauer’s research, based on a larger sample of grammars surveyed, that compounds for the largest part correlate with the constituent order of the language, both regarding the order of verb and object and that of noun and genitive (129–133). Mismatches in headedness occur, but appear to constitute the minority of cases and may often be explained through historical changes in syntax; he constitutes for one that “morphology is not autonomous from syntax” (135), and that secondly, “[s]yntax seems to be the motor of change, which may be then reflected in compounds” (135), and lexical conservatism causes atavisms to linger on, reflecting the syntax of earlier stages of the language (138–139).

For the purpose of gaining at least a little insight into which compounds Ayeri allows—besides endocentric compounds—I conducted a small (non-exhaustive) survey based on 130 compounds from the Ayeri dictionary (Becker 2016: Dictionary); Table 4.1 shows the various compound classes and the number of words for each. ‘Harmonic’ and ‘disharmonic’, respectively, refer to the order of elements, which is ‘harmonic’ if following the normal constituent order of the language and ‘disharmonic’ if it is at odds with it (Gaeta 2008).

Table 4.1: Compounds in the Ayeri dictionary (Becker 2016) and their classification (n = 130)

Type	Harmonic		Disharmonic		Total	
Endocentric (N + N)	67	51.54%	2	1.54%	69	53.08%
Endocentric (N + Adj)	18	13.85%	4	3.08%	22	16.92%
Synthetic (V + N)	16	12.31%	4	3.08%	20	15.38%
Coordinative (N + N)	9	6.92%	—	—	9	6.92%
Exocentric (N + N)	1	0.77%	3	2.31%	4	3.08%
Unclear	6	4.62%	—	—	6	4.62%
Total	117	90.00%	13	10.00%	130	100%

Unsurprisingly, the largest number of compound nouns in the sample were endocentric compounds of the regular kind, which means that, just like genitive attributes follow nouns, noun compounds are headed left. Especially compounds

with adjectives are interesting insofar as this is also the normal order for free adjectives, so to illustrate, some tests will be necessary to show that these adjectives form a unit with the head noun and are unable to undergo comparison, for instance. Synthetic compounds exist in Ayeri and produce nouns. These are compounds in which “the modifying element in the compound is (usually) interpreted as an argument of the verb from which the head is derived” (Bauer 2001: 701). There are also a number of coordinative compounds; this group, however, is lexicalized and not productive. Exocentric compounds constitute the minority of the sample. In the following I will give examples for each type.

It needs to be noted that unlike Germanic languages, Ayeri does not allow compounds of arbitrary length to be strung together, like in the following comical but no less real example from (former) German legislation (see, for instance, *Süddeutsche Zeitung* 2013):

- (39) *Rindfleischetikettierungsüberwachungsaufgabenübertragungsgesetz* [German]
 Rind-fleisch-etikettierung-s-überwachung-s-aufgabe-n-übertragung-s-gesetz
 cow-meat-labeling-LNK-surveillance-LNK-duty-LNK-delegation-LNK-law
 ‘Law on the delegation of duties in the surveillance of beef labeling’

In stark contrast, Ayeri allows only two elements in compounds. Furthermore, this section on compounds is located within the section on nouns because Ayeri almost only possesses compounds involving nouns, and the majority of these also results in a noun.

Endocentric compounds

To start with the largest group, endocentric/*tatpuruṣa* compounds, the bulk of these compounds combines two nouns, one of which is the head which is modified by a dependent noun. As Ayeri exhibits a rather strict head-first word order, it comes as no surprise, according to Gaeta (2008) that most of these compounds follow this order strictly: the second noun modifies the first, which is opposite of how English, for instance, typically operates:

- (40) a. *betaynimpur* ‘grape’ ← *betay* ‘berry’ + *nimpur* ‘wine’
 b. *karirayan* ‘vertigo’ ← *kar* ‘fear’ + *irayan* ‘height’⁵
 c. *pikunanding* ‘mustache’ ← *piku* ‘beard’ + *nanding* ‘lips’
 d. *tapayperin* ‘sunblind’ ← *tapay* ‘screen’ + *perin* ‘sun’

The example words in (40) show that the relationships between the modifier and the head are various: a grape is a berry *used* to make wine from (compare Bauer

⁵ *irayan*, however, is a transparent nominalization of *iray* ‘high’.

2001: 702); vertigo is the fear *of* height; a mustache is a beard *located* over the lips (Bauer 2001: 702); and a sunblind is a screen *against* the sun. Bauer (2001) mentions that “there may be special morphophonemic processes which apply between the elements of compounds”, such as “phonological merger[s] between the elements of the compound” (695). This also occasionally happens in Ayeri, as the next few example words show:

- (41) a. ၼာၼာၼ် *avararan* ‘wetland’
 ← ၼာၼ် *avan* ‘ground’ + ၼာၼ် *raro* ‘wet’ + ၼ် *-an* (NMLZ)
- b. မဲၼ်မဲၼ် *mehimitrang* ‘fiber tree’
 ← မဲၼ် *mehir* ‘tree’ + မဲၼ် *mitrang* ‘hair, fiber’
- c. နီၼ်နီၼ် *ningampinam* ‘bedtime story’
 ← နီၼ် *ningan* ‘story’ + နီၼ် *pinam* ‘bed’
- d. ပာၼ်ပာၼ် *padilamican* ‘gravitational force’
 ← ပာၼ် *padilan* ‘attraction’ + မဲၼ် *mican* ‘force, power’

