A GRAMMAR
OF THE
BAKAIRI LANGUAGE
VRIJE UNIVERSITEIT

A GRAMMAR OF THE BAKAIRI LANGUAGE

ACADEMISCH PROEFSCHRIFT

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door

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Thank you all,
Geraldo Faria
November 2021
“Later, reading her flower book, examining the plant more closely, she discovered that it wasn’t a forget-me-not at all. Its leaves were all wrong, and it was too tall. It was probably a borage, hairy borage—and after a while, she settled for green alkanet. Anchusa sempervirens. ‘Small clusters of flat white-eyed bright blue flowers, rather like a forget-me-not or speedwell…’ Yes, that was it. Rather like. Rather like, but not identical. Similar, but not the same. This distinction delighted her. She would forget it, she knew, but for the moment it delighted her. She was not very good at flowers, and forgot most of the names she so painstakingly established. At her age she found it difficult to retain new information, almost impossible to enlarge her store of certainties from the hundred names she had learned…” (Drabble 2011: 160)

In this excerpt from the Merry Widow, Margaret Drabble depicts an elderly woman who passionately studies her flowers, making lists, going on fieldtrips, enjoying every discovery to realize too soon afterwards that she can no longer retain any new information, and she is facing the same conflicting desire to investigate it over again. Like this widow, I create lists, study them, and take enormous pleasure in the discovery of the nuances and peculiarities of the Bakairi language. But I also know that I can do little more than leave this study for the next generation of scholars; it is my hope that they will put this study to wise use and make great strides forward.
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<td>A</td>
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<td>nominalizer</td>
</tr>
<tr>
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<td>object of transitive verb</td>
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<tr>
<td>PER</td>
<td>perative</td>
</tr>
<tr>
<td>PL</td>
<td>plural</td>
</tr>
<tr>
<td>POSS</td>
<td>possessed, possession marker</td>
</tr>
<tr>
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<td>probabilitative</td>
</tr>
<tr>
<td>PRHB</td>
<td>prohibitive</td>
</tr>
<tr>
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<td>proximal</td>
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<td>present</td>
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<td>PST</td>
<td>past</td>
</tr>
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<td>purposive</td>
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<td>remote</td>
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<td>restrictive</td>
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<td>subject of intransitive verb</td>
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<td>species</td>
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<td>topic</td>
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<tr>
<td>-V- / v.</td>
<td>verb</td>
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<tr>
<td>V</td>
<td>nasalized underspecified vowel</td>
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<td>VEN</td>
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<td>VP</td>
<td>verb phrase</td>
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<tr>
<td>VBZ</td>
<td>verbalizer</td>
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</tbody>
</table>

Eastern Bakairi data
Western Bakairi data
1st person
2nd person
3rd person
becomes
more than
Summary

The Bakairi language is a member of the Carib family, comprising around forty languages spoken mostly within north-central South America. It is the southern-most Carib language, spoken in two large settlements of around 1000 people. These settlements correspond to its dialects which differ predominantly in phonology and lexicon, though the morphology more sporadically also varies. As it is actively spoken by fewer than the 1000 residents of the two settlements, Bakairi is an endangered language.

Intended as a documentation of the fundamental features of the language, this grammar starts with a description of the Bakairi culture. The following chapters discuss its phonology, morphology, and syntax.

Two points stand out in its phonology: sonorant consonants that contrast voice must be devoiced word-initially and a word is allowed only one devoiced realization word-internally. Therefore, any given word can have a maximum of two devoiced sonorant consonants.

Bakairi is a highly agglutinative language with a strong tendency for suffixing. Apart from the usual suffixes that express aspect, modality, and plurality, other suffixes add the sense of repetition, totality, evidentiality, and truth. Affixes, in general, are used to create new words (e.g., a noun created from another noun) and transform words into a different class (e.g., a verb created from a noun). In the morphology of verbs, the most remarkable point is a clear distinction in verbal suffixes. When a verb is transitive, it must adhere to one set of suffixes which differs from another set of suffixes for intransitive ones. What is especially noteworthy is that nouns that are intrinsically possessed, such as body parts, are incorporated into the verbs. This creates verbs such as to handwash, to toothbrush, to hairpaint, which must be bordered by additional affixes. In the nominal morphology, past nominal suffixes indicate that the characteristics of the noun are no longer relevant in the present, for instance, a deceased person, or an abandoned house.

Previously, it was believed that the default word order of object-verb-agent did not exist in any spoken language. Hixkaryana, another Cariban language, is the first documented language that uses OVA as its default word order. Today, only nine of the world’s documented languages have been proven to be OVA, and Bakairi is part of this group. Lacking nominative-accusative or ergative-absolutive markers, necessary features to classify it as ergative, the Bakairi verbal person prefixation interestingly is aligned like those in split-ergative constructions.

The aim of this preliminary work is not only to preserve the language but also to motivate linguists to go out into the field and document languages that are threatened by extinction.
A Grammar of the Bakairi Language
Chapter 1
Introduction to the Bakairi Language and Its Speakers

1.1 Remarks on the origins of the word “Bakairi”

The word ‘bakairi’ [baka.i’ri] refers both to the indigenous people and the language spoken in twelve villages scattered across the State of Mato Grosso, Brazil. The first textual allusions to the word appear in notes and documents written by notary officers, priests, and bandeirantes (Brazilian pioneers) during the middle of the eighteenth century (Lemos 1751; Duarte et alli 1771; Carvalho 1863: 19; Pedrosa 1879: 222; Rodrigues 1879; these and other references apud Barros 2003: 65-70). The word probably originates from língua geral da Amazônia, a lingua franca used in the central to northern regions of South America for about two hundred years beginning in the late seventeenth century. Non-indigenous Brazilians (or karaiwa) most likely used the word ‘bakairi’ originally in a collective reference to the Bakairi people and their villages. Additionally, it has since become an autonym for the people themselves when they communicate with outsiders. The etymology of the word seems to be a reduction of [i.ba'kai.ɾi] ‘he who belongs to the Pakai.’ However, the word ‘pakai’ is an unidentified toponym. It is worth mentioning that the word ‘bakairi’ violates the phonotactic constraints of the language (see 2.5.1).

1.2 Linguistic overview

Bakairi belongs to the Pekodian branch (Gildea, Hoff & Meira, 2010: 97 in Berez, Andrea, et al.) of the Cariban family (Ethnologue 17-3631, classified ISO 6393 as bkq). The language comprises two main dialects, the Pakuera and the Santana, which differ mainly in phonology and lexicon. Their phonological inventory consists of fourteen contrastive consonants. While the Eastern dialect (i.e., the one spoken in the Pakuera region) has fourteen (seven oral and seven nasal) vowels, the Western dialect (i.e., the one spoken in the Santana region) has a twelve vowel-system (with six oral and six nasal vowels). The language has a simple (C)V syllable structure. Mora (or syllable weight) plays a role in the assignment of stress. Nominal roots and verbal stems tend to be disyllabic. The language is not tonal and lacks a complex accent system. Segments are nasalized mainly through backward spreading. Phonological processes range from assimilation to lenition, vowel lengthening, and approximant insertion.

Being a highly agglutinative language, the morphological processes are realized through prefixes and suffixes. Two major word classes are verbs and nouns, which are more easily identifiable. Besides these two groups, there are particles (grammatical and lexical), adverbs (a group that includes traditional adverbial
concepts, such as locatives, temporals, and manner words as well as what Indoeuropean languages classify as adjectives), and postpositions. Morphophonological processes include insertion, deletion, vowel harmony, ablaut, and voicing.

In the verbal morphology, aspect-mood, negative, plural and collective markers, as well as adverbial affixes are attached to verbs. The distribution of the person inflection is either agent-oriented (A-oriented) or object-oriented (O-oriented).

In the nominal morphology, nouns are characterized by their ability to accept personal prefixes and possessum suffixes (although other words also take suffixes, and some classes of nouns, like pronouns, cannot take them).

If followed by a personal pronoun, the core constituent orders are VS (verb-subject) for intransitive clauses and OVA (object-verb-agent) for transitive clauses. Rarely does a particular clause include all three constituents. Those that do are usually discourse-initial sentences. As the core constituents have no postpositions, their syntactic positioning indicates whether they are the object, subject, or agent. Copula clauses are expected with negation. While adverbs often occur before the core sentence constituents, nominalizations (i.e., functioning adjectives) follow nouns.

The Bakairi’s lexicon is extensive, especially in its regional fauna and flora, food, as well as kinship lexemes.

1.3 Linguistic alterations between the two dialects

The Western Bakairi dialect (Santana, indicated as 2 in the interlinear texts) is isolated geographically and politically from the Eastern dialect (Pakuerã, indicated as 1 in the interlinear texts); the two dialects exhibit different phonological realizations. In Western Bakairi, (a) spirantization is more significant, (b) glottal stops are used instead of voiced fricatives and glottal fricatives, and (c) the high central vowel [ɨ] is lacking, even though [i] is a common trait in Carib languages (Derbyshire 1999: 29, Gildea, Hoff & Meira 2007: 93 in Berez, Andrea et al). The Eastern [i] sound is realized as [i] or [a] in the Western dialect. Additionally, Western Bakairi makes use of non-contrastive long vowels more noticeably, because [h] is dropped when identical vowels flank it.

The Eastern dialect appears to have undergone more diachronic changes because of the mobility of the people in the region. As the Eastern villages are in proximity to the Xingu Indigenous Reservation (Parque Indígena do Xingu) and some of their members once lived there, contact-induced linguistic changes have most likely occurred. Moreover, the Eastern dialect has two additional vowels [ɨ] and [ᵻ], which are used extensively.

Although long (oral and nasal) vowels may have once been contrastive, currently in both dialects, identical vowels are separated by:
(a) the sound /h/ as in [šha], [uhu] or [aha]2,
(b) /z/ as in [aza]1, [eze]1, [iži]1 or [šha] or [iži]2,
(c) /Ɂ/ as in [eɁe]2 or [iʔɁi]2.

---

1 Aspect-mood and evidentiality are indicated not only through verbal morphology but also through past tense particles (see 4.2.7). There are also negative elements and plural markers that are independent words.
Despite their phonological and lexical differences, the two dialects are, for the most part, mutually intelligible. Their morphology and syntax are substantially identical.

### 1.4 Studies on the Bakairi people and language

In 1884, the Bakairi became known in academic circles when Karl von den Steinen (a German explorer, physician, and ethnologist) traveled through Mato Grosso on an expedition to reach the Xingu region, a then-inaccessible land of which little was known. Steinen hired indigenous people as local guides to assist him on his journey into the treacherous Xingu region; among these guides was Antoninho Kuikare, a young Bakairi man who could speak some of the Xinguan languages (Steinen 1886). Steinen’s first expedition in Brazil lasted less than a year. In 1887, he returned to Brazil to study the Bakairi. This trip prompted him to write a 400-page book in German, in which he initially describes this second expedition, to a Bakairi village. In his book, he adds an explanation of a few grammatical features of the language and a wordlist alongside some local legends (Steinen 1892). In this book, Steinen refers to a Carib grammar by Yangues (1676), which led him to believe that Bakairi was a Cariban language.

James Wheatley, a Christian missionary, lived together with his family among the Bakairi people from the 1960s to 1980s. He cooperated in the writing of some schoolbooks for the Eastern villages, as well as published grammatical sketches and articles on the culture (1969: 80-100; 1973: 105-115, 2009). In 2011, Liccardi and Camp, also Christian missionaries, updated some of Wheatley’s primers for schools and promoted the translation of the New Testament Deus Itaumbyry (2011) from a Brazilian Portuguese (BP) version of the Bible with the help of native speakers.

Two scholars have conducted anthropological fieldwork studies of the Bakairi culture: Barros, in 1976 and 1977, as well as Picchi, during four visits between 1979 and 1999. Their studies resulted in two books: Barros’s work describes the social organization of the Bakairi society (Barros 2003) and Picchi’s study focuses on the anthropological changes in the society (Picchi 2000).

From a linguistic perspective, Souza wrote about the discourse structure, consonantal harmony, and ‘ergativity’ of the Bakairi language (1994; 1994: 29-51). Wetzels published two articles on the markedness of the voice feature of the language, where [+ VOICE] seems to be the unmarked feature (1997; 2002: 13-29). At the time of the writing of this dissertation, the most recent publications on the language are by Meira who visited the two settlements to assess the mutual intelligibility of the two dialects (2004). In his latest publication, Meira compares Bakairi with other Carib languages and proposes a proto-Bakairi sound system based on a comparison of contemporary data against Steinen’s nineteenth-century texts (2006).

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2 When I shared Steinen’s book with five native Bakairi teachers, the Eastern speaker said that the language in the book resembled Western Bakairi. In contrast, four Western speakers felt that the stories were told by Eastern speakers. For the most part, the text was intelligible to speakers of both dialects.
1.5 Bakairi orthography compared with that of Brazilian Portuguese

According to Meira (2004), the writing system for the language has been an ongoing project since the 1960s. At first, texts were strictly transcribed according to the BP spelling rules. As members of the community learned how to read and write in BP, they applied the same orthographic rules to Bakairi. However, BP has relatively complex spelling rules, which reflect properties from other Romance languages through the incorporation of borrowed vocabulary. Using only BP to write Bakairi is an unrealistic option.

A second problem arises with the regional BP. In the Mato Grosso region, BP is spoken with seven contrasting vowels in a stress position, five in pre-stress, but only three in the post-stress syllables (cf. Wetzels in Goldsmith et al., 2011: 331-360, for the southern Brazilian dialects). It can be concluded that the BP vowel system is unfit to represent the twelve or fourteen vowel systems of the Bakairi dialects.

In recent Bakairi primers, many graphemes used in the orthography of schoolbooks correspond to IPA symbols whereas others do not. The following list shows this correlation between the contemporary Bakairi orthography and the IPA symbols.

<table>
<thead>
<tr>
<th>Bakairi symbol</th>
<th>IPA symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>'</td>
<td>/ʔ/</td>
</tr>
<tr>
<td>gu + e, i, y</td>
<td>/ɡ/</td>
</tr>
<tr>
<td>gũ + e, i, y</td>
<td>/ɡu/</td>
</tr>
<tr>
<td>x</td>
<td>[ʃ]</td>
</tr>
<tr>
<td>j</td>
<td>[ʒ]</td>
</tr>
<tr>
<td>nhṼ</td>
<td>/iʃ/</td>
</tr>
<tr>
<td>V + n</td>
<td>/ŋ/</td>
</tr>
<tr>
<td>V + n-h³</td>
<td>/ŋh/</td>
</tr>
<tr>
<td>â</td>
<td>/a/</td>
</tr>
<tr>
<td>y</td>
<td>/i/</td>
</tr>
</tbody>
</table>

No educational materials written in Eastern Bakairi could adequately be used in the Western villages. However, all teaching materials utilized in the Western villages were produced in Eastern Bakairi. Moreover, the educational materials are severely limited in number and quality. They are written using a wide array of phonetic variations with little effort to standardize the orthography.

1.6 Historical background

Most Cariban groups live north of the Amazon River, and only four groups speak Cariban languages in Southern Amazonia. As the Bakairi are the southernmost group of all documented Cariban languages, it is unlikely that the Bakairi people came

³ The hyphen is used to mark a syllable boundary and to differentiate it from ‘nhṼ’.
to this region through the land. There are two probable routes of the 2000 km journey from the northern banks of the Amazon River used to arrive in the State of Mato Grosso: either via the Tapajós River or the Xingu River.

At the beginning of the eighteenth century, officials and explorers mentioned the Bakairi in Mato Grosso. The group initially settled on the banks of the river Tapajós, in a place called Salto (Barros 2003: 65-74). It is possible that from there the Bakairi split into three groups. Oral stories told by the elderly describe how the Western group searched for a location that was closer to Cuiabá, where they would be able to sell arts and crafts. The Eastern group, which later split, moved east to the Paranatinga region. The third group, which emerged from the Eastern group, approached, and lived on the banks of the Xingu River, between 300 and 500 km northeast of Paranatinga.