There is a modicum of alteration happening in all of the heads of the example words in (41), mostly nasals assimilating to the stop or nasal which the modifier begins with (/n/ + /p/ → /mp/, /n/ + /m/ → /m/), though ၼာၼာၼ် *avararan* and မဲၼ်မဲၼ် *mehimitrang* even delete whole coda segments. Bauer (2001: 703) notes that very commonly, genitive and plural markers may form linking elements, though he also gives examples of languages which allow other case markers on the modifying element in languages with head-right order; individual languages may allow even more case inflection. However, this appears not to happen in Ayeri. The only element that comes up time and again in between the two halves of compounds is the nominalizer ၼ် *-an*, which signifies that the head is being formed by a nominalized root, such as in ပာၼ်ပာၼ် *padilamican*, where ပာၼ် *padilan* ‘attraction’ is a nominalization of ပာၼ် *padil-* ‘attract’, or in နီၼ်နီၼ် *ningampinam*, where နီၼ် *ningan* ‘story’ is derived from the verb နီၼ် *ning-* ‘tell’. However, since Ayeri is head-first and possessive phrases are dependent marking, genitive or other case marking would be expected on the second element, not the first. Case marking on a compound does not inflect just the modifier, but the whole NP:

- (42) *Ang ningya sipikanena koyababisena.*
 Ang ning-ya sipik-an-ena koyabahis-ena
 AT talk-3SG.M.TOP keep-NMLZ-GEN book.day-GEN
 ‘He talks about keeping a journal.’

နီၼ်ပာၼ် *koyababisena* in this example is not to be interpreted as ‘book of day(s)’ but as ‘of a journal’. Inflection between the parts of a compound can happen nonetheless, though. In compounds which are formed ad hoc or which are otherwise transparent in their composition, inflection often is deferred to the noun

head instead of the edge of the compound as a whole; the modifier is treated as an adjunct in this case:

- (43) *Sa trayeng tipin ralanyeri mapang yena.*
 Sa tra-yeng tipin-Ø ralan-ye-ri mapang yena
 PT scratch=3SG.F.A itch-TOP nail-PL-INS finger 3SG.F.GEN

‘The itch, she scratches it with her fingernails.’

Besides noun modifiers, there are also compounds where the modifier is an adjective. In classical Sanskrit terminology, this type is called *karmadhāraya* (698–699).⁶ Examples in Ayeri include:

- (44) a. *ခဲကံသိရ်ကံ kardangiray* ‘university’ ← *ခဲကံသိ kardang* ‘school’ + *သိရ် iray* ‘high’
 b. *မာရသဘိ marashari* ‘witticism’ ← *မာရ maras* ‘phrase’ + *သဘိ bati* ‘pithy’
 c. *သိလ်ကံသိရ် silvanikan* ‘overview’ ← *သိလ်ကံသိ silvan* ‘view’ + *သိရ် ikan* ‘whole’
 d. *ဝိပိမာကရ် vipimakārya* ‘crow’ ← *ဝိပိမာ vipin* ‘bird’ + *မာကရ် makārya* ‘black’

In all of these cases, the adjective forms a unified lexeme with the head noun, hence it is not comparable, for example:

- (45) a. **kardangiray-eng* **kardangiray-vā*
**kardang-iray-eng* **kardang-iray-vā*
**school-high=COMP* **school-high=SUPL*
 b. **marashati-eng* **marashati-vā*
**maras-hati-eng* **maras-hati-vā*
**phrase-pithy=COMP* **phrase-pithy=SUPL*

In fact, it is possible to form the expressions *ခဲကံသိရ်ကံ* *kardangiray vā* and *မာရသဘိ* *marashati vā*, but they mean ‘most universities’ and ‘most witticisms’, respectively; *-eng* ‘rather’ as a quantifier does not combine with nouns. Since the meaning composed from noun–adjective compounds is often idiomatic, they also cannot be divided as shown above in (43), since a *ခဲကံသိရ်ကံ* *kardangiray* ‘university’ is not a *ခဲကံသိ* *kardang* ‘school’ which is *သိရ်* *iray* ‘high’ in the literal sense, but a school of the highest tier. *ခဲကံသိရ်ကံ* *kardangena iray* (school-GEN high), then, can only be interpreted in the literal sense, ‘of the high school’, but not as ‘of the university’, which thus can only be *ခဲကံသိရ်ကံ* *kardangirayena*.

In the sample, there were also a few compounds I categorized as noun–noun combinations, which look as though they violate head-first order. All of these involve *သိတံ* *sitang* ‘self’ as a modifier:

⁶ Bauer also mentions that appositional compounds like *maid-servant*, *woman doctor* and *fighter-bomber* are counted under this category (Bauer 2001: 699). Ayeri, however, does not possess such formations in particular.

- (46) a. *ṣṭangṭṭan* ‘vowel’ ← *ṣṭang* ‘self’ + *ṭṭan* ‘sound’
 b. *ṣṭangṭṭan* ‘self-confidence’ ← *ṣṭang* ‘self’ + *ṭṭan* ‘faith’
 c. *ṣṭangṭṭan* ‘suicide’ ← *ṣṭang* ‘self’ + *ṭṭan* ‘death’

ṣṭang *ṣṭang* does not exist as a noun by itself in Ayeri, the word for ‘self’ is its nominalization *ṣṭangan*. Nonetheless, it looks like it could have plausibly been a noun once. However, this noun may have been grammaticalized into a reflexive morpheme of a more general kind, which in turn birthed the form *ṣṭangan* as a renovation.⁷ The reflexive *ṣṭang* is used—as we have seen in the previous chapter—as a prefix, so there are two ways to interpret these formations: first, *ṣṭang* *ṣṭang* may be the reflexive prefix here and thus the compound follows the normal syntactic order; or second, the order of elements is reversed and thus may reflect an earlier stage of Ayeri where *ṣṭang* was still a noun and modifiers could still appear in front of their heads, at least optionally so (Gaeta 2008: 133–137).

There are a number of genuinely reversed endocentric compounds as well, however, in which the modifier comes first and the head last. Since there are only a few of these, I will give all of them in the following example:

- (47) a. *baripata* ‘ground meat’ ← *bari* ‘meat’ + *pata* ‘mash’
 b. *kayvolentan* ‘consonant’ ← *kayvo* ‘with’ + *ṭṭan* ‘sound’
 c. *māvaganeng* ‘mother’s siblings’ ← *māva* ‘mother’ + *ganeng* ‘siblings’
 d. *matinanding* ‘labia’ ← *matikan* ‘hot’ + *nanding* ‘lips’
 e. *muyavirang* ‘brass’ ← *muya* ‘false’ + *avirang* ‘gold’
 f. *tonisaytang* ‘self-assured’ ← *tonisa* ‘assured’ + *ṣṭangan* ‘self’

Given the discussion of *ṣṭang* above, a word among the examples above that is not too clear is *tonisaytang* which appears to contain a deviant form of either *ṣṭang* or *ṣṭangan*, which is preceded by the adjective *tonisa* ‘assured, ascertained’.