In the 1920s, the Serviço de Proteção aos Índios (SPI, a former governmental office accountable for indigenous matters in Brazil from 1910 to 1967) created the Área Indígena Santana (for the Western group) and the Área Indígena Bakairi (for the Eastern group), where the groups then settled. Later, the SPI reunited the Bakairi from the Xingu Park with those living in the Área Indígena Bakairi.4

1.7 The Bakairi territory

The Bakairi territory consists of twelve villages located in the state of Mato Grosso, within 400 km of the capital Cuiabá. Reaching the Bakairi territory from the state capital takes approximately a day’s trip through dirt roads, paths, and marshlands.

Having 61,405 hectares, nine Eastern villages in the Área Indígena Bakairi are located approximately 100 km west of the city of Paranatinga. At latitude 14º 30’ 0” S, longitude 54º 62’ 0” W, some villages are close to five major tributary rivers that join in forming the Xingu River while others are close to the Paranatinga River, which is a tributary of the Tapajós River, itself a major tributary of the Amazon River. These Eastern villages are located in a mountain range known as Serra Azul. Part of the land has been depleted of natural vegetation to raise cattle. Other parts are covered with dense forests. There are various river dams, which are used for irrigation and hydroelectric power plants. Additionally, there are numerous waterfalls along smaller streams. The land is about 421 meters above sea level.

The Eastern villages are:
1. Painkun
2. Kaiahoalo
3. Pakuera
4. Alto Ramalho
5. Painkun Àtuby
6. Aturuá
7. Iahudo (recently created)
8. Kuiakuaure (recently created)
9. Akieti (recently created)

---

The Bakairi reservations are located northeast of the capital Cuiabá. One settlement is located in the Planalto da Serra, which does not appear on the map above.\footnote{This image was retrieved from \url{www.ethnologue.com} on February 27, 2014, under the SIL fair use.}

The Western Bakairi territory with two villages is situated at latitude 14° 20’ 0” S, longitude 55° 47’ 0” W, elevation 673m. These two villages are located in the Área Indígena Santana about 150 km northeast of the city of Nobres, in proximity to two tributaries of the Tapajós River as well as to the headwaters of the Cuiabá River.

Having 35,479 hectares in the Área Indígena de Santana, the Western villages, which are only 4 km apart, are:

10. Santana
11. Nova Canaã

In Planalto da Serra, there is a twelfth village, which is to the south of the two enclaves:

12. Sawâpa

The Pantanal, a wetland in the southern half of the state of Mato Grosso, keeps the air relatively warm and moist during the brief winter season, while the Amazon jungle to its north, with its many tributaries, keeps the long summer season warm,
rainy, and humid. The winter is short and dry. Daytime temperature variation is minimal throughout the year, ranging between 32ºC and 35ºC. Temperature variation is greater during the night, averaging around 20ºC from September to June. Temperatures drop to about 17ºC or lower in the dry winter months of June, July, and August.

1.8 Demographic distribution

It is estimated that there were between 200 and 250 Bakairi people in 1947 when Oberg (1953) traveled through the region. Figure 2 compiles data from the national census and data recorded by Taukane (1999: 47), from the years 1965 to 1999.

Currently with over 1,000 individuals, the Bakairi are classified as a ‘minor’ ethnically and politically autonomous group. They are politically autonomous because the Foundation of National Indians in Brazil (FUNAI) does not control the traffic flow in and out of the villages, nor does it provide health caretakers or teachers to them. Instead, trained Bakairi nurses and teachers carry out these activities.

The graph below shows the population distribution in the villages. In Figure 3, three groups stand out Pakuera, Santana, and Aturua. The Eastern villages represent 61% of the total Bakairi population.
When the Portuguese arrived in Brazil in the year 1500, the indigenous population was estimated at 2.5 million individuals (Hemming 1978: 235), speaking approximately 350 different languages (Rodrigues 1986). The Instituto Brasileiro de Geografia e Estatística (IBGE) released the national census of the indigenous segment of Brazilian society in 2010. According to the report, 896,900 indigenous people occupy 12.5% of the Brazilian territory (264 million acres) speaking 274 languages. The North and Mid-West Regions of Brazil account for more than 80% of the indigenous people in the country. There, most indigenous people still live on indigenous lands. On most indigenous lands (93.6%), more than 50% of the population is younger than 25 years old. Living off the land and fisheries, most indigenous groups lack any source of financial income. Most of the indigenous population nationwide (71.8%) is deemed inactive economically.

Furthermore, according to the census, 66.6% of those living on the allocated lands show a degree of literacy. While literacy has increased in villages that are located in the periphery of the Amazon region, isolated villages in the center of the Amazon tend to have less access to education. The Bakairi are among the most literate, between 75.1% and 100% literacy depending on the villages.

Among 940 Bakairi interviewed, seven said they did not speak BP at home, 933 said that they used BP at home alongside Bakairi, 743 stated that the language of choice at home was Bakairi, and 197 mentioned that the language of choice at home was BP.

6 The IBGE is the institute in charge of the official census of the country.
TABLE 1.1: LANGUAGE OF CHOICE AT HOME

<table>
<thead>
<tr>
<th>Language spoken at home</th>
<th>Refuse to speak BP</th>
<th>Prefer native language</th>
<th>May use BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakairi</td>
<td>&lt;1%</td>
<td>79%</td>
<td>20%</td>
</tr>
<tr>
<td>Arara do Pará</td>
<td>17.3%</td>
<td>59%</td>
<td>39%</td>
</tr>
<tr>
<td>Ikpeng</td>
<td>12%</td>
<td>92%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Kuikuro</td>
<td>75%</td>
<td>98%</td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>

Four tribes speak Carib languages south of the Amazon River: Arara do Pará, Ikpeng, Kuikuro, and Bakairi. The Arara do Pará, located over 1,000 km north of the other three groups, are in danger of losing their mother tongue to BP, as less than half of its population already uses BP exclusively in the village. The Arara do Pará, the Ikpeng, and the Kuikuro consist of fewer than 500 individuals each. The Bakairi, the Ikpeng, and the Kuikuro showed a preference for the use of the native language at home.

Of 1055 Bakairi people whose gender was recorded, 523 (49.6%) were men, whereas 532 (50.4%) were women. Most men worked the land, whereas women lived in urban settings, where they are usually domestic workers. All newborn children from the Bakairi villages were putatively registered in the notary offices.7

1.10 Anthropological remarks

Due to their proximity to different tribes, the Eastern villagers have promoted more intermarriages with members of outside cultures, such as the Batovi, Parabubure, Sangradouro, Menure, Areões, and the peoples of the Xingu Territory. Not only different customs but also linguistic features have been assimilated through these exogamous marriages.

Even though the Eastern and the Western groups are geographically separated, most villages have similar basic infrastructure (electricity, water mains, and sewage systems). In the past, the Bakairi used to live in large communal houses in circular villages, but it has become common practice to live in detached houses around a central square. Plots of land are now divided among the families. It is common for the husband to move in with the spouse’s family until the birth of their first child. Only after the first child is born, they move out.

Over the years, village leaders and FUNAI officials have requested that new residences be built apart from others. This was done for three reasons: (1) to facilitate the possession of their own gardens for plantation; (2) to assure that more distant land is protected from outside invaders; and (3) to minimize conflict between internal groups or families.

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7 Until the 1990s, newborn indigenous children were killed because of a handicap, social pressure or supernatural demands. Since then, there has been a movement to stop infanticide by registering them in notary offices as soon as they are born. Infanticide is in many ways analogous to abortion; it is a taboo, and it is done without any witnesses. Its aim is also very similar to abortion: to get rid of an unwanted child. As abortion is not an easy practice, with threats to the life of the mother, indigenous groups resort to killing the child after it is born.
1.11 Religious groups promoting literacy

Up until 1960, the Bakairi did not engage in the practice of reading. When missionary work intensified, literacy became vital. With the introduction of European religious practices, the Bakairi were trained in reading and writing in BP as well as in their language. Literacy and education started rising in the mid-1970s. By the end of the following decade, around 25% of the members of the Eastern group were literate.

The presence of missionaries on indigenous reservations has been a heated topic for Brazilian academics over the past decades. For instance, former deals between the Summer Institute of Linguistics and national academic institutions (such as the Universidade de Brasília, the Universidade de Campinas, the Museu Nacional do Rio de Janeiro, and the Museu Goeldi) were invalidated in the late 1980s. By the mid-1990s, governmental officials intensely pressed for the exclusion of all, other than Catholic, missionary work in the country.

 Nonetheless, within the community, a small team of native speakers worked on the translation of the Bible from BP into Bakairi, which was completed in 2011.

1.12 Data collection

This study is based on personal recordings of interviews with native language consultants. The initial contact and further consultations were carried out with speakers of the Eastern dialect from May to November of 1991. The data obtained during that period mainly consisted of elicited paradigms and basic word-formation patterns. The *Formulário de Vocabulário Padrão* from Museu Nacional do Rio de Janeiro (a comparative wordlist of language items deemed pertinent to Indigenous languages in Brazil) was the framework of the initial study at this time.

Further follow-up visits for data collection have been undertaken in 2012, 2013, 2018, 2020, and 2021. Since 2009, regular consultations through Skype and e-mail with five consultants of the Western dialect have occurred. In this past decade, data for this grammar and clarification of pending issues have been the main goal of the research. Bowen’s guideline (1972) for the construction of a grammar through fieldwork has been a constant reference point.

1.13 Limitations of the study

The amount of fieldwork was insufficient to provide a comprehensive analysis of the grammar against leading theoretical frameworks. Owing to the complexity of

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8 Here, the expression ‘European religions’ indicate segments of Christianity: such as Catholic and Protestant denominations. Under the belief that religion is a matter of choice and privacy, no members were asked if they had affiliations to churches.

9 Native Bakairi religious practices are rare and need further documentation. Few practices that predate intruding European religions exist today. Some religious terminology or terms referring to the supernatural are either considered taboo or avoided by practicing members of European religious groups. Mythology and religion are out of the scope of this research.
some of the aspects of the grammar alongside the relative paucity of data, some linguistic phenomena receive only a preliminary analysis (for example, the extensive person prefixation system among others).

In describing the grammatical constructions that are used, I refrained from making evaluative judgments about their standing in the Bakairi society. However, this grammar has adopted an authoritative tone in areas where the usage is divided, and it describes conventions relating to the socially correct use of the language.

Even though I do not subscribe to any religious denomination, in the process of writing this grammar of Bakairi, I checked the biblical text to confirm some of the uses of nominal morphology. That said, none of the data here comes from the Bible translation.

This dissertation is far from being the last word on the grammar of the Bakairi language. It is a preliminary attempt to arrive at a description of the language. New ideas, reactions, and counterexamples are awaited to document more accurately this language that has so far eluded the attention of the majority of linguists.

The invaluable input of my supervisors and consultants has served to make up for many of my shortcomings. Much was discovered through my exchanges with them in the process of writing this grammatical description. My hope is that this combined effort serves as a resource to help advance future theoretical studies in fields related to Southern Carib languages, Amazonian languages, endangered languages, and ethnography. I also hope that this study will draw attention to this endangered language as to move individuals to contribute to its preservation by actively helping the people to continue to use their mother tongue.
26 A Grammar of the Bakairi Language
Chapter 2
Phonetics and Phonology

This chapter is dedicated to the phonetics and phonology of both Bakairi dialects. As such, it begins with an overview of the vocalic and consonantal phonemes, and subsequently, it discusses the sound system with attention to syllable structure, word stress, morphophonological processes, ideophones, and the incorporation of loanwords.

2.1 Vowels

The discussion of the Bakairi sounds utilizes the IPA sound charts (Tables 2.2 and 2.3) for vowels and consonants as a point of departure. The vowel descriptions refer to Table 2.1.10

### TABLE 2.1: IPA VOWELS

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i i</td>
<td>u ü</td>
</tr>
<tr>
<td>Near close</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Close mid</td>
<td>e ø</td>
<td>e ø</td>
</tr>
<tr>
<td>Near close</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open</td>
<td>a e = a</td>
<td>a e = a</td>
</tr>
</tbody>
</table>

10The IPA Chart, http://www.langsci.ucl.ac.uk/ipa/ipachart.html, is available under the Creative Commons Attribution-Sharealike 3.0 Unported License. Copyright © 2005 International Phonetic Association.

The Eastern Bakairi vowel system consists of seven oral and seven nasal vowel phonemes, as shown in Table 2.2.

### TABLE 2.2: VOWEL CHART OF THE EASTERN DIALECT

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i i</td>
<td>u ü</td>
</tr>
<tr>
<td>Mid</td>
<td>e ø</td>
<td>o ø</td>
</tr>
<tr>
<td>Open</td>
<td>a a</td>
<td></td>
</tr>
</tbody>
</table>
The Western Bakairi vowel system is identical save for the fact that it lacks the phonemes /ɨ/ and /ɔ̆/ as shown in Table 2.3.

<table>
<thead>
<tr>
<th>Vowels</th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i ɨ</td>
<td></td>
<td>u ʊ</td>
</tr>
<tr>
<td>Mid</td>
<td>e è</td>
<td>ə ə̆</td>
<td>o ɔ̆</td>
</tr>
<tr>
<td>Open</td>
<td>a ə̆</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Typically, the Eastern Bakairi vowels /ɨ/ and /ɔ̆/ correspond as follows in the Western dialect:

(a) /ɨ/ → /i/ or /ə/  
(b) /ɔ̆/ → /ɪ̆/ or /ə̆/.

All vowels of both dialects may occur in (1) word-initial position, (2) word-medial position, (3) word-final position, (4) unstressed syllables, (5) stressed syllables, as well as in (6) monosyllables. Although both dialects require vowels to be lengthened in monosyllables, vowel length is not contrastive in Bakairi. For a discussion of a possible vowel lengthening, see 2.5.8.

The following subsections illustrate phonemic contrasts in identical sound environments (CIE), in which the segmental change leads to a change in the meaning of the example words. Since some nouns, body parts in particular, are intrinsically possessed in Bakairi, a subset of the words of this lexical category does not appear as bare roots. For this reason, bare roots in the examples below are taken from compounds to reveal the contrasts we wish to establish. Finally, if CIE data are unavailable, two phones are contrasted in environments in which the phonemes under focus are not affected by surrounding sounds. Contrasts in non-identical environments (CNE) refer to contrasts in analogous environments because two phonetically similar segments occur in two separate words and have similar adjacent sounds.

### 2.1.1 Oral vowels

Below, /x/ : /y/ refers to a contrast between the ‘x’ phoneme and the ‘y’ phoneme. Phonological representations within slanted bars / / are limited to the relevant part of the phonological environment of the example words under investigation.

\[(e) : [ə] : [ɯ] \]
\[[i læ] \text{① ②} \quad /i læ/ \quad ‘it’
\[[i læ] \text{① ②} \quad /i læ/ \quad ‘it’\]
The combined vowel contrasts of CIE and CNE corroborate the hypothesis that the seven Eastern oral vowels and six Western oral vowels presented in Tables 2.2 and 2.3 are indeed vocalic phonemes.

11 Even though the symbol /ɯ/ represents the more frequent pronunciation of the phoneme, we decided to represent the corresponding phoneme as /u/ for reasons of system symmetry.
2.1.2 Nasal vowels

Below, nasal vowels are given in CIE and CNE environments.

(2.7) \([\ddot{a}] : [\ddot{e}]\) CIE (word-initially)
\([\ddot{a}] \quad 1\) /ärɛ/ ‘here it is’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘to, for’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘palm tree sp.’

(2.8) \([\ddot{a}] : [\ddot{e}] : [\ddot{i}] : [\ddot{u}] : [\ddot{a}] : [\ddot{a}]\) CNE (word-finally)
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘to, for’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘palm tree sp.’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘parrot sp.’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘knee’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘swan’
\([\ddot{e}] \quad 1\) /ɛrɛ/ ‘earth’

(2.9) \([\ddot{a}] : [\ddot{e}] : [\ddot{i}] : [\ddot{i}] : [\ddot{a}]\) CNE (word-finally)
\([\ddot{e}] \quad 1\) /ɛuɛ/ ‘road, path’
\([\ddot{e}] \quad 1\) /ɛuɛ/ ‘smoke (v.), bless’
\([\ddot{e}] \quad 1\) /ɛuɛ/ ‘hummingbird’
\([\ddot{e}] \quad 1\) /ɛuɛ/ ‘liana’
\([\ddot{e}] \quad 1\) /ɛuɛ/ ‘a long time ago’

Just as for oral vowels, the combined vowel contrasts in CIE and CNE settings above establish nasality as a contrastive feature for all the vowels of the Eastern and Western vowel systems.