All of the previously mentioned compounds involving nominal elements formed nouns, however, there are also a few compounds which are denominal in the sam-

⁷ A little bit of language history would certainly simplify things here and lend them credence. Let us simply assume that *ṣṭang* used to be a noun meaning something like ‘self’ at a previous stage of Ayeri and was repurposed as a reflexive prefix. Lehmann (2015) quotes a few examples of what he calls ‘autophoric’ nouns that came to be used as reflexive pronouns in their respective language: “Typical examples are Sanskrit *tan* ‘body, person’ and *ātman* ‘breath, soul’, Buginese *elena* ‘body’, Okinawan *dūna* ‘body’, !Xu *l’esi* ‘body’, Basque *burua* ‘head’, Abkhaz *a-xə* ‘the head’. In their respective languages, all these nouns are translation equivalents of English *self*” (45–46). Thus, it would not be out of line at all to assume such a grammaticalization path for Ayeri as well.

ple. This process is not productive, however, and interestingly, only noun–adjective combinations appear in this group:

- (48) a. မိရာမုလ် *mirampaluy* ‘otherwise’
 ← မိရ် *miran* ‘way’ + မုလ် *palung* ‘different’
 b. ပာမာဃာ *padabanya* ‘insane’
 ← ပာမာ *padang* ‘mind’ + ဃာ *banaya* ‘sick’
 c. တဲနာရိ *tenkarisa-* ‘be frightened to death’
 ← တဲ *ten* ‘life’ + ရိ *karisa* ‘frightened’

မိရာမုလ် *mirampaluy* is an adverb, the modifier probably a mangling of မုလ် *palung*; ပာမာဃာ *padabanya* is an adjective meaning ‘insane’ rather than the expected ‘insanity’ (instead: ပာမာဃာ *padabanyān*); and တဲနာရိ *tenkarisa-* acts as a verb, possibly from conversion or reinterpretation, since the suffix -*isa* also forms morphological causatives of a number of verbs. Besides these irregularities, there is also at least one noun compound which uses a postposition as an adjectival modifier:

- (49) ခိလ်ကယ် *silvankayvay* ‘blindness’ ← ခိလ် *silvan* ‘sight’ + ကယ် *kayvay* ‘without’

This compound must be derived from the phrase ခိလ်ကယ် *silvanya kayvay* ‘without sight’ (see-NMLZ-LOC without), though here as well, the word roots are simply juxtaposed, as noted above is the common way to form compounds in Ayeri.

Synthetic compounds

According to Bauer (2001), (semi-)synthetic compounds, verbal(-nexus) compounds are compounds that have “been variously defined as being based on word-groups or syntactic constructions (Botha 1984: 2), or as compounds whose head elements are derived from verbs (Lieber 1994: 3607)” (Bauer 2001: 701). Examples of this type in English would include *truck-driver*, *peace-keeping*, and *home-made*. He mentions also that synthetic compounds have been mainly discussed with regards to Germanic languages, but that according to Lieber (1994: 3608), the phenomenon is much more widespread. Ayeri possesses compounds like this as well, and the regular case again follows the constituent order of verbs and nouns: Ayeri is a VO language, and thus the verb as the head of the compound is usually found on the left side with its nominal modifier following it (Gaeta 2008: 129–133):

- (50) a. အဲလ်ဂွန် *anlāgonan* ‘pronunciation’ ← အဲလ် *anl-* ‘bring’ + ဂွန် *agonan* ‘outside’
 b. ဂုနာရ် *napakaron* ‘acid’ ← ဂုနာ *nap-* ‘burn’ + ရာ *karon* ‘water’
 c. ဂုနာရ် *napaperin* ‘sunburn’ ← ဂုနာ *nap-* ‘burn’ + ရာ *perin* ‘sun’
 d. တဲလ်ဇာ *telbasān* ‘waysign’ ← တဲလ် *telba-* ‘show’ + ဇာ *sasān* ‘way’

The relations between the verb and the noun are various again, that is, the nominal modifier is not simply the direct object of the verb: to pronounce something means to bring it *to* the outside; a sunburn is a burn *caused by* the sun; and a waysign shows the way (မန္တရ် *sasān* is the object here). Even though ကရုန် *karon* may serve as an agent (or a causer) of the burning effect of acid (similarly for နာပာပရိန် *napaperin* ‘sunburn’), the verb-first order is justified here as well, since verbs always go first in Ayeri sentences, and any other NPs, whether actor or undergoer, are following.

Just as with endocentric compounds, there are a number of seeming exceptions to the verb-first order of synthetic compounds as well. These are just as far and few between, and whether they should all be counted as noun-verb combinations is also questionable as they appear to be all formed with nominalized verbs. The verbal element may thus be only indirectly verbal for the purposes of compounding. If interpreted as noun-noun combinations, the nominal first element would reasonably form the head again for some of the below example words.

- (51) a. မာရိပုဏ္ဏယံ *maripuntayam* ‘spread’
 ← မာရ် *marin* ‘surface’ + ပုဏ္ဏ *punta-* ‘stroke’ + ယံ *-yam* (DAT)
- b. မန္တရ် *sasanlekān* ‘labyrinth’
 ← မန္တရ် *sasān* ‘way’ + လက် *leka-* ‘guess’ + န် *-an* (NMLZ)
- c. မာလင်္ဂနုနံ *selangnunān* ‘plane’
 ← မာလင်္ဂ *selang* ‘machine’ + နုနံ *nuna-* ‘fly’ + န် *-an* (NMLZ)
- d. မိန္တုရ် *sinturān* ‘radio’
 ← မိန္တု *sinto* ‘wave’ + တုရ် *tura-* ‘send’ + န် *-an* (NMLZ)

မာရိပုဏ္ဏယံ *maripuntayam* is special in that it contains the dative suffix ယံ *-yam* which is lexicalized as part of the word: something made or intended for spreading on a surface. A few more such verbal derivations can be found as well, though not compounds, among others:

- (52) a. မာရ် *grenyam* ‘extremity’ ← မာရ် *gren-* ‘reach out’
 b. လုဂယံ *lugayam* ‘password’ ← လုဂ *luga-* ‘go through’
 c. မာယံ *sabayam* ‘future’ ← မာယံ *saba-* ‘come’

There is also မာရ်ပုဏ္ဏ *maripunta-* ‘spread over’ as the verb corresponding to မာရိပုဏ္ဏယံ *maripuntayam*, though its meaning is less specific. Here as well, however, the verbal part is last instead of first. For the other example words (51b–d), an interpretation of the second part as a deverbal noun is possible: a labyrinth as a way or path which requires guessing, a plane a machine for flight, and radio as a sending of waves. In the latter case, မိန္တုရ် *sinturān*, however, the head is still on the wrong side even if one interprets all of the above examples as noun-noun compounds with a deverbal element.

Coordinative compounds

Coordinative compounds are a very small group among the sample drawn from the dictionary, and not a very productive one. Bauer (2001) defines this class as having “two or more words in a coordinate relationship, such that the entity denoted is the totality of the entities denoted by each of the elements” (699). He cautions that they are very easy to confuse with appositional (*karmadhāraya*) compounds in that both types of compound allow inserting an *and* between both elements. The following nominal coordinative compounds are included in the dictionary sample:

- (53) a. *bāmā* ‘mom-and-dad’ ← *bā(bā)* ‘dad’ + *mā(mā)* ‘mom’
 b. *pruynapay* ‘seasoning’ ← *pruy* ‘salt’ + *napay* ‘pepper’
 c. *sapayyila* ‘hands-and-feet’ ← *sapay* ‘hand’ + *yila* ‘foot’
 d. *simileno* ‘horizon’ ← *simil* ‘country’ + *leno* ‘sky’
 e. *sitemrugon* ‘thunderstorm’ ← *sitem* ‘lightning’ + *rugon* ‘thunder’
 f. *vekamdekey* ‘dishes’ ← *vekam* ‘plate’ + *dekey* ‘fork’

None of the two elements recognizably forms the head in these examples, but both elements are typical exponents of the thing the compound signifies. Bauer (2001: 699) mentions that coordinative adjective compounds are rare, or at least rarely documented in the grammars he surveyed. In the sample I took, only the following compound is included, which forms a noun from the combination of two adjectives, insofar it is relevant to this section even though the component parts are not nouns:

- (54) *makagisu* ‘twilight’ ← *maka* ‘light’ + *gisu* ‘dark’

The sample also includes the following two words, however, which are neither made up from nouns nor do they form a noun in combination. Instead, they are technically verbs combining to form directional adverbs and have been exceptionally included here for completeness:

- (55) a. *mangasaba* ‘towards’ ← *manga-* ‘move’ + *saba-* ‘come’
 b. *mangasara* ‘away’ ← *manga-* ‘move’ + *sara-* ‘go’

Exocentric compounds

In exocentric compounds, the modifier is not a hyponym of its head (700), which means that the modifier is not describing a property that more closely determines its head. So while a *dog kennel* is a type of kennel made for dogs, the head of an *egghead* is neither for eggs, nor containing eggs, nor made of eggs; instead, it refers

(56) a. ၼ်းပိၵ်ႈ *avanyonang* ‘artery’ ← ၼ်းဝူၼ် *avan* ‘bottom, down’ + ပိၵ်ႈ *yonang* ‘stream’
 b. ဃုတံသေဝ် *baytandevō* ‘headache’ ← ဃုတံ *baytang* ‘blood’ + သေဝ် *devo* ‘head’
 c. လီၵ်းပိၵ်ႈ *linyönang* ‘vein’ ← လီၵ်း *ling* ‘top, up’ + ပိၵ်ႈ *yönang* ‘steam’
 d. ဆိၵ်းလၢ *sindaynanga* ‘address’ ← ဆိၵ်း *sinday* ‘number’ + လၢ *nanga* ‘house’

A few mysterious cases

(57) a. ခဏ်ဗဲ *batangiman* ‘mosquito’ ← ခုဏ် *baytang* ‘blood’ + ?
 b. ခုင်ဥာဏ် *kirinalang* ‘avenue’ ← ခုင် *kirin* ‘street’ + ?
 c. ခဏ်ဗဲ *ningambakar* ‘telltale’ ← ခဏ် *ningan* ‘story’ + ?
 d. ခဏ်ဗဲ *ragayesuy* ‘grid’ ← ခဏ် *ragan* ‘line’ + ?
 e. ခဏ်ဗဲ *teraymino* ‘melancholic’ ← ? + ခဏ် *mino* ‘happy’
 f. ခဏ်ဗဲ *vetaysano* ‘fare’ ← ? + ခဏ် *sasān* (earlier ခဏ် *sasano*) ‘way’

For all of the components represented by a question mark, there is no corresponding dictionary entry. At least in *ꠘꠞꠞꠞꠞꠞꠞ baytangiman*, the **ꠞꠞꠞꠞ *iman* part looks as though it could be a noun due to the **ꠞꠞꠞꠞ -an* nominalizer suffix. **ꠞꠞꠞꠞ *teray*

in ၵရဲယိ *teraymino* might also be an adjective supposed to mean ‘sad’ (which would make it an adjectival coordinative compound), although the dictionary entry for that is ၵရဲ *giday*. Even though parts of all these words are unclear, they all seem to follow the correct syntactic order, judging by those parts that are identifiable. And even in the case of ၵရဲယိ *vetaysano*, which is missing the first part, it can be reasonably assumed that the identifiable part, *ယိ **sano*, is the modifier, and *ၵရဲ *vetay* may have once been intended to mean ‘money’ or ‘fee’ or something along these lines.