Nasalization is also a suprasegmental morpheme present more notably in the formation of the imperfective aspect (discussed in 4.2.6).

2.1.3 Oral-nasal vowel contrast

In this subsection, an extensive list of morphologically simple words contrasts oral with nasal vowels.

(2.10) \([a] : [\ddot{a}]\)
\([a] \quad 1\) /ata/ ‘clear (v.)’
\([a] \quad 1\) /ata/ ‘ear’
\([a] \quad 1\) /ada/ ‘walk’
\([a] \quad 1\) /ake/ ‘get (v.)’
\([a] \quad 1\) /akɛ/ ‘vomit (v.)’
\([a] \quad 1\) /age/ ‘tell (v.)’
\([a] \quad 1\) /atɛ/ ‘dismantle (v.)’
\([a] \quad 1\) /adi/ ‘fattening’
Phonetics and Phonology  31

[ādi]  [1] /ādi/ ‘plant’
[matsaga]  [1] /ato/ ‘apple quince’
[kātač]  [1] /āto/ ‘for me to take’
[qxadapa]  [1] /ado/ ‘ghost’
[eāyrā]  [1] /āɡo/ ‘the other’
[matue]  [1] /atu/ ‘imbirici’
[swāku]  [1] /aku/ ‘joke’
[awadu]  [1] /adu/ ‘beiju chips’
[swādu]  [1] /adu/ ‘weaved basket’
[pada]  [1] /ado/ ‘fish sp.’
[jati]  [1] /ati/ ‘burn quickly (v.)’
[iweapi]  [1] /api/ ‘cross-cousin’\(^{12}\)
[iqadi]  [1] /adi/ ‘his fat’

(2.11)  [e] : [ē]
[eta]  [1/2] /eta/ ‘box, hole, cage’
[edapi]  [1] /eda/ ‘food to eat with meat’
[jedai]  [1] /eda/ ‘he is greeting’
[jek]  [1] /eke/ ‘unload (v.)’
[papeci]  [1] /ege/ ‘with paper’
[pewedao]  [1] /eɡe/ ‘hail’
[eti]  [1] /eti/ ‘his house, clothing’
[edi]  [1] /edi/ ‘non-possessed hammock’
[niwaedi]  [1] /edi/ ‘type of medicinal plant’
[peti]  [1] /eto/ ‘firewood’
[eweda]  [1] /eto/ ‘hedgehog’
[aedoe]  [1] /edo/ ‘meek’
[eturu]  [1] /etu/ ‘animal food’
[edunui]  [1] /edu/ ‘dust’
[eta]  [1] /eta/ ‘plant (v.)’
[kueto]  [1] /eto/ ‘midnight’
[qxareda]  [1] /eda/ ‘tayra’
[eeda]  [1] /eda/ ‘hail storm’
[eyeki]  [1] /eki/ ‘he is lain’
[iwāeki]  [1] /eki/ ‘horn’

(2.12)  [i] : [ɪ]
[ita]  [1] /ita/ ‘his ear’
[koita]  [1] /ita/ ‘written in our language’
[qxawida]  [1] /ida/ ‘macaw’
[ida]  [1] /ida/ ‘listen (v.)’
[owanike]  [1] /ike/ ‘finish (v.)’
[tiike]  [1] /ike/ ‘whistle (v.)’

\(^{12}\) This word *iweapi* refers to a female cross-cousin of a male Ego. See kinship in Appendix 1.
A Grammar of the Bakairi Language

[afye] 1 /ige/ ‘go out (v.)’
[tamayenye] 1 /ige/ ‘in black’
[iti] 1 /iti/ ‘your house’
[eidi] 1 /idi/ ‘his place’
[iqaidi] 1 /idi/ ‘thread’
[itsi] 1 /ito/ ‘later’
[saito] 1 /ito/ ‘means of transportation’
[idakoarui] 1 /ido/ ‘wheel’
[itu] 1 /itu/ ‘bark’
[idun] 1 /ido/ ‘pair’
[idanara] 13 /ida/ ‘everybody’
[aftia] 1 /iti/ ‘eating’

(2.13) [i] : [f]
[fitari] 1 /ita/ ‘my mouth’
[fiti] 1 /ipi/ ‘my garden’
[fiti] 1 /idi/ ‘my younger sister’
[afikira] 1 /iko/ ‘type of dance’
[afido] 1 /ido/ ‘things’
[mitu] 1 /itu/ ‘curassow’
[saito] 1 /ito/ ‘go down (v.)’
[miriti] 1 /iti/ ‘bird sp.’
[afidi] 1 /idi/ ‘wife’
[afidi] 1 /iti/ ‘catch (v.)’

(2.14) [a] : [SqlParameter]
[afikora] 1 /ota/ ‘at noon’
[adai] 1 /oda/ ‘inside’
[afodari] 1 /oda/ ‘nail’
[afeto] 1 /oge/ ‘with fire’
[afhaye] 1 /oge/ ‘lay eggs’
[japiri] 1 /opi/ ‘his lips’
[afodai] 1 /oto/ ‘inward’
[afoda] 1 /odo/ ‘worm’
[afahodo] 1 /odo/ ‘potato’
[afokui] 1 /oku/ ‘fish sp. Brycon amazonicus’
[afahodu] 1 /odu/ ‘palm tree attalea speciosa’
[afapayoda] 1 /odo/ ‘pierce (v.)’

(2.15) [u] : [SqlParameter]
[kutama] 1 /uta/ ‘string beans’
[jukaxaya] 1 /uka/ ‘break (v.)’
[noiltuke] 1 /uke/ ‘soaked’

13 The word /i dana/ ‘everybody’ has an unusual third-to-last syllable stress in Bakairi.
As seen in the examples above, oral and nasal vowels are contrastive.

2.1.4 Vowel sequences

Vowel sequences almost freely occur in word-internal position and across word boundaries (external sandhi). However, it appears that:

(a) identical vowel sequences (i.e., [aa], [ee]) are lacking;
(b) the sequences *[əɔ] and *[ɔə] are inexistent in the data, even in heteromorphemic sequences.

Most vowels can occur as a sequence of syllable nuclei (hiatus). As the dialects have either twelve or fourteen vowels, the number of possible vowel sequences is high. Additionally, as the number of CV+ and +VC affixes is also high, vocalic encounters in heteromorphemic environments are frequent. Some examples follow.

(2.16) [ə.a]  u-də-aki  [u.ʔ.ə.ˈaki] 1
  1S-go-IMM.PST
  ‘I have just gone.’

(2.17) [ɔ.ə]  si-iki-ho-ə  [ʃi.ʔ.ɪ.ˈhə.ˈə] 1
  3O-sleep-NZR3-DAT
  ‘to the bedroom’

(2.18) [t.ɛ] / [ɛ.ɪ]  s-iutu-ɛ-ho-ɛ  [ʃu.ʔ.ʊ.ˈɛ.ˈhə.ˈɛ] 1
  1-know-ATTR-CAUS-NZR4
  ‘I am known’

(2.19) [ɔ.ɪ]  s-ako-ibî14  [sa.kə.ˈbî] 1
  1-pound-PTC
  ‘pounded’

Heterosyllabic vowel sequences also occur when one of the vowels in a sequence is a high vowel. Below, L stands for low vowel, M for mid vowel, and H for high vowel.

14 Note that sakoibî is an alternative pronunciation for sakoibî.
(2.20) LH  [a.ɯ]  ['qxa.ɯ]  1 'sky'
LM  [a.ɔ]  ['wa.ɔ]  1 'now'
LM  [a.e]  [a'qxa.e.mɔ]  1 'they'
MH  [e.ɯ]  ['je.ɯ]  1 'coati'
MH  [a.ɯ]  [pi'ɾɔ.ɯ]  1 'arrow'
MH  [ə.ɯ]  [pɨ'ɾə.ɯ]  1 'little sister'
ML  [e.a]  [e.a.'ɣɔ̃.]  1 'the other'
HM  [i.ɔ]  [i.'ɑ.hɔ]  1 'syringe'
HM  [i.ɔ]  [kɔ.nɔ.'pi.ɔ]  1 'bird'

Note that the occurrence of two vowels of identical height (LL, MM, or HH) as a tautosyllabic vowel sequence has not been attested. MM and HH sequences are limited to heterosyllabic and/or morphologically complex environments.

When two contiguous vowels belong to different morphemes, the first being oral and the second nasal, the sequence is pronounced obligatorily as two syllables (hiatus). Stress is assigned to the last nasal syllable when in word-final position, which shows that nasal suffixes are inherently stressed.

(2.21) [a.Ʌ]  n-oz-itaï-Ø  [nɔ.ʒi.ta.Ʌ]  1 3A-DETR-talk/speak-PST 'he spoke'
(2.22) [i.Ʌ]  eui-ð  [e.wi.'ʃ]  1 germinate 15-NZR2 'seeds'
(2.23) [i.ɛ]  ta-(e)ti-ɛ  [tə.ti.'ɛ]  1 3R-house-BEN 'to his house'
(2.24) [e.ʃ]  ime-ð  [i.me.'ʃ]  1 small-PL 'children'

2.1.5 Diphthongs

All diphthongs involve a high vowel. They occur word-initially, word-medially, and word-finally.

(2.25) i-ena-ri  2  [je]  word-initial position
      1-nose-POSS 'my nose'
(2.26) [ugwɔdɔ]  1  [wɔ]  word-medial position
      'man'
(2.27) [maj.maj]  1  [aj]  word-medial and final positions
      'tortoise'

15 It is not yet clearly defined that /eui/ is a verbal stem.
(2.28) s-anə-tai ① [aj] word-final position
1A-buy-IMM.PST
‘I just bought it.’

(2.29) s-e-tai ① [aj] word-final position
1A-see-IMM.PST
‘I just saw someone.’

Bakairi diphthongs are either falling or rising. A falling diphthong has a glide
as its second member (VG) as below.

(2.30) [äw] [ə.'dâw.ło] ① ‘what, which’
[ɔj] [tɔj.'lɛj] ① ‘fish sp.’
[ej] ['ej.di] ② ‘his place’

Containing two moras, falling diphthongs are complex rhymes. A falling
diphthong in the word-final syllable always carries the main word stress because the
second to last mora attracts stress. Examples follow.

(2.31) [ta.pa.bi.'lɛj] ① ‘red’
[tɔ.wɛ.'hɛj] ① ‘smooth’
[tɔ.ma.ɛ.'rɛj] ① ‘heavy’
[ə.'ɡəw] ① ‘snake’
[tɔj.'zɛj] ① ‘edible manioc’
[paj.'qɔxaj] ① ‘in (liquid)’

Falling diphthongs appear in the final syllable of verbs.

(2.32) s-ə-tai ①
1A-eat.meat-IMM.PST
‘I just ate meat.’

(2.33) s-amune-dai ①
1A-dispose.of-IMM.PST
‘I just disposed of it.’

(2.34) s-apa-dai ①
1A-fill.up-IMM.PST
‘I just filled it up.’

In contrast, a rising diphthong is formed with a glide followed by a non-high
vowel (GV). Some examples follow.

(2.35) (a) /ia/ [ja.mu.də] ① ‘boy’
(b) /ie/ [je.τə] ① ‘curve’
(c) /ua, ui/ [wa.bi.li.wi.gi] ① ‘because, as’
A word-final rising diphthong never attracts stress. This means that the high vowel, because it is realized as a glide in the syllable onset, is not moraic. Below are some examples of nouns with rising diphthongs in word-final position.

(2.36) [i wi] ‘mount’ (1)
(2.37) [e wi] ‘seed’ (1)

Rising diphthongs appear in the final syllable of verbs.

(2.38) n-ə-uə [na wa] (1)
3-kill-REM.PST
‘He killed it a long time ago.’
(2.39) n-iga-uə [ni ˈɡə wa] (1)
3-accomplish-REM.PST
‘He accomplished it a long time ago.’

Rising diphthongs occur across morpheme boundaries.

(2.40) u-oda-ri [wo da ri] (1)
1-nail-POSS
‘my nail’
(2.41) i-ema-ri [je ˈma ri] (1)
1-hand-POSS
‘my hand’

Depending on the speech rate, CGV syllables consisting of [s] or [z] and the coronal glide [j] can be pronounced in different ways. For instance, siurə ‘of’ is pronounced as [hjuɾə] or [sjuɾə] in slow speech, but it is pronounced as [ʃuɾə] in fast speech. The following is a pair of examples of a similar variation between CGV and CV.

(2.42) s-iə-gə [sjə ɣə] ~ [ʃə ɣə] (1)
3O-kill/kick-IMP
‘Kick it!’
(2.43) siogo [ˈsjəɣə] ~ [ʃəɣə] (1)
father
‘Daddy’ or ‘my father’

In verbs, underlying C{i,u}V sequences lose the high vowel if C is a nasal consonant (N). In the following examples, the prevocalic high vowel is part of the underlying representation and is realized phonetically as a glide. In the examples and elsewhere, V stands for a floating nasal feature triggered by the Bakairi morphology (see 4.2.6).
The parentheses in the examples below include the underlying high vowel, which is elided. Here and elsewhere in this grammar, the pronoun ‘he’ in the interlinear free translation refers to ‘he,’ ‘she,’ or ‘it’ (an animal).

These examples illustrate the loss of an underlying high vowel due to the presence of an immediately preceding nasal consonant.

At this stage of the analysis, some generalizations can be made about vowel sequences involving high vowels: (1) sequences of two high vowels are pronounced as two syllables (e.g., *kuikuma* [kɯ.i.ku.mɑ] ‘snake sp.’); (2) intervocalic high vowels are always pronounced as glides (e.g., *iaduũdili* [ja.dɯ.wũ.di.li] ‘burning’); (3) word-initial {i,u}V sequences are always pronounced as rising diphthongs, as in /ia/ [ja.mũ̃.dɔ] ‘boy.’ Further fieldwork will clarify the relevant constraints that determine the syllabification of vowel sequences, one of which is a high vowel.

### 2.1.6 The distribution of vocalic allophones

Below, the major allophones of the Bakairi vowel phonemes are provided.

Glides are not discussed here, as they are considered to be positional (non-syllabic) variants of high vowels.

<table>
<thead>
<tr>
<th>/a/</th>
<th>[aː]</th>
<th>is realized in CV words;</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ɑ]</td>
<td></td>
<td>is realized next to a velar consonant, as in [qxorə] ‘interrogative marker’;</td>
</tr>
<tr>
<td>[a]</td>
<td></td>
<td>is realized elsewhere.</td>
</tr>
<tr>
<td>/ɑː/</td>
<td>[ãː]</td>
<td>is realized in CV words;</td>
</tr>
<tr>
<td>[ã]</td>
<td></td>
<td>is realized next to a velar consonant, as in [qxãra] ‘fish’;</td>
</tr>
<tr>
<td>[ã]</td>
<td></td>
<td>is realized elsewhere.</td>
</tr>
<tr>
<td>/e/</td>
<td>[ɛː]</td>
<td>is realized in CV words;</td>
</tr>
<tr>
<td>[ɛ]</td>
<td></td>
<td>(in free variation) is realized elsewhere.</td>
</tr>
<tr>
<td>/ɛː/</td>
<td>[ɛː]</td>
<td>is realized in CV words;</td>
</tr>
<tr>
<td>[ɛ]</td>
<td></td>
<td>(in free variation) is realized elsewhere.</td>
</tr>
</tbody>
</table>
/i/  [iː] is realized in CV words;  
    [i] is realized elsewhere.

/ɨ/  [ɨː] is realized in CV words;  
    [ɨ] is a free variant of [i] in unstressed syllables;  
    [ɨ] is realized elsewhere.

/ɨ/  [ɨː] is realized in CV words;  
    [ɨ] is a free variant of [ɪ] in unstressed syllables;  
    [ɨ] is realized elsewhere.