With the exception of နိဂမ္ဘာ *ningambakar*, all of the mystery words were entered into the dictionary in 2006. Digging through old archives and translations, I could determine at least that *မ္ဘာ **bakar* was once intended to mean ‘lie’, and *ၵရဲ **teray* was indeed meant to mean ‘sad’.

4.1.6 Reduplication

Wiltshire and Marantz (2000) write that it has been suggested that reduplication serves an iconic function, “with the repetition of phonological material indicating a repetition or intensity in the semantics” (561), so with regards to nouns mainly to indicate plurality of various kinds. However, they find that in fact, reduplication serves all kinds of functions, also ones without iconic meanings, and mention Agta, an Austronesian language of the Philippines, which uses reduplication to form diminutives (Healey 1960: 6–9). As we have seen in subsection 3.2.3 above, so does Ayeri, which means that there is real-world evidence for this use of reduplication. Examples for diminutive reduplication in Ayeri include:

- (58) a. လိမ္ *limu* ‘shirt’ → လိမ္လိမ္ *limu-limu* ‘little shirt’
 b. နာ *nanga* ‘house’ → နာနာ *nanga-nanga* ‘little house’
 c. ဓာ *sapay* ‘hand’ → ဓာဓာ *sapay-sapay* ‘little hand’
 d. ဝေ *veney* ‘dog’ → ဝေဝေ *veney-veney* ‘little dog’

Diminutive reduplication involves full stem reduplication in Ayeri. Besides the productive use of reduplication for diminutive marking, there are a number of diminutive formations which have been lexicalized, such as in the following examples:

- (59) a. ၵရဲ *agu* ‘chicken’ → ၵရဲရဲ *agu-agu* ‘chick’
 b. ၵရဲ *gan* ‘child’ → ၵရဲရဲ *gan-gan* ‘grandchild’
 c. နာ *pasing* ‘tube’ → နာနာ *pasing-pasing* ‘straw’
 d. ပိ *poyu* ‘cheek; bacon’ → ပိပိ *poyu-poyu* ‘butt’

In this example, being endearing or otherwise small is treated as a property of the head, မေ့ဟ် *mehir* ‘tree’, not of the whole compound မေ့ဟ်ဒုၤ *mehirseygo* ‘apple tree’, or the dependent, ဒုၤ *seygo* ‘apple’—after all, an apple tree which is small is rather a small tree with apples on it than a tree with small apples. The avoidance of the fully reduplicated form မေ့ဟ်ဒုၤမေ့ဟ်ဒုၤ *mehirseygo-mehirseygo* is probably related to the notion of economy of expression.

4.1.7 Nominalization

Some accidental ways of deriving nouns have been mentioned above, for instance, some reduplicated non-nominal roots like ႤႬႬ *kusang* ‘double’ or ႤႬ *veha-* ‘build’ may form nouns. However, Ayeri also has some dedicated morphology to derive nouns from other parts of speech. The most common and highly productive way to derive a noun, is the suffix ႬႬ *-an*. The examples in (65) list some derivations from verbs, and (66) shows derivations from adjectives to nouns. As ႤႬႬ *kuban* ‘oar’ shows, the nominalization may have an idiomatic meaning.

- (65) a. ႬႬႬ *balang-* ‘search (v.)’ → ႬႬႬႬ *balangan* ‘search (n.)’
 b. ႤႬႬ *kub-* ‘row’ → ႤႬႬႬ *kuban* ‘oar’
 c. ႬႬ *rig-* ‘draw’ → ႬႬႬ *rigan* ‘drawing’
 d. ႤႬႬ *veh-* ‘build’ → ႤႬႬႬ *vehan* ‘building’
- (66) a. ႬႬႬႬ *apitu* ‘pure’ → ႬႬႬႬႬ *apituan* ‘purity’
 b. ႬႬ *gira* ‘urgent’ → ႬႬႬႬ *girān* ‘hurry’
 c. ႬႬႬႬ *pakis* ‘serious’ → ႬႬႬႬႬ *pakisan* ‘seriousness’
 d. ႬႬ *vapa* ‘skillful’ → ႬႬႬႬ *vapan* ‘skill’

Occasionally, it may even happen that a noun is derived from a noun with a related, but sometimes more basic meaning, with the nominalizer ႬႬ *-an*. This process, however, is not productive, so compared with deverbalization and deadjectivization, examples of this derivation strategy are few.

- (67) a. ႬႬႬႬ *ajam* ‘toy’ → ႬႬႬႬႬ *ajaman* ‘game’
 b. ႬႬႬႬႬ *kelang* ‘chain’ → ႬႬႬႬႬႬ *kelangan* ‘connection’
 c. ႬႬႬ *nanga* ‘house’ → ႬႬႬႬႬ *nangān* ‘household’
 d. ႬႬႬ *ten* ‘life’ → ႬႬႬႬႬ *tenan* ‘soul’

There are also some apparent nominalizations in ႬႬႬ *-am* and ႬႬႬႬ *-ang*, although these are irregular and non-productive:

- (68) a. ႬႬႬ *aja-* ‘play’ → ႬႬႬႬႬ *ajam* ‘toy’
 b. ႬႬႬႬ *gin-* ‘drink’ → ႬႬႬႬႬႬ *ginam* ‘glass’
 c. ႬႬႬႬ *mik-* ‘poison (v.)’ → ႬႬႬႬႬႬ *mikam* ‘poison (n.), venom’
 d. ႬႬႬႬ *nuna-* ‘fly’ → ႬႬႬႬႬႬႬ *nunam* ‘feather’

- (69) a. *bayha*- ‘rule’ → *bayhang* ‘government’
 b. *bapa* ‘remaining’ → *bapang* ‘remainder’
 c. *kada*- ‘collect’ → *kadang* ‘committee; alliance’
 d. *mima* ‘possible’ → *mimang* ‘access’

Agentive nouns can be formed from regular nouns with the suffix *-maya*, compare the examples in (70). An epenthetic /a/ may be introduced to break up consonant clusters that would otherwise be either difficult to pronounce or violating phonotactics. When the stem of the word the agentive suffix is attached to ends in a consonant or /Ca/, it is also often found fused with the root, sometimes with the first /a/ of *-Caya* lengthening, see (71). Specifically feminine agentive nouns can be derived with the related suffix *-vaya*; two examples are given in (72).