/ɯ/  [ɯː] is realized in CV words;  
    [u] or [ɯ] (in free variation) is realized elsewhere.

/ʊ/[^16]  [ʊː] is realized in CV words;  
    [ʊ] or [u] (in free variation) is realized elsewhere.

/ɑ/[^17]  [ɑː] is realized in CV words;  
    [o] when preceded by /p/, as in [pɔ] 'lizard';  
    [ɑ] is a variant of [ɔ] in unstressed syllables;  
    [ɑ] is realized elsewhere.

/ɔ̃/[^18]  [ɔː] is realized in CV words;  
    [ɔ] is a variant of [ɔ] in unstressed syllables;  
    [ɔ] is realized elsewhere.

/ɔ́/[^19]  [ɔ́ː] is realized in CV words;  
    [ɔ́] is realized when preceded by /p/ as in [pɔ́wa] 'necklace';  
    [ɔ́] is a variant of [ɔ́] in unstressed syllables;  
    [ɔ́] is realized elsewhere.

/ə/  [əː] is realized in CV words;  
    [ə] is a variant of [ɔ] in unstressed syllables;  
    [ə] is realized elsewhere.

/ə́/[^20]  [ə́ː] is realized in CV words;  
    [ə́] is a variant of [ɔ́] in unstressed syllables;  
    [ə́] is realized elsewhere.

It should be noted here that, in fast speech, /o/ and even /e/, /ɨ/, and /u/ are typically neutralized as [ə] in unstressed syllables. Only in a slow and more careful speech do the informants distinguish the standard realization as noted above.

2.2 Consonants

In this section, the system of consonantal phonemes is proposed. The consonants of Bakairi are described using the IPA symbols as in Table 2.4.[^19]

[^16] Although the symbol /uː/ is more frequent, the symbol /u:/ was used to make the inventory more symmetrical.

[^17] Although the symbol /ɔ/ is more frequent, the symbol /o/ was used to make the inventory more symmetrical.

[^18] Although the symbol /ɔ́/ is more frequent, the symbol /ɔ̃/ was used to make the inventory more symmetrical.

The Bakairi consonant system consists of fourteen phonemes, as shown in Table 2.5. Although the total number of consonants is the same in the two dialects, there are differences in the realization of the fricatives /s, z, h/, and the glottal stop.

### TABLE 2.5: CONSONANTS OF THE BAKAIRI

<table>
<thead>
<tr>
<th>Consonants</th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasals</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stops</td>
<td>p b</td>
<td>t d</td>
<td>k g</td>
<td>?</td>
</tr>
<tr>
<td>Fricatives</td>
<td>s z</td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flap</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2.1 Consonants: contrastive environments

Below, the phoneme status of the fourteen consonants is established. Where examples are lacking, the relevant contexts are not found in the corpus.

**Consonantal contrasts: labials /p/ : /b/ : /m/**

(2.48) /p/ : /b/ : /m/  
-[ipa]  ① ‘do not have’  
-[iperi]  ① ‘my leg’  
-[jiupi]  ① ‘red slime’  
-[jewi]  ① ‘sharpened’  
-[udɔpɔ]  ① ‘I (am) not going’  
-[epwari]  ① ‘paying party, payer’

:[/m/  
-[mamɔ]  ① ‘you took’
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[merɔ] 1 ‘this’
[midilɛ] 1 ‘you are fighting’
[miaki] 1 ‘you killed it’
[məkɔ] 1 ‘that one’
[məʒi] 1 ‘spider’
[muŋuŋu] 1 ‘owl’

camatɔγɔŋu] 1 ‘his cane’
sameŋa] 1 ‘throw it (IMP)’
itamilɛ] 1 ‘his (red) lipstick’
imiri] 1 ‘my son’
iwamokɔ] 1 ‘my brother-in-law’
imolii] 1 ‘he is letting go’
cremu] 1 ‘chant’


(2.49)  /t/       :       /d/
[iti]i] 1 ‘my mouth’        [idaku] 1 ‘his saliva’
[ət]i] 1 ‘party’          [ədi] 1 ‘what’
[miri]i] 1 ‘bird sp.’       [widili] 1 ‘I (am) bathing’
[əta] 1 ‘house’         [mada] 1 ‘you ate’
[əwə] 1 ‘armadillo sp.’     [ɬu]u] 1 ‘anaconda’

: /s/       :       /z/
[tsasaniyɛi]i] 1 ‘deep’       [azayə] 1 ‘two’
[imơsɛdɔ] 1 ‘big’         [izedi] 1 ‘name’
[usɔ] 20 1 ‘my husband’  
---------
[kuzu]u] 1 ‘weaved basket’

: /ɭ/       :       /ɾ/
[laʔ] 2 ‘turn’          
[ɭwəni] 1 ‘still’        

[iladib]i] 1 ‘dry’        [napira] 1 ‘cannot eat (meat)’
[ile] 1 ‘penis’         [jeɾeri] 2 ‘my liver’
[idali] 1 ‘he is going’  [aripi] 1 ‘old woman’
[-li] 1 v. suffix   [-ɾi] 1 ‘possessive suffix’
[alo] 1 ‘done/the end’ [uɾa] 1 ‘I’
[ɾuʃka]ba] 1 ‘many’     [=ɾa] 1 ‘intensifying clitic’

20 In Bakairi, word-initial and word-medial [s] are infrequent phonological sequences. The syllable [s] is limited to the semantic fields of ‘husband’ and ‘river.’ Similarly, [se] is related semantically to ‘mother’ and ‘tree.’
Consonantal contrasts: velars /k/ : /g/

(2.50) /k/ : /g/

[iqxa] 1 ‘sit (IMP)’
[neke] 1 ‘weaved’
[ikili] 1 ‘I am sleeping’
[eyeki] 1 ‘recline (v.)’
[jek] 1 ‘do it (IMP)’
[orka] 1 ‘ritual dance’
[jaku.o] 1 ‘fish sp.’

Consonantal contrasts: glottals /h/ : /ʔ/

The following examples contrast the glottals /h/ and /ʔ/ in Western Bakairi exclusively.

(2.51) /h/ : /ʔ/

[ahay] 2 ‘two’
[meʔa] 2 ‘wolf fish sp.’
--------
[imaʔedə] 2 ‘large’
--------
[tahara] 2 ‘way over there’
[ʔiʔhui] 2 ‘chest’
[ʔiʔurug] 2 ‘charcoal’
[ʔiʔurug] 2 ‘my foot’
In Eastern Bakairi, /h/ is attested with greater frequency than /Ɂ/, which occurs mainly in ideophones. For Western Bakairi, the situation is the opposite: /Ɂ/ is more frequent than /h/ (see 2.5.8).

Most Eastern Bakairi /s/ and /z/ phonemes correspond to Western Bakairi /h/, /Ɂ/ or zero.

(2.52)

<table>
<thead>
<tr>
<th>Eastern Bakairi</th>
<th>Western Bakairi</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ize] 1</td>
<td>[iʔe] 2</td>
<td>‘will be’</td>
</tr>
<tr>
<td>[mazayə] 1</td>
<td>[maʔayə] ~ [maʔaʔə] 2</td>
<td>‘housefly’</td>
</tr>
<tr>
<td>[koqekə] 1</td>
<td>[koʔekə] 2</td>
<td>‘deer’</td>
</tr>
<tr>
<td>[enahu] 1</td>
<td>[inaʔu] 2</td>
<td>‘closed’</td>
</tr>
<tr>
<td>[siuahut] 1</td>
<td>[siuaʔu] 2</td>
<td>‘fenced’</td>
</tr>
<tr>
<td>[azaʔa] 1</td>
<td>[ahayə] 2</td>
<td>‘two’</td>
</tr>
<tr>
<td>[ese] 1</td>
<td>[eʔe] 2</td>
<td>‘watch over’</td>
</tr>
<tr>
<td>[idse] 1</td>
<td>[idʔe] 2</td>
<td>‘will go’</td>
</tr>
<tr>
<td>[meza] 1</td>
<td>[meʔa] ~ [meha] 2</td>
<td>‘wolf fish’</td>
</tr>
</tbody>
</table>

In sum, all consonants occur in a word-medial position. Only glides are allowed in the syllable coda. Furthermore, a number of CV combinations are not encountered in the corpus: *[de], *[bu], *[za], *[he], *[hi], *[su], *[ʔa], among others. Note that [te] is very rare and it is attested with only three words: *kuite ‘macaw sp.,’ teruteru ‘bird sp.,’ and metegu ‘small gourd.’

2.2.2 The distribution of supra-laryngeal oral stops

In word-initial positions, only voiceless stops, sonorant consonants, and glides can be realized. No voiced realizations of stop consonants occur word-initially. Additionally, in word-internal positions, voiceless stops are limited to one occurrence. There is no restriction on the number of voiced stops in a word.

/p/ [p] word-initially; up to one word-internal occurrence.
/b/ [p] word-initially;
[β] at the left-edge of a nominal root, only if the root is preceded by a vowel-final prefix (V+ __).
[b] word-externally.
/t/ [t] word-initially; at most one word-internal occurrence.
/d/ [t] word-initially;
[k] word-medially.
/k/ [k] word-initially; up to one word-internal occurrence.
[qx] next to [a] as in [qxə];
/g/ [k] word-initial position;
[γ] or [g] (in free variation) word-medially, between vowels, in derived and non-derived words as in [ʃɔγɔ] ‘my father.’
/ʔ/ [ʔ] in coda position, in ideophones only (both dialects); word-medially, only in the Western dialect.
Ideophones (see 2.6) and loanwords (see 2.7), possibly including the word /bakairi/, do not follow these restrictions. Exceptionally, a handful of Bakairi words, such as /tapeke/ ‘white,’ contain two voiceless stops word-externally.

2.2.3 The distribution of fricatives

The set of fricatives consists of /s, z, h/. The phonemes /s/ and /z/ have different allophonic realizations, while the glottal fricative /h/ is restricted to word-medial environments.

/s/ [s] word initially.
[s] at most one word-internal occurrence and only in CV syllables with the non-close vowels: /e/, /a/, /ə/ or /o/.
[j] when followed by /i/, /ɨ/ or /u/
/z/ [s] word initial position.
[z] only if followed by /i/ (exclusive to the Eastern dialect)\(^{21}\)
[z] word-medially
/h/ [h] as onsets in suffixes ending in /u/ and /o/. However, /h/ forms no syllables with the front vowels /i e ɨ/.

2.2.4 The distribution of nasal consonants

The set of nasal consonants consists of /m, n/. They combine with any vowel to form a CV syllable.

/m/ [m] syllable-initially
/n/ [n] syllable-initially

2.2.5 The distribution of liquids

The liquids /r, l/ occur syllable-initially, but rarely word-initially. The Western dialect makes use of /r/ in a few word-initial and word-medial positions, whereas the Eastern dialect employs it prominently in word-medial positions.

/r/ [ɾ] syllable-initially.
/l/ [l] syllable-initially.

2.3 Syllable structure

The basic template of the Bakairi syllable is (C)V. The nucleus of a syllable can only be filled by a vowel, which is preceded by an optional onset consonant. Most words contain at least two syllables. The syllable nucleus of a monosyllabic word

\(^{21}\) The phoneme /ʒ/ can only be followed by /e/ in loanwords, thus it is excluded from this generalization.
must contain a long vowel. Consonants may combine with a glide to form a complex syllable onset or rhyme: CGV or CVG. The following are attested syllable patterns:

V
CV
GV
VG
CGV
CVG

Examples follow.

(2.53) V.CVG.CV.V [ə.daj.'tu.ə] /adaituo/ ① ‘for what’
CV.CV.V.CV [sa.mi.'a ɣi] /samiagi/ ① ‘I made a mistake’
CV.CV.GVG [na.e.'taj]/næetai/ ① ‘he just came’
V.CGV.CV [tu.'g̃w̃.dɔ]/uguədo/ ① ‘man’
CV.CVG [mi.'taj]/mitai/ ① ‘you just bathed’
CGV.CV ['kwã.b]/kuəbɨ/ ① ‘a ritual dance with mask’
CV.CV.V [sa.'ʒi.ɯ̃]/saziu/ ① ‘(…), who is dirty’
CV.V.V [pi.'a.ɯ]/piəu/ ① ‘dear’ or ‘boy’
V.CV.CV ['e.e.ka]/əka/ ① ‘come (IMP)’
V.CV.V [ə.'go.ɯ]/əgəu/ ① ‘snake’
CV.CV ['so.da]/sodo/ ① ‘river’
V.CV ['i.pi]/ipi/ ① ‘his arrow’ or ‘gun’
V.GV ['a.wa]/aua/ ① ‘jaguar sp.’
CV.V ['pu.a]/puə/ ① ‘armadillo sp.’
V.V ['i.a]/ia/ ① ‘my older sister’
CV ['pi.]/pi/ ① ‘axe’

As there are no consonant clusters (CC) in Bakairi, glides are transcribed as high vowels in phonological transcriptions. In CGV formations, C may be one of the stops /p, t, k, g/ or a fricative from the set /s, h/. Stop-glide sequences are exemplified below:

(2.54) [e.'pja.ɣɔ]/epiago/ ① ‘spatula’
[ə.se.da.či.'bi.ɛ]/əsedægibiə/ ① ‘going in different directions’
[i.kju.'mɔ.ni]/ikiúmnɔi/ ① ‘mythological jaguar’
['kja.ɪ]/kiu̯i/ ① ‘PST.COP’
['kwɔ.wa]/kuəuə/ ① ‘onto us’
['pja.3e]/piaze/ ① ‘shaman’
['pwa.to] ~ ['kwa.to]/puato/ ~ /kuato/ ① ‘nine-banded armadillo’

CGV sequences, in which the onset is /s, h/, are variably realized as a CV in a process of glide deletion and fricative alternation. The same speaker alternatively uses CGV and CV.
2.4 Word stress and laryngealization

This section is dedicated to a discussion of stress and laryngealization.

2.4.1 Stress allocation and the mora

No words in Bakairi differentiate their meaning through the variation of stress. Indeed, stress is predictable in Bakairi. With very few exceptions, the main stress occurs on the second to last mora as illustrated below.

(2.56)  [ˈniki]  /niki/  ①  ‘he slept’
[ˈniˈkimɔ]  /nikimo/  ①  ‘they slept’
[ˈnipi]  /nipi/  ①  ‘he healed (of a wound)’
[ˈnitɔ]  /nito/  ①  ‘he dived’
[ˈpekua]  /beku/  ①  ‘salt’
[ˈpei]  /bepi/  ①  ‘canoe’
[ˈparu]  /baru/  ①  ‘water, river’
[ˈpepsi]  /bepi/  ①  ‘fire, bonfire, matchstick, firewood’
[ˈpodɔ]  /podo/  ①  ‘meat (from game); game (animal)’
[ˈtoru]  /toro/  ①  ‘parrot’
[ˈtohui]  /tohu/  ①  ‘squash, pumpkin, gourd’
[ˈfiʃi]  /sisi/  ①  ‘sun’
[ˈeɡɔ]  /ego/  ①  ‘pestle’
[eˈɡɔɾu]  /egoru/  ①  ‘his pestle’
[egɔˈruɾu]  /egoromo/  ①  ‘their pestle(s)’
[ˈtəʔɔ]  /taʔo/  ②  ‘knife’
[ˈnato]  /nato/  ①  ‘he sharpened’
[naˈtɔmo]  /natomo/  ①  ‘they sharpened’

In monosyllabic words, the nucleus is realized as a long vowel. If we define a lengthened vowel as containing two moras, it may be stated that the minimal word in Bakairi is bimoraic.

(2.57)  [ˈse:]  /se/  ①  ‘tree’
[ˈpi:]  /pi/  ①  ‘gun’

Words with four or more syllables can exhibit secondary stress on the second syllable to the left of the main stressed syllable. In the examples below, the main stress is marked with the diacritic [ˈ], the secondary stress with the diacritic [],.
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(2.58) [ˌidaʔorʊi] /idaʔoru/  ②  ‘his knife’
[ˌnatóɾayi] /natəragi/  ②  ‘cut’ (IMM.PST)
[ˌnatóəyi] /nataəgi/  ①  ‘cut’ (IMM.PST)
[ˌqxədə nadə] /kadanədə/  ①  ‘don’t carry it’ (IMP)

Rising diphthongs, as in CV.(C)GV##, fail to attract stress to the word-final syllable. Consequently, words ending in a rising diphthong do not constitute complex rhymes, as the glide [j] or [w] belongs to the syllable onset.

In contrast, falling diphthongs, as in CV.CV.G##, are complex rhymes, counting as a bimoraic (or heavy) rhyme. When a falling diphthong is present in the last syllable of a word, it is stressed.

(2.59) [ne.ˌɡa.tɯ.ˈdaj] /negatudai/  ①  ‘he ran’ (IMM.PST)
[na.ˌse.yu. bə.do.ˈdaj] /naseugubədai/  ①  ‘he left over’ (IMM.PST)
[ʃə.ˌʃəl.ˈtaj] /siətalai/  ①  ‘I have put it off’ (IMM.PST)
[ˌʃəl.ˈtaj] /siətalai/  ①  ‘toad’
[ˌʃəl.ˈtaj] /siətalai/  ①  ‘bad’

In morphologically simple words, a nasal vowel derived from nasal spreading (see 2.5.4) is treated as light for the distribution of stress. Consequently, a word-final nasalized vowel does not act as a stress attractor.

(2.60) [ˈnuna] ~ [ˈnʊnə] ~ *[nʊnə] /nuna/  ①  ‘moon’
[ˈqxəra] ~ [ˈqxəɾə] ~ *[qxəɾə] /kəra/  ①  ‘fish’
[ˈi.ˈzəra] ~ [ˈi.zəɾə] ~ *[izəɾə] /izəra/  ①  ‘alligator’

In morphologically complex words, a phonological nasal vowel of a morpheme is stressed when in word-final position.

(2.61) t-ita-ē-ba-ū  [ti.ta.ē.ba.ˈüt]  ②  3R-mouth-ATTR-NEG-NZR1 ‘a mute person’
(2.62) eui-ō  [e.wi.ˈʒ]  ①  germinate-NZR2 ‘seeds’

2.4.2 Laryngealization

Laryngealization, or creaky voice, is a non-modal phonation type, in which the vocal folds are compressed tightly, vibrating irregularly, with little glottal airflow. Laryngealization is used in Bakairi when a speaker wants to intensify the meaning of a word, an utterance, or an ideophone (see 2.6). A subscript tilde (˷) specifies creaky vowels in the following examples.
(2.63) [əwə] ② ‘not true’ : [əwə] ② ‘disgust/anger’
[kiri] ② ‘gross’ : [kiri] ② ‘gross, disgusting’
[kunɔɾɔ] ② ‘mouse’ : [kunɔɾɔ] ② ‘disgusting mouse’
[tilainel] ② ‘one who feels disgust’ : [ilainel] ② ‘a disgusting person’

When associated with augmentative and diminutive constructions, creaky voice expresses emphasis or frustration.

(2.64) i-ʔu-ru-dē  uaũlo [ʔuʁudːŋ waũlɔŋ] ②
3-foot-POSS-AUG such/like ‘They are such big feet.’
(2.65) i-ʔaʔu-ʔt-tē  uaũlo [ʔuʔtʃːŋ waũlɔŋ] ②
3-head-POSS-AUG such/like ‘He has such a big head.’
(2.66) 0-i-ʔu-ru-dī  uaũlo [ʔuʁudːŋ waũlɔŋ] ②
3-foot-POSS-DIM such/like ‘They are such tiny feet.’
(2.67) i-ʔaʔu-ʔt-ti  uaũlo [ʔuʔtʃːŋ waũlɔŋ] ②
3-head-POSS-DIM such/like ‘He has such a tiny head.’

The augmentative suffix /dɛː - tʃː/ is pronounced with a lengthened vowel or with a pause between the suffix and /uaũlo/. In the examples provided, the speaker adds a particularly large release of air through the nose, expressed as [◌n] above, to further emphasize the augmentative and diminutive meanings.

2.5 Phonetic, phonological, and morphophonological processes

This section focuses on the major vocalic and consonantal alternations that are predictable by rule.

2.5.1 Distribution of [± VOICE] feature in nonsonorant consonants

The [± VOICE] feature in nonsonorant consonants displays a complex distribution in Bakairi. In this subsection, unless otherwise indicated, the term ‘consonant’ refers to the class of nonsonorant consonants, which consists of the voice-contrasting pairs: /p-b/, /t-d/, /k-g/, and /s-z/. Three aspects related to voice alternation have been observed: word-initial devoicing, one word-internal voiceless consonant, and the distribution of voice in noun-incorporated verbs.

2.5.1.1 Word-initial devoicing

Generalization #1 The word-initial consonant is obligatorily realized as voiceless if formed with one of the nonsonorant consonants. Furthermore, monosyllabic words do not show the [± VOICE] contrast. The following pair contrasts
a prefix-less noun (i.e., *taho*), in example (2.68a), with the same noun preceded by its bound person prefix in example (2.68b). In all examples provided in this section, root morphemes, as well as voice-alternating consonants, are in bold.

(2.68) (a)  
\[ \text{taho} \; \text{➀} \]  
’tknife’

(b)  
\[ \text{i-daho-ru} \; \text{➀} \]  
1-knife-POSS  
‘my knife’

Verbs that are realized with a Ø-prefix exhibit the same prohibition on initial voiced consonants, as below.

(2.69) (a)  
\[ \text{Ø-ke-li} \; \text{➁} \]  
3S-speak-IPFV  
‘he says’

(b)  
\[ \text{u-ge-li} \; \text{➁} \]  
1S-speak-IPFV  
‘I say’

Wetzels (1997) states that in Bakairi ‘for consonant-initial roots, the voice value of the consonants is always predictable: when the root is not prefixed, i.e., when the root-initial consonant surfaces in word-initial position, it will be voiceless, whereas, in intervocalic position, it will always be voiced.’ Using underspecification for root-initial non-sonorants, Wetzels predicts the value for the root-initial voice feature with the redundancy rules below:

\[ \text{Ø laryngeal} \rightarrow [+\text{VOICE}] / \_\_V \]  
\[ \text{Ø laryngeal} \rightarrow [-\text{VOICE}] / \text{elsewhere} \]

(2.70)  
\[ \text{[pi]} /\text{P}/ \]  
‘axe’

\[ \text{[po]} /\text{P}/ \]  
‘lizard’

In the example above, the uppercase /P/ represents a labial stop unspecified for [+ VOICE]. In all further examples, each consonant is represented with [± VOICE] value as realized.

Exceptions to generalization #1 are ideophones (see 2.6) and the name of the language /bakairi/, possibly a loanword (see 2.7).

2.5.1.2 One word-internal voiceless consonant per word

The second syllable of a disyllabic word may contain either a voiced or voiceless consonant, as in the following pair of examples: a minimal pair involving the [± VOICE] contrast in the onset of the second syllable of the root.
Generalization #2 Only a single non-initial [− VOICE] consonant may occur in polysyllabic words. Examples of this generalization are given below.

(2.72)  kid-eVkari-da-dili  
1PL.INC-bend-VBZ2-IPFV  
‘We are bending it.’

(2.73)  kid-oVpazigi-li  
1PL.INC-knead-IPFV  
‘We are kneading it.’

This single word-internal voiceless consonant may occur as part of the root or in one of the affixes. Since both the presence and the position of a voiceless root consonant are unpredictable, we assume that the voiceless consonants are lexically specified in roots, whereas the [+ VOICE] value of the remaining consonants, including the affixes, is considered the default value.

There are a few exceptions to this generalization, including tapekei ‘white,’ əuataku ‘your basket,’ imatiweto ‘a tool for breaking something repeatedly,’ and nepażiutaïagi ‘he split it up again.’ In addition, one case of a free [± VOICE] alternation between itagepa and itageba ‘not having a mouth’ is observed in the data.

Generalization #3 Affixes come in two classes. The majority of the affixes have [± VOICE] allomorphs, while a small non-alternating class of affixes always appears with the [+ VOICE] value. A list of the voice-alternating affixes, attested in the Eastern Bakairi dialect, follows. (Examples of words with voice-alternating affixes are given after generalization #5.)

(a)  -aki, -aqi  ‘immediate past’
(b)  -asi, -azi  ‘locative’
(c)  -die, -dize  ‘desiderative’
(d)  -ko, -gə  ‘imperative’
(e)  -ke, -qe  ‘verbalizer, reversative’
(f)  -pa, -ba  ‘negation’
(g)  -pigeduo, -bigeduo  ‘after’
(h)  -pira, -bira  ‘negation’
(i)  -piri, -biri  ‘past possession’
(j)  -rii, -rii  ‘participle’ (possibly parsable as /-ri-pə/, /-ri-ba/)
(k)  -se, -ze  ‘purposive’
(l)  -si, -zi  ‘locative’
(m)  -taï, -dai  ‘immediate past’
(n)  -tau, -dau  ‘collective plural’
(o)  -tê, -dê  ‘augmentative’

22 It is not yet possible to determine if the exceptions given occur because they are phonologically complex. Historically, they may be morphologically complex, but they are now ‘frozen’ in this shape.
Generalization #4 When a lexical root morpheme contains a [–VOICE] consonant, all affixes of the alternating class are obligatorily realized as [+VOICE].

Generalization #5 The [–VOICE] allomorph of a single affix is expected and the affix realizing the [–VOICE] allomorph is the one located adjacent to the root only if a lexical root morpheme does not contain a voiceless consonant. When a root is preceded by a non-initial alternating prefix (i.e., the word that has more than one prefix), the [–VOICE] allomorph of the non-initial prefix is selected. If the non-initial prefix contains a voiceless consonant, all the alternating suffixes realize the voiced variant.

Generalizations #4 and #5 are exemplified below. The verbal stem and the voice-alternating consonant are in bold.

(a) The immediate past suffix -aki, -agi (see 4.2.5.1).

(2.74) s-iə-aki 1S-shoot the target/kill-IMM.PST

‘I killed.’

(2.75) s-atə-agi 1S-cut-IMM.PST

‘I cut.’

(b) The locative suffix -si, -zi (see 3.1.5.2).

(2.76) oda-si 1 inside-LOC2

‘into the center’

(2.77) pa-ika-zi 1 water/river-liquid-LOC2

‘into the water’ or ‘into the river’

(c) The desiderative suffix -dise, -dize (see 4.2.8.1).

(2.78) k-anə-dise 1A-buy-DESI

‘I want to buy it.’

(2.79) k-anəpa-dize 1A-carry-DESI

‘I want to carry it.’

(d) The imperative -kə, -gə (see 4.2.8.2).
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(2.80) **igono-kə** ①
push-IMP
‘Push it!’

(2.81) **aka-go** ①
break-IMP
‘Break it!’

(e) The reversative suffix -ke, -ge (see 4.3.4).

(2.82) **kə-ŋga-ke-Ø** ①
1A-assemble-REV-PST
‘I am dismantling it.’

(2.83) **s-ekazi-ge-Ø** ①
1A-tie-REV-PST
‘I untied it.’

(f) The negative suffix -pa, -ba (see 4.2.9).

(2.84) **n-ige-pa** ①
3S-die-NEG
‘He didn’t die.’

(2.85) **n-akhu-ba** ①
3O-climb-NEG
‘He didn’t climb it.’

(g) The postposition -pigeduo, -bigeduo ‘after’ (see 5.4.2.3).

(2.86) **i-pigeduo** ①
bathe-after
‘After bathing’

(2.87) **tad-𝐬-éfono-da-bigeduo** ①
NPOS-DETR-knowledge-VBZ23-after
‘After teaching’

(h) The negative suffix -pira, -bira (see 4.2.9).

(2.88) **k-iga-pira** ①
1A-invent-NEG
‘I don’t invent it.’

(2.89) **ko-(e)ta-da-bira** [kotadəbira] ①
1A-cage-VBZ2-NEG
‘I don’t gather it.’

23 In example (2.87) and elsewhere, as the first suffix to the right of the root is the verbalizer -da (which is part of a non-alternating class), subsequent suffixation is [+ VOICE]. The [+ VOICE] prefix is licensed by the lack of a [- VOICE] feature inside either the root or the first suffix to its right.
The past nominal possessor -piri, -biri (see 3.1.2).

(2.90)  
\[ \text{s-pi-ri} \text{ ume} (1) \]
\text{last-PST-POSS time}
\text{‘at the end of the last season’}

(2.91)  
\[ \text{adai-to-bi-ri} (1) \]
\text{experience-NZR3-PST-POSS}
\text{‘a previous experience’}

The participle suffix -ripa, -rib (see 3.2.6).

(2.92)  
\[ \text{s-i-ripa} (2) \]
\text{3O-kill-PTC}
\text{‘which was killed’}

(2.93)  
\[ \text{O-ekte-rib} (2) \]
\text{3A-weave-PTC}
\text{‘which was woven’}

The purposive suffix -se, -ze (see 4.2.8.8).

(2.94)  
\[ \text{idalo-se} (1) \]
\text{cook-PURP}
\text{‘in order to cook’}

(2.95)  
\[ \text{eta-da-ze} (1) \]
\text{cage-VBZ2-PURP}
\text{‘in order to gather’}

The jussive suffix -si, -zi (see 4.2.8.6).

(2.96)  
\[ \text{s-e-si} (1) \]
\text{1A-see-JUS}
\text{‘let me see’}

(2.97)  
\[ \text{k-aku-zi} (1) \]
\text{1A-climb-JUS}
\text{‘let me climb’}

The immediate past suffix -tai, -dai (see 4.2.5.1).

(2.98)  
\[ \text{s-iga-tai} (1) \]
\text{1A-invent-IMM.PST}
\text{‘I have just invented it.’}

(2.99)  
\[ \text{s-eta-da-dai} (1) \]
\text{1A-cage-VBZ2-IMM.PST}
\text{‘I have just gathered it.’}

The collective plural suffix -tau, -dau, used only in imperatives (see 4.2.8.2).

(2.100)  
\[ \text{igono-tau-ga} (1) \]
\text{push-PL-IMP}
\text{‘Push it, all of you.’}
(2.101) **aka-daũ-gə** ①
break-PL-IMP
‘Break it, all of you.’

(o) The augmentative -tẽ, -dẽ (see 3.1.6).

(2.102) **i-ãgahu-O-tẽ** ②
3-head-POSS-AUG
‘his big head’

(2.103) **Ø-enata-ri-dẽ** ②
3-nose-POSS-AUG
‘his big nose’

(p) The participle suffix -tibĩ, -dibi (see 3.2.6).

(2.104) **i-dalo-tibi** ①
3O-cook-PTC
‘which was cooked’

(2.105) **Ø-eta-do-dibi** ①
3O-cage-VBZ2-PTC
‘which was gathered’

(q) The iterative suffix (Type I) -tō, -dō or (Type II) -dō (see 4.3.3).

(2.106) **igono-tō-daũ-gə** ①
push-ITE-PL-IMP
‘Push it again, all of you.’

(2.107) **aka-dō-daũ-gə** ①
break-ITE-PL-IMP
‘Break it again, all of you.’

(r) The nominalizations with the suffix -tō, -do, -ho (-o, -Ɂo) (see 3.2.3).

(2.108) **i-to** ①
bathe-NZR3
‘bathing area’

(2.109) **atουa-do** ①
clip-NZR3
‘clipper’

(s) The postposition -tuo, -duo (see 5.4.2.3).

(2.109) **ai-tuo** ①
make-when
‘when making’

(2.110) **itu-ge-duo** ①
skin-REV-when
‘upon removing the skin’
The only systematic exception to generalization #5 is when a verbal stem is
detransitivized by way of a voice-alternating reflexive prefix, in which case the
[– VOICE] specification must be realized in the non-initial reflexive prefix adjacent to
the root. As expected, when a prefix realizes the [– VOICE] allomorph, all other affixes
utilize the voiced allomorph. Below are examples of two detransitivizers that alternate
voice.

(t) The detransitivizing prefix əs-, əz- (see 4.2.2).
(2.112) n-ida-tai ①
3A-settle.down-IMM.PST
‘He settled it down.’
(2.113) n-əs-ida-dai ①
3A-DETR-settle.down-IMM.PST
‘He settled down.’
(2.114) n-əz-ihu-gi-aŋ ①
3A-DETR-foot-wet(v.)-IMM.PST
‘He wet his feet.’