- (70) a. *anl*- ‘bring’ → *anlamaya* ‘waiter’
 b. *hora* ‘sin’ → *horamaya* ‘sinner’
 c. *nasy*- ‘follow’ → *nasyamaya* ‘follower’
 d. *teba*- ‘bake’ → *tebamaya* ‘baker’
- (71) a. *asa*- ‘travel’ → *asāya* ‘traveler’
 b. *ibut*- ‘trade’ → *ibutaya* ‘trader, merchant’
 c. *lant*- ‘lead’ → *lantaya* ‘leader; driver’
 d. *tang*- ‘listen’ → *tangaya* ‘listener’
- (72) a. *gan* ‘child’ → *ganvaya* ‘governess’
 b. *lanya* ‘king’ → *lanvaya* ‘queen’

Besides these, there is also a derivative suffix for makers of things, *-ati*, though this is not too productive, and sometimes irregular, as *sirtangati* ‘youth’ shows:

- (73) a. *gindi* ‘poem’ → *gindati* ‘poet’
 b. *sirtang* ‘young’ → *sirtangati* ‘youth’
 c. *taban*- ‘write’ → *tabanati* ‘scribe’
 d. *vehim* ‘piece of clothing’ → *vehimati* ‘tailor’

A few instances also exist where a tool of sorts is derived with a suffix *-(e)ryan*, which is related to the instrumental suffix *-eri* in combination with the nominalizer *-an*:

- (74) a. ၵူ: *gur*- ‘turn’ → ၵူရ ၵူရ ၵူရ *guryan* ‘coil, cylinder’
 b. ၵူ: *mis*- ‘behave’ → ၵူရ ၵူရ *miseryan* ‘method, strategy’
 c. ၵူ: *nap*- ‘burn’ → ၵူရ ၵူရ *naperyan* ‘tinder’
 d. ၵူ: *pra*- ‘glitter, gleam’ → ၵူရ ၵူရ *praryan* ‘spark’

While ၵူ *-an* derives nouns from verbs to produce nouns that act as such in every way, it may sometimes be preferable to make a noun of a participle to nominalize the action as such, compare:

- (75) a. Manhattan is famous for its tall **buildings**.
 b. **Building** a house is an expensive endeavor.

In (75a), *building* is simply a noun derived from the verb *build*. It acts as a noun in every way, for example, it can serve as a subject and object, it can be pluralized, it can take determiners and can be modified by adjectives. The form of *building* in (75b), however, is a gerund, and as such underlies the restriction that it cannot be pluralized (Payne 1997: 35). As we have seen at the beginning of this section on nominalization, Ayeri can derive ၵူရ *veban* ‘building, construction’ from the verb ၵူ: *veh*- ‘build’, which acts like every other common noun, much like English in (75a):

- (76) a. *Lesāra* *maritay* *vehānreng* *tado*.
 Lesa-ara *maritay* **vehān-reng** **tado**
 collapse-3SG.INAN about.to **building-A.INAN** old
 ‘The old building is about to collapse.’
- b. *Le* *vacyang* *eda-vehān*.
 Le vac-yang **eda-vehān-Ø**
 PT.INAN like=1SG.A **this=building-TOP**
 ‘This building, I like it.’
- c. *Ang* *latayo* *bayhang* *vehānyeley* *yona*.
 Ang lata-yo bayhang-Ø **vehān-ye-ley** **yona**
 AT sell-3SG.N government-TOP **building-PL-P.INAN** 3SG.N.GEN
 ‘The government is selling its buildings.’
- d. *Le* *ming* *kuysāran* *vehān-kay* *dirasyam* *ran*.
 Le ming kuysa-aran **vehān-Ø-kay** diras-yam ran
 PT.INAN can compare-3PL.INAN **building-TOP=few** splendor-DAT 3SG.INAN.GEN
 ‘Few buildings can compare to its splendor.’

The above examples condense several properties into one for illustration. Thus, (76a) shows that ၵူရ *vebān* can serve as basically a subject of a clause, and that it

can as well be modified by an adjective—the choice of adjectives does not underly any distributional restrictions other than those imposed by the semantic frame of HOUSE. In the next example, (76b), ၵုၵ်း *vehān* serves as the object of the clause and is being determined by the demonstrative prefix ၵု *eda-* ‘this’. The third example, (76c), shows ၵုၵ်း *vehān* both pluralized and modified by a possessive pronoun, ၵုၵ်း *yona* ‘of it’. And finally, in (76d) we see ၵုၵ်း *vehān* quantified by the suffix ၵုၵ်း *-kay* ‘few’.

Similar to English in (75b), Ayeri can also derive nouns from the participle of a verb to derive a noun that describes the action as such—a gerund. For an example, I will again draw on my Ayeri translation of Kafka’s short story “Eine kaiserliche Botschaft” (Becker 2012: 2, 14):

- (77) ... *nay ang pətangongva* *ankyū haruyamanas* *nanang megayena*
 ... *nay ang pə-tang-ong-va.Ø* *ankyū haru-yam-an-as* *nanang mega-ye-na*
 ... and AT NFUT-hear-IRR=2SG.TOP truly beat-PTCP-NMLZ-P great fist-PL-GEN
yana kunangya vana.
yana kunang-ya vana
 3SG.M.GEN door-LOC 2SG.GEN

‘... and you would indeed hear his magnificent beating at your door very soon.’