(u) The detransitivizing prefix ot-, od- (see 4.2.2).
(2.115) n-ogomo-tai24 ①
3A-shrink-IMM.PST
‘He shrank it.’
(2.116) n-ot-ogomo-dai ①
3A-DETR-shrink-IMM.PST
‘He became smaller.’
(2.117) n-od-opa-dai ①
3A-DETR-bring.back-IMM.PST
‘He returned it.’

The following group of affixes and postpositions belongs to a non-alternating
class, which always appears with the [+ VOICE] value.
(a) -dili ‘imperfective’
(b) -dɔ ‘past (Type I)’
(c) -dɔ ‘verbalizer’
(d) -dɔ ‘prohibitive’
(e) -dɔ ‘locative(3)’
(f) =dɔ ‘ablative’ (In special contexts, it is used as =dɔro)
(g) -ge ‘instrumental as in the circumfix r-N-ge’
(h) ad- ‘detransitivizer’
(i) ad- ‘detransitivizer’
(j) kid- ‘first-person plural inclusive’

24 As the past tense (see 4.2.5) and the imperfective (see 4.2.6) are formed with non-alternating suffixes, it
is not possible to use them to predict the [+ VOICE] feature to be utilized in the suffix.
The examples illustrate the use of these non-alternating [± VOICE] affixes.

(2.118)  k-aṼ-dili ①
1A-carry-IPFV
'I am carrying it.'

(2.119)  m-a-da ①
2A-carry-PST
'You carried it.'

(2.120)  idada=d(α)-d ①
city=LOC3-NZR3
'from the city'

(2.121)  angu-ge ①
polenta-INST
'with polenta'

When a lexical root does not contain a voiceless consonant and the prefix used with this root belongs to this non-alternating class, the first alternating suffix adjacent to the root is realized with the [– VOICE] allomorph, as predicted in generalization #5. An example is given to demonstrate this point.

(2.122)  k-ɑ-dɑ-dualua-to ①
1A-DETR-feed-NZR3
'my meal'

As previously mentioned, if the first suffix next to the root is of the non-alternating class, any further affixes will realize their [+ VOICE] allomorph.

(2.123)  kid-eṼnome-da-dai ①
1PL.INC-knowledge-VBZ2-IMM.PST
'We taught it.'

It follows from the five generalizations above that words without an intervocalic voiceless consonant can only surface when the root does not contain a voiceless consonant and all the affixes, if any, are of the non-alternating type.

Although the majority of the affixes containing a non-sonorant consonant in Bakairi have two allomorphs, we have so far established that some affixes containing nonsonorant consonants do not contrast [± VOICE]. These include the imperfective and past affixes, as in the examples below:

(2.124)  kɑ-iṼdɑ-dili ②
1A-simmer-IPFV
'I am simmering it.'

(2.125)  s-idɑ-dɑ ②
1A-simmer-PST
'I simmered it.'
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In Table 2.6, we demonstrate with the verb root *idalə* ‘simmer’ that every suffix of the alternating class behaves similarly with regard to selecting one or the other of the allomorphs.

<table>
<thead>
<tr>
<th>[+ VOICE] root</th>
<th>aspect-mood</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>s-idalə-tai</td>
<td>IMM.PST</td>
<td>‘I simmered it.’</td>
</tr>
<tr>
<td>idalə-tibə</td>
<td>PTC</td>
<td>‘that has been simmered’</td>
</tr>
<tr>
<td>idalə-kə</td>
<td>IMP</td>
<td>‘Simmer it.’</td>
</tr>
<tr>
<td>idalə-tå-gə</td>
<td>PL-IMP</td>
<td>‘Simmer it, all of you.’</td>
</tr>
<tr>
<td>idalə-tō-daũ-gə</td>
<td>ITE-PL-IMP</td>
<td>‘Simmer it again, all of you.’</td>
</tr>
<tr>
<td>s-idalə-pa</td>
<td>NEG</td>
<td>‘I didn’t simmer it.’</td>
</tr>
<tr>
<td>idalə-se</td>
<td>PURP</td>
<td>‘in order to simmer it’</td>
</tr>
</tbody>
</table>

Likewise, a root with a [– VOICE] consonant causes all its alternating affixes to select the [+ VOICE] variant, as it is shown in Table 2.7 with the verb *eka* ‘sit.’

<table>
<thead>
<tr>
<th>[– VOICE] root</th>
<th>aspect-mood</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>s-eka-dai</td>
<td>IMM.PST</td>
<td>‘I sat.’</td>
</tr>
<tr>
<td>eka-dibə</td>
<td>PTC</td>
<td>‘that has been sat’</td>
</tr>
<tr>
<td>eka-gə</td>
<td>IMP</td>
<td>‘Sit down.’</td>
</tr>
<tr>
<td>eka-daũ-gə</td>
<td>PL-IMP</td>
<td>‘Sit down, all of you.’</td>
</tr>
<tr>
<td>eka-dō-daũ-gə</td>
<td>ITE-PL-IMP</td>
<td>‘Sit down again, all of you.’</td>
</tr>
<tr>
<td>s-eka-ba</td>
<td>NEG</td>
<td>‘I did not sit down.’</td>
</tr>
<tr>
<td>eka-ze</td>
<td>PURP</td>
<td>‘in order to sit’</td>
</tr>
</tbody>
</table>

2.5.1.3 The distribution of voice in a noun-incorporating verb

A verb with an incorporated noun makes use of inflection and affixation analogous to a single-rooted verb. Such nominal incorporation is restricted to body parts. When both the nominal and the verbal stems contain a lexical [– VOICE] consonant, only one of the roots maintains its voiceless consonant.

The distribution of voice in this type of compound is as follows:

The [– VOICE] of the first root, which refers to a body part, takes precedence over the remaining morphemes in the word.

(2.126) k-az-ita-goge-li [kəʒitago'gel] ¹
1A-DETR-mouth-wash-IPFV
‘I am washing my mouth.’

Example (2.126) shows that the first root takes precedence over any other voiceless consonants. The first root *ita* ‘mouth’ contains a lexical [– VOICE] consonant, thus all other allomorphs must be [+ VOICE]. Also in this example, other
syllables could potentially be realized as voiceless. The detransitivizer /əs-/, /əz-/ (see 4.2.2) has a voiceless allomorph. The root-initial consonant of the verb /koge/ ‘wash’ is voiced in the example. Since a voiceless consonant in a lexical root takes precedence over affixal voiceless consonants, the only surface voiceless consonant in this word is the one in ita.

In a sequence of two compounded roots, neither of which contains a root-internal voiceless consonant, the root-initial consonant of the second root is realized as voiceless. Two examples follow.

(2.127) k-ad-āga-koge-li [qxadāqako'qeli] ①
1A-DETR-head-wash-IPFV
‘I wash my head.’

(2.128) k-ad-āga-silu-ge-li [qxadāqajilu'qeli] ①
1A-DETR-head-shave-VRB-IPFV
‘I shave my head.’

When the first root of a compound does not contain a voiceless consonant, the initial consonant of the second root is realized as voiceless. Consequently, the voiced allomorph of the prefix is used.

(2.129) əz-ema-pilu-gə ①
DETR-hand-stretch-IMP
‘Stretch your hand!’

(2.130) əz-ema-kəʒio-ze ①
DETR-hand-lift-IPFV
‘lift your hand’

2.5.2 Palatalization

In the Eastern dialect, a voiceless fricative onset consonant followed by a closed vowel becomes post-alveolar only before a front closed vowel.

\[
\begin{align*}
[s] & \rightarrow [ʃ] / _i_ / i u / \\
[z] & \rightarrow [ʒ] / _i_ / i /
\end{align*}
\]

Examples follow.

(2.131) n-as-io-dai [najiodaj] ①
3A-DETR-meet-IMM.PST
‘He met it.’

(2.132) ome si-iki-li [jikili] ①
time 1S-sleep-IPFV
‘It is time for me to sleep.’
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(2.133) si-ui-ze [ʃɯize] u-da-li ①
3O-search.for-PURP 1S-go-IPFV
‘I’m going to order to search for it.’

(2.134) taz-iku [tæjikɯ] ①
NPOS-liquid
‘urine’

2.5.3 Lenition (spirantization and affrication)

In both dialects, a type of consonant weakening or spirantization occurs. A root-initial voiced stop becomes continuant in an intervocalic position. The root-initial set /p-, t-, k-/ is not realized as /-b-, -d-, -g-/ when other morphemes are added to their left, these stops are consistently weakened to /-β-, -z-, -ɣ-/ root-internally (e.g., /pabai/ ‘my father,’ /patada/ ‘hawk sp.’).

\[
p \rightarrow b \rightarrow β \\
t \rightarrow d \rightarrow z \\
k \rightarrow g \rightarrow \gamma
\]

(see affrication of velar stops further below.)

The following examples demonstrate the lenition process for the labial stop.

Since the rule is variable, it could be argued that lenition applies to an intermediate [b] at a morphological boundary:

(2.135) i + pepi + ri [iʃeπiri] ①
1-canoe-POSS
‘my canoe’

(2.136) u + posera + ri [uʃβʃerari] ①
1-bracelet-POSS
‘my bracelet’

(2.137) a + pi + ri [aʃeri] ①
2-axe-POSS
‘your axe’

When forming detransitivized verbs with the reflexive/reciprocal prefix /əd-/ , verbs beginning with /e/ or /i/ show the allomorph /az-/ instead: əd- → az-. If followed by /i/, /az-/ is pronounced [aʃ]- in the Eastern dialect. The following pairs illustrate this process. As previously mentioned, the symbol _VO_ indicates a suprasegment of nasality used in the formation of imperfective aspect of transitive verbs. Reflexive/reciprocal prefixes block the nasalization of the stem in the expression of the imperfective aspect (see 4.2.6).

(2.138) (a) bola Ø-eṼnanɔ-dili auɔkɔ ①
ball 3A-play-IPFV AN.MED
‘He is playing ball.’
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(b)  n-əz-enə-dili  auəkə ①
3A-DETR-play-IPFV  AN.MED
‘He is playing by himself.’

(2.139) (a)  manga  Õ-iVkui-li  auəkə ①
mango.tree  3A-water-IPFV  AN.MED
‘He is watering the mango tree.’
(b)  n-əz-ikui-li  auəkə ①
3A-DETR-water-IPFV  AN.MED
‘He is urinating.’

A similar process is attested with the voiceless variant of the detransitivizing
prefix: /ət/, which becomes /əs-/ before /e, i/. The following pairs illustrate the
distribution of the detransitivizer əs-.

(2.140) (a)  eVmage-li ①
discuss-IPFV
‘discussing it’
(b)  əs-emage-li ①
DETR-discuss-IPFV
‘gossiping’

(2.141) (a)  ieVm-dili ①
climb-IPFV
‘climbing’
(b)  əs-ie-dili ①
DETR-make-IPFV
‘making it’

However, as the phoneme /g/ can only occur intervocally, it is optionally
pronounced as [ɣ]. Therefore, this realization of the phoneme /g/ can be seen as a case
of allophony instead of lenition. Below are some Eastern Bakairi examples.

(2.142) ['ayə]  /aga/ ①  ‘with, against’
['jəyə]  /Siogo/ ①  ‘my father’
['ɪ'yəhu]  /iɡahu/ ①  ‘head’
[i'yaŋi]  /igadi/ ①  ‘fat, lard’
[a'zaŋə]  /azaga/ ①  ‘two’
[ea'yəɾəŋ]  /eɡəɾəŋ/ ①  ‘the other’

Affrication of voiceless velar stops is another sound change that alters a
consonant in Bakairi. In word-initial and intervocalic positions, a velar stop is often
realized as a voiceless velar affricate /k/ → /kx/. When /k/ comes before /a/, they are
realized further back as [qxa]. In intervocalic contexts, speakers alternatively produce
pre-affrications, such as /k/ → /xk/. Examples of each are given below.
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(2.143)  

[ʼqxūrā] /kārā/ 1 ‘fish’

[iʼqxɔɾi] /ikari/ 1 ‘his back’

[ʼpɛxku] /peku/ 1 ‘salt’

[iwɔʼxkuru] /iukuru/ 1 ‘good’

2.5.4 Nasal spreading

Bakairi has an optional rule of nasal assimilation. Regressive nasal spreading
is initiated by a nasal vowel and mainly targets vowels and glides. Progressive nasal
spreading is triggered by a nasal onset consonant or a nasal vowel and affects vowels,
glides, and the rhotic [ɾ].

The typology of harmony usually distinguishes three segment classes. For
Bakairi, these classes are defined as follows:

(a) transparent segments, i.e., glottal fricative [h];
(b) target segments, i.e., vowels, glides, and the rhotic [ɾ]; and;
(c) blockers, i.e., all remaining segments, including the lateral [l].

The following examples illustrate regressive nasal spreading (see also Meira
2005: 264).

(2.144)  

[tɔhɔɾẽ] ~ [tɔhɔɾẽ] ~ [tɔhɔɾẽ] /tɔhɔɾẽ/ ‘strong’

[tikihɔɾẽ] ~ [tikihɔɾẽ] ~ [tikihɔɾẽ] /tikihɔɾẽ/ ‘in order to sleep’

[tɔwɛhɛɾ] ~ [tɔwɛhɛɾ] ~ [tɔwɛhɛɾ] /tɔwɛhɛɾ/ ‘smooth’

[tɔməɾɛɾ] ~ [tɔməɾɛɾ] ~ [tɔməɾɛɾ] /tɔməɾɛɾ/ ‘heavy’

Postlexically, regressive spreading optionally affects the last syllable of the
previous word in external sandhi. In example (2.144), /auɔkə/ is realized as [awɔkã],
where the nasality originates from the first syllable of the verbal stem iudu ‘give’ in
the following word.

(2.145) pirɔu aʊɔkɔ O-iuṆdu-aki 1

arrow AN.MED 3S-give-IMM.PST
‘He gave an arrow(s) to him.’

The same fact is observed below, in which the last syllable of /tɔpɛnario/ is
realized as either [tɔpɛnario] or [tɔpɛnato].

(2.146) tɔ-(i)pena-ri O-ieṆdakui-li aʊɔkɔ 1

3R-leg-POSS 3S-scratch-IPFV AN.MED
‘He is scratching his leg.’

25 A future study should investigate if in Bakairi [h] can be nasalized voicelessly.
Progressive spreading is common on syllables with nasal onset consonants, which optionally pass the nasal feature to the following nucleus or \( \text{ɾ} \), regardless of whether the nucleus is stressed. This is shown in the examples below.

\[
\begin{align*}
\text{(2.147)} & \quad [\text{ˈməɾə}] \sim [\text{ˈməɾə}] \sim [\text{ˈməɾə}] /\text{məɾə}/ \quad \text{‘that(distal)’} \\
& \quad [\text{ˈməɾə}] \sim [\text{ˈməɾə}] /\text{məɾə}/ \quad \text{‘tapir’} \\
& \quad [\text{ˈiɾəɾə} \sim [\text{ˈiɾəɾə}] /\text{iɾəɾə}/ \quad \text{‘their mothers’} \\
& \quad [\text{ˈkəɾəɾə} \sim [\text{ˈkəɾəɾə}] /\text{kəɾəɾə}/ \quad \text{‘our fathers’}
\end{align*}
\]

Glides and \( \text{ɾ} \) are also optional targets for progressive nasal spreading when nasality originates from a vowel.

\[
\begin{align*}
\text{(2.148)} & \quad [\text{ˈkəɾə}] \sim [\text{ˈkəɾə}] /\text{kəɾə}/ \quad \text{‘fish’} \\
& \quad [\text{ˈiɾəɾə}] \sim [\text{ˈiɾəɾə}] /\text{iɾəɾə}/ \quad \text{‘alligator’} \\
& \quad [\text{sapeˈzəɾu}] \sim [\text{sapeˈzəɾu}] /\text{sapeˈzəɾu}/ \quad \text{‘wind’} \\
& \quad [\text{kəɾəɾə}] \sim [\text{kəɾəɾə}] /\text{kəɾəɾə}/ \quad \text{‘the good person’}
\end{align*}
\]

2.5.5 Ablaut and epenthesis

The initial vowel of a verbal stem or of the possessed nominal undergoes a vowel change, i.e., ablaut, to indicate person inflection. This change typically applies to the initial vowels /e/ and /i/, as in the second person below, which are the most frequent root-initial vowels in Bakairi. Table 2.8, with data from Western Bakairi, exemplifies the effect of ablaut in nominal roots.

<table>
<thead>
<tr>
<th>/e-/ pattern</th>
<th>gloss</th>
<th>/i-/ pattern</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ema/ (bare root)</td>
<td>‘hand’</td>
<td>/ita/ (bare root)</td>
<td>‘mouth’</td>
</tr>
<tr>
<td>/iɛma-r/</td>
<td>‘my hand’</td>
<td>/ita-r/</td>
<td>‘my mouth’</td>
</tr>
<tr>
<td>/ima-r/</td>
<td>‘your hand’</td>
<td>/ita-r/</td>
<td>‘your mouth’</td>
</tr>
<tr>
<td>/ema-r/</td>
<td>‘his hand’</td>
<td>/ita-r/</td>
<td>‘his mouth’</td>
</tr>
<tr>
<td>/tɔama-r/</td>
<td>‘the hand’</td>
<td>/ita-r/</td>
<td>‘the mouth’</td>
</tr>
<tr>
<td>/kɔama-r/</td>
<td>‘our hands’ (INC)</td>
<td>/kita-r/</td>
<td>‘our mouths’ (INC)</td>
</tr>
<tr>
<td>/ina ema-r/</td>
<td>‘our hands’ (EXC)</td>
<td>/ina ita-r/</td>
<td>‘our mouths’ (EXC)</td>
</tr>
<tr>
<td>/ima-r/</td>
<td>‘your hands’</td>
<td>/ita-r/</td>
<td>‘your mouths’</td>
</tr>
<tr>
<td>/ema-r/</td>
<td>‘their hands’</td>
<td>/ita-r/</td>
<td>‘their mouths’</td>
</tr>
</tbody>
</table>

In the nominal paradigms above, the root-initial /e-/ and /i-/ undergo changes when person inflection is added. For the second person forms, the root-initial /e-/ becomes /i-. For 3R and first person plural inclusive, /e-/ becomes /ə-/ only if we assume that /ə-/ is the ablaut transformation of the root-initial /e-/.\(^\text{26}\)

Furthermore, if we assume that the body parts ema ‘hand’ and ita ‘mouth’ are

\(^{26}\) However, if we assume that /ə-/ is an underlying segment of /i/- and /k/-, the prefixes /ta-/ and /ka-/ elide the root initial vowels /e-/- and /i-/-.
lexicalized as such (recall that these forms are employable in nominal compounding with body parts (see 3.1)), then the following vowel changes occur. Examples below are from Western Bakairi data.

\[(2.149)\]
\[
\begin{array}{ll}
\text{1SG } /i-/ema/ & /ita/ \quad \text{‘hand’} \\
\text{2SG } /i-/ima/ & /iata/ \quad /i/ \rightarrow /\alpha/ \quad \text{2SG} \\
\text{3SG } /i-/ema/ & /iata/ \\
\text{3R } /i-/tama/ & /iata/ \quad /i/ \rightarrow /\alpha/ \quad \text{3R} \\
\text{1PL.EXC } /i-/ema/ & /iata/ \\
\text{1PL.INC } /koma/ & /iata/ \quad /i/ \rightarrow /\alpha/ \quad \text{1PL.INC} \\
\text{2PL } /i-/ima/ & /iata/ \quad /i/ \rightarrow /\alpha/ \quad \text{2PL} \\
\text{3PL } /i-/ema/ & /iata/ \\
\end{array}
\]

As shown above, a consistent vowel change occurs in the second-person forms. Changes in vowel quality also happen when a prefix is added. If the first vowel of a root is the nasal vowel /ẽ/, then /i/-epenthesis for Western Bakairi or /i/-epenthesis for Eastern Bakairi is applied.

\[(2.150)\]
\[
\text{ti-}ẽkudo-Ø’ (1) \\
3R-measure-POSS \\
\quad \text{‘his thermometer’}
\]

Consonant-initial roots and loanwords also apply /i/-epenthesis for Western Bakairi or /i/-epenthesis for Eastern Bakairi instead of ablaut.

\[(2.151)\]
\[
\text{ti-}pini-ri (1) \\
3R-cooked food-POSS \\
\quad \text{‘his food’}
\]

\[(2.152)\]
\[
\text{ti-}uepi-ri (1) \quad (< /pepi/ \quad \text{‘canoe’}) \\
3R-canoe-POSS \\
\quad \text{‘his canoe’}
\]

\[(2.153)\]
\[
\text{ti-}uape-ri (2) \\
3R-paper-POSS \\
\quad \text{‘his document’}
\]

\[(2.154)\]
\[
\text{ti-}dinheira-Ø (2) \\
3R-money-POSS \\
\quad \text{‘his money’}
\]

\[(2.155)\]
\[
\text{ti-garo-ri (2) } \\
3R-car-POSS \\
\quad \text{‘his car’}
\]

\[(2.156)\]
\[
\text{ti-gatera-ri (2) } \\
3R-license-POSS \\
\quad \text{‘his drivers’ license’}
\]
In a verb paradigm, ablaut applies to the initial /e/ of the verbal stem. The following verbal paradigm belongs to the detransitivized verb *t-əd-ə-euəma-dili* ‘becoming sick’ from the stem *euəma* ‘become sick.’

\[(2.157)\]

<table>
<thead>
<tr>
<th></th>
<th>/euəma/ ‘become sick’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>i-euəma-dili (2)</td>
</tr>
<tr>
<td>2SG</td>
<td>iuəma-dili (2)</td>
</tr>
<tr>
<td>3SG</td>
<td>euəma-dili (2)</td>
</tr>
<tr>
<td>3R</td>
<td>taeuəma-dili (2)</td>
</tr>
<tr>
<td>1PL.EXC</td>
<td>ina euəma-dili (2)</td>
</tr>
<tr>
<td>1PL.INC</td>
<td>kauəma-dili ~ kideuəma-dili (2)</td>
</tr>
<tr>
<td>2PL</td>
<td>iuəma-dili-mo (2)</td>
</tr>
<tr>
<td>3PL</td>
<td>euəma-dili-mo (2)</td>
</tr>
</tbody>
</table>

Ablaut does not affect verbal stems starting with /i/, as we illustrate with the detransitivized benefactive verb *t-əd-ə-itĩuə-dili* ‘becoming sad.’

\[(2.158)\]

<table>
<thead>
<tr>
<th></th>
<th>/itĩuə/ ‘become sad’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>itĩuə-dili (2)</td>
</tr>
<tr>
<td>2SG</td>
<td>a-itĩuə-dili (2)</td>
</tr>
<tr>
<td>3SG</td>
<td>s-itĩuə-dili (2)</td>
</tr>
<tr>
<td>3R</td>
<td>t-itĩuə-dili (2)</td>
</tr>
<tr>
<td>1PL.EXC</td>
<td>ina s-itĩuə-dili (2)</td>
</tr>
<tr>
<td>1PL.INC</td>
<td>k-itĩuə-dili (2)</td>
</tr>
<tr>
<td>2PL</td>
<td>a-itĩuə-dili-mo (2)</td>
</tr>
<tr>
<td>3PL</td>
<td>s-itĩuə-dili-mo (2)</td>
</tr>
</tbody>
</table>

### 2.5.6 Vowel harmony

Bakairi morphology shows a limited use of vowel harmony (VH) between the initial vowel of a verb and its prefix. The detransitivizing prefix harmonizes with the initial vowel of the stem as seen in Table 2.9.

#### TABLE 2.9: VOWEL HARMONY: REFLEXIVE PREFIX

<table>
<thead>
<tr>
<th>reflexive/reciprocal prefix</th>
<th>stems</th>
<th>initial vowel notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ad-/</td>
<td>[ad-]</td>
<td>/i/-</td>
</tr>
<tr>
<td></td>
<td>[ad-]</td>
<td>/a/-</td>
</tr>
<tr>
<td></td>
<td>[əz-], [əʃ-]</td>
<td>/e/-</td>
</tr>
<tr>
<td></td>
<td>[əz-], [əʃ-]</td>
<td>/i/-</td>
</tr>
<tr>
<td></td>
<td>[ad-], [ət-]</td>
<td>/o/-</td>
</tr>
<tr>
<td></td>
<td>[ad-]</td>
<td>/a/-</td>
</tr>
</tbody>
</table>
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detransitivized examples, the vowel of the prefix harmonizes with the initial vowel of the verbal stem.

(2.159) (a) sisi i-āga-āVpi-ge-li 1
sun 3A-head-heat-VBZ2-IPFV
‘The sun is burning his head.’
(b) Ø-ad-āpi-ge-li auakə 1
3A-DETR-head-VBZ2-IPFV AN.MED
‘He is burning himself.’

The following pairs of examples show the vowel of the detransitivizer undergoing VH with initial /a, o/ of the verbal stem.

(2.160) (a) eti i-āVgu-li auakə 1
party 3A-start-IPFV AN.MED
‘He is starting the party now.’
(b) eti n-ad-agu-li 1
party 3A-DETR-start-IPFV
‘The party is getting started.’
(2.161) (a) tə-(e)mano i-oēV-dili auakə 1
3R-object 3A-hide-IPFV AN.MED
‘He is hiding the toy.’
(b) n-ot-oē-dili auakə 1
3A-DETR-hide-IPFV AN.MED
‘He is hiding it.’
(2.162) (a) tə-(e)mano i-ōpa-dili auakə 1
3R-object 3A-bring-IPFV AN.MED
‘He is bringing back the toy.’
(b) n-ot-ō-pa-dili auakə 1
3A-DETR-return-IPFV AN.MED
‘He is returning.’

Other VH effects can be seen in the formation of the possessum suffix in which /-ri/ harmonizes after stems that end in /o/ and /u/ becoming /-ru/, e.g., /i-ema-ri/ ‘my knife,’ and /u-hu-ru/ ‘my foot,’ in contrast with /i-ema-ri/ ‘my hand’ (see 3.2).

2.5.7 Vowel deletion

Deletion commonly affects the initial vowel in disyllabic function words in fast speech. In the example below, the initial vowel of the 2SG personal pronoun əmə ‘you’ is deleted in fast speech.
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#### (2.163) [idaʔe əmə ɯɾə aɣə] → [idaʔemə ɯɾə aɣə]

- **idaʔe** əmə ɯɾə aɣə ②
go-FUT 2SG 1SG with

‘You will go with me.’

#### (2.164) t-ida-se əmə ɫ → [tidasemə]

- t-ida-se əmə ɯɾə aɣə baugh

3R-listen-ABTT 2SG

‘Can you hear?’

For the third person medial animate demonstrative [a’wɔkə],’ the deletion of the non-initial vowel yields [’awkə], as in the example, [tuhu iɪamele a’wɔkə] → [tuhu iɪamele ’awka] ① ‘He throws pebbles.’

#### 2.5.8 /h/ deletion

A sequence of two identical back vowels separated by /h/ can be articulated as two different syllables or a single long vowel. Although $h$-deletion is attested in both dialects, it is especially common in Western Bakairi. The most common occurrence takes place when the nominalizing suffix -ho ① or -o, -ʔa ② (see 3.2.3) is present.

#### (2.165) /siunoho/ ② [ʃɯː hɔː] ‘sieve’

Some nouns, verbs, adverbs, and pronouns match the above criteria and undergo /h/ deletion.

#### (2.166) /əguhu/ ② [əɡɯː] ‘rattlesnake’

/kunohoro/ ② [kʊnɔːɾo] ‘mouse’

/porohoro/ ② [poɾɔːɾ] ‘fox’

/tahoro/ ② [tɔːɾə] ‘there (distal)’

/tohorei/ ② [tɔːɾei] ‘heavy’

/tohogala/ ① [tɔː yala] ‘fish sp.’

/tohore/ ② [tɔː re] ‘lit (as in burning)’

/tuhubile/ ① [tʊː bilei] ‘fish sp. BP peraputanga’

/uhuru/ ② [ʊː rɯ] ‘my foot’

/uhudu/ ② [ʊː du] ‘feather’

#### 2.6 Ideophones: onomatopoeia and reduplications

Bakairi ideophones are expressed by one or more (often reduplicated) onomatopoeic words. Frequently used in daily conversation and in storytelling, onomatopoeic words are articulated in a manner unlike other words, i.e., by using creaky voice (see 2.4.2), by raising or lowering the voice, and by releasing a significant amount of air through the nose. Some concepts are only expressible with an ideophone. For instance, /kuitu/ ‘spit,’ /mi mi idili/ ‘beginning to rain.’
While a monosyllabic ideophonic expression is sometimes represented by otherwise non-existing CVC syllables, full and partial reduplications tend to respect the phonological rules of the language by (a) exhibiting a voiceless stop in word-initial position, (b) having only one occurrence of a voiceless stop in word-medial position, and (c) avoiding syllable codas.

As ideophones are neither possessed nouns nor verbs, they do not take person-marking prefixes or aspect-mood suffixes. There are many ideophones that co-occur with verbs, especially with the verb ke ‘say,’ to express a variety of meanings, ranging from ‘drizzling’ to various noises typical of some verbal actions such as ‘running.’

Some ideophones are listed below:

(2.167) [h과학] ① (sound of someone or something falling on the ground)\(^{27}\)
[make] ① ‘quietly’ or ‘unexpectedly’ or ‘by surprise’
[mah] ① ‘absolutely all’
[mi̯a] ① ‘in awe’ or ‘in admiration’
[tik] ① ‘Listen to me’ (before telling a story)
[jiur] ① (sound of pouring or serving water)

Onomatopoeias often imitate sound representations or suggest the source of the sounds that they refer to, as below.

(2.168) [bauk] ① (leaving, away from here: deixis)
[aʃih과학] ① (sound of a gun or a sneeze)
[bah] ① ‘ridicule’ or ‘striking color’
[barik] ① (sound of someone turning himself this or that way: deixis)\(^{28}\)
[dɛ] ① (sound of someone or something falling)
[h과학] ① ‘truly, indeed’\(^{29}\)
[huʔ] ② (a fast and sharp move, e.g., while killing a cockroach)
[iiuk] ① ‘great effort’ (sound made when stretching the arm with effort)
[jiur] ① ‘a lot’ (with true intention)
[kuiʃtu] ① ‘spit, phlegm’ (followed by the verb ke ‘say’)
[lik] ① (unable to perform something)
[make] ① (a very careful move while looking at various directions)
[maʔ] ② (a hand gesture, a movement: a tense marker)
[mah] ① (a firsthand experience, visual witness: a tense marker)
[mik] ① ‘around’ or ‘looking back’ (a turning movement)
[mirik] ① ‘turning around’ or ‘looking around’ (a circular movement)

---

\(^{27}\) This word [h과학] is pronounced with air being released through the mouth and nose.

\(^{28}\) In the corpus, the onomatopoeia [barik] is used in three sentences: [barik iek iəʃariə] ‘turn yourself this way’ [barik iekwari] ‘turn yourself that way’ and [barik iekwari] ‘turn yourself like that.’ It seems that [barik] attaches to [ie] ‘do’ to form the verb ‘turn.’

\(^{29}\) This word is pronounced with the lips sealed and with release of air through the nose.
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[puː] 1 (sound indicating that something is small or almost irrelevant)
[puːk] 1 (a sharp and brutal move)
[saɡaj] 1 (sound of dunking solid food into liquid)
[sak] 1 (a very fast or painful sensation, such as of a knife cutting a finger)
[sɔk] 1 (sound of fear or horror, a cry to stop or to wait)
[tek] 1 (sound of liquid reaching the top of a bottle or container)
[tirik] 1 ‘get out of the way’
[tōh tuk] 1 (sound of tying hammock to two poles inside the house)
[tai] 1 ‘whistle’
[tirik] 1 ‘way over there’ (pointing, deixis)
[tu] 1 (sound of a rattle or hiss of a snake)
[tu] ~ [tuʔ?] 2 ‘right next to’ or ‘nearby’
[ɔbu] 1 (sound of breathing heavily, blowing excessive air through the mouth)
[jidik] 1 ‘in a natural way’ or ‘calmly’
[fuʔ] ‘hurry’
[jūu] 1 (a soft and confident movement without making much noise)

Reduplication is used mainly to express intensification. The average number of repetitions varies in accordance with the style of speech by a particular speaker.