Conveniently, this annotated translation again comments on the grammatical rules which operate in this passage, more specifically also on the gerund derivation ၵုၵ်း *haruyaman* ‘beating’:

Furthermore, I wrote *haruyaman* ‘beating’ instead of *haruan* ‘beat(ing)’ because I wanted to emphasize the process of beating as an incomplete action. This is possible here because the word is not topicalized and neither is it marked as a dative, which would also require *haruyamanyam* ‘beat-PTCP-NMLZ-DAT’ to become *haruanyam* ‘beat-NMLZ-DAT’ (the participle marker *-yam* is derived from the dative case ending *-yam*).
 (14–15)

We can read from this description that the participle marker in Ayeri has possibly been grammaticalized from the dative case marker, or that it is at least synchronically homonymous. In order for case marking to operate, this formation has to be nominalized, which is done the usual way by appending ၵုၵ်း *-an*, thus giving the suffix cluster ၵုၵ်း *-yaman* for the derivation of verbs as gerunds. If the gerund is marked for dative case, the suffix cluster **ၵုၵ်း -yamanyam* basically undergoes haplology to a simple nominalized form with the suffix cluster ၵုၵ်း *-anyam*:

- (78) *haru-* *haruyam* *haruyaman* **haruyamanyam* *haruanyam*
haru- → haru-yam → haru-yam-an → haru-yam-an-yam → haru-an-yam
beat beat-PTCP beat-PTCP-NMLZ beat-PTCP-NMLZ-DAT beat-NMLZ-DAT

The comment on the translation also makes a little note on the gerund being possible because the word is not topicalized. This is based on an old rule that

What all the passages on gerunds quoted before show is that gerunds in Ayeri do not behave like transitive verbs as in English. Thus, what would be the object of the former verb appears in the genitive case in Ayeri.

Bibliography

- Bauer, Laurie. 2001. Compounding. In *Language typology and language universals: An international handbook*, edited by Martin Haspelmath, Ekkehard König, Wulf Oesterreicher, and Wolfgang Raible, 1:695–707. Handbooks of Linguistics and Communication Science 20. Berlin: Walter de Gruyter.
- Becker, Carsten. 2010. The syllable structure of Ayerí's stems: A statistical analysis. Draft. April 3. Accessed June 20, 2016. <http://benung.nfshost.com/files/frequency.pdf>.
- . 2011. Article 1 of the United Nations 'Universal declaration of human rights'. November 22. Accessed July 23, 2016. http://benung.nfshost.com/wp-content/uploads/2011/12/xmp_humanrights.pdf.
- . 2012. Imperial messages: On translating Franz Kafka's "Eine kaiserliche Botschaft" into Ayerí. August 8. Accessed July 4, 2016. <http://benung.nfshost.com/wp-content/uploads/2012/04/2012-04-07-imperial-messages.pdf>.
- . 2013. Happy 10th anniversary, Ayerí! *Benung: The Ayerí Language Resource* (December 1). Accessed July 3, 2016. <http://benung.nfshost.com/archives/3817>.
- . 2014. Translation challenge: The scientific method. *Benung: The Ayerí Language Resource* (April 25). Accessed August 16, 2016. <http://benung.nfshost.com/archives/4092>.
- . 2015 [2013]. Translation challenge: The first two chapters from saint-exupéry's "Le Petit Prince". Accessed August 16, 2016. <http://benung.nfshost.com/wp-content/uploads/2015/05/2013-05-25-stexupery-petitprince-ayeri.pdf>.
- . 2016. *Benung: The Ayerí language resource*. Accessed June 9, 2016. <http://benung.nfshost.com>.

- Boga, Bella, Madita Breuninger, Thora Daneyko, and Martina Stama-Kirr. 2016. Ayeri. Universität Tübingen. June 30. Accessed July 4, 2016. <http://www.sfs.uni-tuebingen.de/-abuch/16ss/Referate/Ayeri.pdf>.
- Botha, Rudolf P. 1984. *Morphological mechanisms*. Oxford: Pergamon Press.
- Buch, Armin. 2016. Kunst- und Plansprachen – von Esperanto bis Dothraki. Accessed July 2. <http://www.sfs.uni-tuebingen.de/-abuch/16ss/conlang.html>.
- Comrie, Bernard. 1989. *Language universals and linguistic typology: Syntax and morphology*. 2nd ed. London: Blackwell.
- Court, Christopher. 1996. The spread of Brahmi scripts into southeast Asia. In Daniels and Bright 1996, 445–449.
- Daniels, Peter T., and William Bright, eds. 1996. *The world's writing systems*. New York, NY: Oxford University Press.
- Dixon, Robert M. W. 2000. A typology of causatives. In *Changing valency: Case studies in transitivity*, edited by Robert M. W. Dixon and Aleksandra Y. Aikhenvald, 30–83. Cambridge: Cambridge University Press.
- Dryer, Matthew S., and Martin Haspelmath, eds. 2013. *The world atlas of language structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. Accessed July 12, 2016. <http://wals.info>.
- Eisenberg, Peter, Jörg Peters, Peter Gallmann, Cathrine Fabricius-Hansen, Damaris Nübling, Irmhild Barz, Thomas A. Fritz, Reinhard Fiehler, and Mathilde Hennig. 2016. *Die Grammatik: Unentbehrlich für richtiges Deutsch*. 9th ed. Edited by Angelika Wöllstein. Duden 4. Berlin: Dudenverlag.
- Everson, Michael. 2008. *Proposal for encoding the Javanese script in the UCS*. International Organization for Standardization, January 28. Accessed July 24, 2016. <http://www.evertype.com/standards/iso10646/pdf/n3319r2-javanese.pdf>.
- Fillmore, Charles J. 2003 [1968]. The case for case. Reprint. In *Papers on semantic roles*, vol. 1 of *Form and meaning in language*, edited by Charles J. Fillmore, 21–119. Chicago, IL: University of Chicago Press. Accessed August 1, 2016. <http://linguistics.berkeley.edu/-syntax-circle/syntax-group/spro8/fillmore.pdf>.
- Gaeta, Livio. 2008. Constituent order in compounds and syntax: Typology and diachrony. *Morphology* 18 (2): 117–141. doi:10.1007/s11525-009-9125-x.
- Halle, Morris. 1998. The stress of English words 1968–1998. *Linguistic Inquiry* 29 (4): 539–568.

- Healey, Phyllis M. 1960. *An Agta grammar*. Manila: Manila Bureau of Printing. Accessed August 12, 2016. https://archive.org/details/rosettaproject_dgc_book-1.
- Kager, René. 2007. Feet and metrical stress. In *The Cambridge handbook of phonology*, edited by Paul de Lacy, 195–227. Cambridge: Cambridge University Press.
- Klavans, Judith L. 1985. The independence of syntax and phonology in cliticization. *Language* 61 (1): 95–120.
- Kroonen, Guus. 2013. *Etymological dictionary of Proto-Germanic*. Edited by Alexander Lubotsky. Leiden Indo-European Etymological Dictionary Series 11. Leiden: Brill.
- Kuipers, Joel C., and Ray McDermott. 1996. Insular southeast Asian scripts. In Daniels and Bright 1996, 474–484.
- Lehmann, Christian. 2015. *Thoughts on grammaticalization*. 3rd ed. Classics in Linguistics 1. Berlin: Language Science Press. Accessed July 18, 2016. <http://langsci-press.org/catalog/book/88>.
- Lieber, Rochelle. 1994. Root compounds and synthetic compounds. In *The encyclopedia of language and linguistics*, edited by Ronald E. Asher, 7:3607–3610. Oxford: Pergamon Press.
- Maddieson, Ian. 2013a. Consonant inventories. In Dryer and Haspelmath 2013.
- . 2013b. Consonant-vowel ratio. In Dryer and Haspelmath 2013.
- . 2013c. Vowel quality inventories. In Dryer and Haspelmath 2013.
- Payne, Thomas E. 1997. *Describing morphosyntax: A guide for field linguists*. Cambridge: Cambridge University Press.
- Peterson, David J. 2015. *The art of language invention: From horse-lords to dark elves, the words behind world building*. New York, NY: Penguin.
- Salomon, Richard G. 1996. Brahmi and Kharoshthi. In Daniels and Bright 1996, 373–383.
- Süddeutsche Zeitung. 2013. Abschied vom “RkReÜAÜG”-Ungetüm: Längstes deutsches Wort verschwindet. *Süddeutsche Zeitung* (June 3). Accessed August 10, 2016. <http://www.sueddeutsche.de/kultur/laengstes-deutsches-wort-verschwindet-abschied-vom-rkreueaug-ungetuem-1.1687160>.
- United Nations. 1948. Universal declaration of human rights. United Nations. Accessed July 23, 2016. <http://www.un.org/en/universal-declaration-human-rights/>.

- Wiltshire, Caroline, and Alec Marantz. 2000. Reduplication. In *Morphology: An international handbook on inflection and word-formation*, edited by Geert Booij, Christian Lehmann, and Joachim Mugdan, 1:557–567. Handbooks of Linguistics and Communication Science 17. Berlin: Walter de Gruyter.
- Zwicky, Arnold M. 1977. *On clitics*. Bloomington, ID: Indiana University Linguistics Club. Accessed July 22, 2016. https://web.stanford.edu/~zwicky/on_clitics.pdf.
- . 1985. Clitics and particles. *Language* 61 (2): 283–305. Accessed July 26, 2016. <https://web.stanford.edu/~zwicky/cliticsparticles.pdf>.
- Zwicky, Arnold M., and Geoffrey K. Pullum. 1983. Cliticization vs. inflection: English *N'T*. *Language* 59 (3): 502–513. Accessed July 21, 2016. <https://web.stanford.edu/~zwicky/ZPCliticsInfl.pdf>.

Index

- agglutination, 63
- allophony
 - of consonants, 7–10, 40
 - of vowels, 10–12, 16, 19
- bound words, 64
- Box script, 45
- Brāhmī scripts, 45
- cases, 81–92
 - agent, 81–82
 - causative, 88–89
 - dative, 9, 84–86
 - genitive, 71, 86–87
 - instrumental, 89–91
 - locative, 87–88
 - patient, 83–84
- clitics, 63, 92
- complement clause, 42
- compounds, 38–40, 94–103
 - coordinative, 101
 - endocentric, 95–99
 - exocentric, 101–102
 - synthetic, 99–100
- consonants, 7–10, 16, 19, 20, 22–24, 26, 28, 47–48
 - clusters, 16, 23, 28–30
- dependent marking, 71
- diacritics, 50–56
- diminutive, 70
- diphthongs, 10, 19, 33, 52
- gender, 76–78
- gerund, 107–109
- goals, 3, 4
- marking strategies, 71
- morphophonology
 - of relative pronouns, 9, 11, 70
 - of the plural marker, 7, 9, 79
- nominalization, 105–109
- nouns, 38, 75–109
- number, 78–81
- numerals, 80
 - digits, 57
- plural, 7, 9, 79
- prefixes, 64, 66–68
 - on nouns, 92–93
- pronouns
 - demonstrative, 67
 - personal, 65
 - reflexive, 67
 - relative, 70
- punctuation, 57–59
- quantifiers, 37
- questions
 - closed, 41
 - open, 41

- reduplication, 69–70, 103–104
- relative clause, 42
- stress, 31–38
- suffixes, 63, 68–69
- suprasegmental, 64, 70–71
- syllable
 - final, 23–26
 - heavy, 33–38
 - initial, 16–20
 - medial, 20–23
 - monosyllabic words, 26–28, 37
 - superheavy, 34, 36–38
 - types, 14, 33
- Tahano Hikamu, 3, 45–61
 - angular style (ṣūṣ), 59
 - blackletter style, 61
 - hand style (ḥaṣṣ), 60
 - regular/book style, 59
- tense, 67
 - past, 10
- topic, 42, 81
- typology
 - of compounds, 94
 - of morphemes, 63–73
- vowels, 10–12, 16, 20, 23, 28, 48–50