(2.169) [ɡɔiɡi] 1 (sound of someone stirring something)
[lu lu lu lu] 1 (sound of liquid going through the throat)
[luʔhu] 1 (sound of walking in the water)
[mī mi mī idīli] 2 ‘raining lightly’ (the initial sound of rain,)
[pai pai] 1 ‘seesaw’ (metallic sound with a swinging motion)
[pai pai pai pai] 1 (sound of someone rocking hammock)
[pɔ pɔ] 1 (sound of chopping, cutting something with a knife)
[puɾu puɾu] 1 ‘mess’ or ‘destruction’
[puŋ puŋ] 1 (sound of movement such as walking)
[piri piri] 1 (anointing, smearing, and a blessing gesture)
[se: se:] 1 ‘splashing’ (sound of hand or feet hitting the water surface)
[tata] 1 (a calculated and fast move)
[tɔtɔ hʊʔ] 1 (sound of hitting with an arrow, a shot or a quick movement)
[tɔhuʔ tɔhuʔ tɔhuʔ] 1 (sound of the tail of a fish hitting the surface of the water)
[tuk tuuk tuuk tuuk] 1 (sound of liquid going down the throat)
[tuʔtu分流 tuʔtuʔ] 1 (sound of something floating)
[fuʃuʃuʃuʃ] 1 (pouring liquid into a container, reduplication from [ʃu])
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[maɪ maɪ] ① 'tortoise'
[seru seru] ① 'dog'
[taɔ taɔ] ① 'crow' (bird and its sound ‘caw’)
[waiə waiə] ① 'back and forth,' ‘to-and-fro’
[wili wili] ① 1. bird Southern Lapwing Vanellus chilensis
2. chant in the mask festival
[junəyu junəyu] ① ‘telling stories for a long time’ or ‘chatting without hurry’ (from siunə storytelling)

Except for three lexemes (i.e., tortoise, dog, and a species of bird) that are used as animal names, onomatopoeias occur in sentence-initial position before the core constituents with possible pragmatic consequences.

In the example below, [sak] is pronounced with more intensity to convey the sense of speed or pain experienced in the action.

(2.170) sak Ø-ema-ɾ n-ətə-əgi ①
abruptly 3-hand-POSS 3A-cut-IMM.PST
‘Ouch! He cut his hand.’

In the next example, the reduplication seen at the beginning of the sentence expresses the way the beverage was drunk as well as the sound of liquid in the mouth.

(2.171) lu lu lu lu n-ən-Ø keəɾə məɾə toku ①
(liquid in mouth) 3A-drink-PST EMPH INAN.DIST beverage
‘With pleasure, he drank that beverage.’

The past nominal composite morphemes -pəri, -bihir ① or -pəɾi, -bəri ②, which are used to express that something or someone no longer exists or has been abandoned, allow reduplication of the initial syllable as -pəbihir ① or -pəbəri, -bəbəri ②. This reduplication process accentuates the remoteness of the reported event. For instance, uso iseb ɨɾ ① ‘late mother-in-law’ can be expressed as uso isebbihir ① for ‘the mother-in-law who has passed away a long time ago.’ Alternatively, aəbəbə ② from aəbəbə ② ‘abandoned house,’ indicates that the house has been abandoned for a very long time. Note that when baə is added after kəpəlaγə ① ‘day’ as in kəpəlaγə-bə-ba, the word means ‘day-by-day,’ but not *a very long time ago.’

The plural suffix -mo also allows reduplication to specify the reciprocity of the action. The plural of 2PL and 3PL are expressed with the plural suffix -mo. The reduplicated variant of the plural expresses a sense of reciprocity.

(2.172) n-ɨtueba-da-mo-mo ①
3A-fight-PST-PL-RECP
‘They fought one another.’

(2.173) n-əz-enənə-da-mo-mo ①
3A-DETR-play-PST-PL-RECP
‘They played with one another.’
2.7 Loanwords

Bakairi speakers are in constant contact with BP and new BP vocabulary is actively being absorbed. Some loanwords, perhaps those that were assimilated a long time ago, are adapted to comply with Bakairi phonotactics, while others, possibly more current ones, have entered the language the way they are pronounced in BP. For example, the final lower-mid vowel in the function word até ‘until’ remains stressed and unchanged (i.e., [e] instead of the expected [ɛ]), as are the words for the days of the week: domingo ‘Sunday,’ segunda-feira ‘Monday,’ and so forth. These and other loanwords break three important phonological constraints of Bakairi: (a) they are voiced in word-initial position (e.g., domingo), (b) they possess more than one occurrence of a voiceless stop in word-medial position (e.g., espírito ‘spirit’), and (c) they may have consonants in coda position (e.g., sexta-feira).

The following phonotactic adjustments are observable in loanwords. Firstly, segments in the *coda position* in BP syllables are often deleted in Bakairi. Secondly, the addition of Bakairi affixes can change the voice of BP stops. For instance, [kaxt'εɾa], which is the local BP pronunciation of carteira ‘wallet,’ becomes [i-ɡate'ɾa-ɾi] ‘his wallet.’ Therefore, the velar fricative in the coda is deleted, and the initial consonant /k/ is voiced.

In another example, the BP word papel [pa'peɾ] ‘paper’ undergoes some adaptations: the coda is deleted, and the stress is reassigned, becoming prefinal [pape]. When it is possessed, as in tiuaperi ‘his paper,’ the initial /p/ becomes /u/.

Nouns that are expected to be inherently possessed, such as ‘driver’s license’ and ‘car,’ are modified accordingly, receiving a person prefix and a possessum suffix. For instance, the word ‘carro’ in BP is articulated as [kahɔ] ‘car’ in the local dialect. In Western Bakairi, ‘car’ is often realized as inherently possessed [i-ɡarɾ-u] ‘his car.’ Hence, the BP term [qxaɾo] becomes [-garɾ] plus a possessum suffix. As carro seems to have entered Bakairi a long time ago, [-ɾ] becomes [-ɾ]. For current adaptations, it is more common to see BP [-ɾ] becoming [-u] in Bakairi.

Nevertheless, loanwords that possess two word-internal voiceless consonants do not always undergo voicing adaptations.

(2.176) cinquenta [sɪ'kwɛta] ①
‘fifty’
In the following examples, the word-final BP [-o] is modified to [-u], each word possesses two word-internal voiceless consonants as well as consonantal clusters.

(2.177) ispiritu ①
'spirit'

(2.178) gregu e-alphabet-ri ①
Greek 3-alphabet-POSS
'The Greek alphabet'

A few incorporated BP words are provided in Table 2.10.

<table>
<thead>
<tr>
<th>BP</th>
<th>gloss</th>
<th>Bakairi</th>
<th>modifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>[sabo'neʃi]</td>
<td>'body soap'</td>
<td>[sabo'neti]</td>
<td>adaptations of vowels and consonants</td>
</tr>
<tr>
<td>[qxa'fɔxʊ]</td>
<td>'dog'</td>
<td>[qxa'[ɛɾɔ]</td>
<td>adaptations of vowels and consonants</td>
</tr>
<tr>
<td>[pa'paɾ]</td>
<td>'daddy'</td>
<td>[pa'bai]</td>
<td>change in voice of the second stop</td>
</tr>
<tr>
<td>['dɔsi]</td>
<td>'sweets'</td>
<td>['dɔse]</td>
<td>vowel adaptation, while initial stop</td>
</tr>
<tr>
<td>['veʔɔ]</td>
<td>'old man'</td>
<td>['vejʊ]</td>
<td>adaptations of vowels and consonant</td>
</tr>
<tr>
<td>[ɛʃadɔ]</td>
<td>'hoe'</td>
<td>[miʃ ada]</td>
<td>inclusion of a nasal as syllable onset</td>
</tr>
<tr>
<td>['kæʔɔ]</td>
<td>'field'</td>
<td>['kæpʊ]</td>
<td>adaptation of the final vowel</td>
</tr>
<tr>
<td>['anʊ]</td>
<td>'year'</td>
<td>['anʊ]</td>
<td>adaptation of the final vowel</td>
</tr>
</tbody>
</table>
Chapter 3
The Morphology of Nouns and Adverbs

This chapter begins with a discussion of the morphological structure of common nouns and their inflectional morphology. We then turn to the morphological processes by which nouns can be derived from nouns, verbs, or adverbs, followed by an overview of compound formation. Subsequently, we turn our attention to the remaining nominal classes: personal pronouns, demonstrative pronouns, interrogative pronouns, and numerals. For reasons that will be clarified below, we conclude this chapter with a discussion of adverbs.

3.1 Common nouns: inflection

A word is considered a noun on the basis of morphological criteria (i.e., if it takes nominal morphology) and syntactic criteria (i.e., if it can act as a subject or an object of a verb and/or as a head of an argument). A single-root common noun can receive affixes, prefixes, and suffixes as in the example below, which contains the nominal root preceded by a person prefix and followed by a possessive suffix.

(3.1) i-enata-ri 1-nose-POSS 'my nose'

3.1.1 Person inflection

In Bakairi, most nouns employ bound-person prefixes to indicate not only the presence and possession but also coreference or non-possession. The selection of the prefix is determined by the initial vowel of the nominal root, which usually starts e- or i-. Otherwise, nouns that begin with consonants are prefixed with the i- inflection.

Table 3.1 lists the main nominal person inflection prefixes for roots beginning with e-, i-, o-, and a-. The distinction between the prefixes i- and i- is lost or neutralized in Western Bakairi. The ablaut modifications seen here have been previously described (see 2.5.5). These prefixes are used to form most person inflections.
### TABLE 3.1: PERSON INFLECTION PREFIXES

<table>
<thead>
<tr>
<th></th>
<th>e-root</th>
<th>i-root</th>
<th>o-root</th>
<th>a-root</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>ie-(①), ie-(②)</td>
<td>u-</td>
<td>u-</td>
<td>i-(①), i-(②)</td>
</tr>
<tr>
<td>2SG &amp; 2PL</td>
<td>i-</td>
<td>ə-</td>
<td>Ø-</td>
<td>i-Ø-</td>
</tr>
<tr>
<td>3SG &amp; 3PL</td>
<td>Ø-</td>
<td>Ø-</td>
<td>e-</td>
<td>e-</td>
</tr>
<tr>
<td>3R</td>
<td>tə-</td>
<td>tə-</td>
<td>t-</td>
<td>tə-</td>
</tr>
<tr>
<td>1PL.EXC</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>e-</td>
</tr>
<tr>
<td>1PL.INC</td>
<td>kə-</td>
<td>ki-(①), ki-(②)</td>
<td>k-</td>
<td>k-</td>
</tr>
</tbody>
</table>

Table 3.2 illustrates the use of these person prefixes in the morphology of the possessum; the left root begins with e- and the right root begins with i-.

### TABLE 3.2: INFLECTION OF NOUNS BEGINNING WITH /e/ AND /i/

<table>
<thead>
<tr>
<th></th>
<th>ena (②)</th>
<th>‘nose’</th>
<th>ipena (②)</th>
<th>‘leg’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>ie-(e)na-ri</td>
<td>‘my nose’</td>
<td>u-(i)pena-ri</td>
<td>‘my leg’</td>
</tr>
<tr>
<td>2SG</td>
<td>i-(e)na-ri</td>
<td>‘your nose’</td>
<td>ə-(i)pena-ri</td>
<td>‘your leg’</td>
</tr>
<tr>
<td>3SG, 1PL.EXC</td>
<td>Ø-ena-ri</td>
<td>‘his /our nose’</td>
<td>Ø-ipena-ri</td>
<td>‘his /our leg’</td>
</tr>
<tr>
<td>3R</td>
<td>tə-(e)na-ri</td>
<td>‘his nose’</td>
<td>ta-(i)pena-ri</td>
<td>‘his legs’</td>
</tr>
<tr>
<td>1PL.INC</td>
<td>kə-(e)na-ri</td>
<td>‘our noses’</td>
<td>ka-(i)pena-ri</td>
<td>‘our legs’</td>
</tr>
</tbody>
</table>

Table 3.3 shows the inflection for a- and o-initial roots:

### TABLE 3.3: INFLECTION OF NOUNS BEGINNING WITH /a/ AND /o/

<table>
<thead>
<tr>
<th></th>
<th>at(①)</th>
<th>‘fishhook’</th>
<th>odu(①)</th>
<th>‘food (cooked meat)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>i-atə-ri</td>
<td>‘my fishhook’</td>
<td>u-odu</td>
<td>‘my food’</td>
</tr>
<tr>
<td>2SG</td>
<td>Ø-atə-ri</td>
<td>‘your fishhook’</td>
<td>Ø-odu</td>
<td>‘your food’</td>
</tr>
<tr>
<td>3SG, 1PL.EXC</td>
<td>e-atə-ri</td>
<td>‘his /our fishhook’</td>
<td>e-odu</td>
<td>‘his /our food’</td>
</tr>
<tr>
<td>3R</td>
<td>tə-(a)ta-ri</td>
<td>‘his fishhook’</td>
<td>t-odu</td>
<td>‘his food’</td>
</tr>
<tr>
<td>1PL.INC</td>
<td>k-atə-ri</td>
<td>‘our fishhooks’</td>
<td>kodu</td>
<td>‘our food’</td>
</tr>
</tbody>
</table>

Table 3.4 shows the paradigm of ‘canoe,’ and an irregular form for ‘mother.’

### TABLE 3.4: INFLECTION OF NOUNS BEGINNING WITH /p/ AND /-s/

<table>
<thead>
<tr>
<th></th>
<th>pepi(①)</th>
<th>‘canoe’</th>
<th>isə(①)</th>
<th>‘mother’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>i-uepi-ri</td>
<td>‘my canoe’</td>
<td>seko</td>
<td>‘my mother’</td>
</tr>
<tr>
<td>2SG</td>
<td>ə-uepi-ri</td>
<td>‘your canoe’</td>
<td>ə-ze</td>
<td>‘your mother’</td>
</tr>
<tr>
<td>3SG</td>
<td>i-uepi-ri</td>
<td>‘his canoe’</td>
<td>i-se</td>
<td>‘his mother’</td>
</tr>
<tr>
<td>3R</td>
<td>ti-uepi-ri</td>
<td>‘his canoe’</td>
<td>ti-ze</td>
<td>‘his mother’</td>
</tr>
<tr>
<td>1PL.EXC</td>
<td>sina i-uepi-ri</td>
<td>‘our canoe’</td>
<td>sina seko</td>
<td>‘our mother’</td>
</tr>
<tr>
<td>1PL.INC</td>
<td>ki-uepi-ri</td>
<td>‘our canoe’</td>
<td>ki-ze</td>
<td>‘our mother’</td>
</tr>
</tbody>
</table>
A known characteristic of the Cariban languages is coreferentiality (3R) expressed through the person prefix *t(ə)*. Nouns, NPs, genitive constructions, subordination, anaphora, and cataphora all can express third-person coreferentiality. As an underlying binding phenomenon of the field of syntax, two or more sentence constituents (words or phrases) are coreferential when they refer to the same person or thing. In the example below, coindexed with *Paulo* is his impossibility of having a child.

(3.2)  
\[
\begin{align*}
\text{Paulo} & \quad \text{pekodo} \quad \text{uatai,} \\
\text{ahi} & \quad \text{t-ime-ə̃-ge-ba} \\
\text{ta-i-?e} & \quad 2
\end{align*}
\]
\[
\text{Paulo woman if who 3R-small-NZR2-INSTR-NEG 3R-COP2-ABTT}
\]
\[
\text{‘If Paulo were a woman, he could not have small ones (children).’}
\]

The type of person prefix in Bakairi is the non-possessed person prefix *təd-.* The prefix *təd-* precedes a detransitivizer *-əd* (see 4.2.2) to express the non-possessed person inflection or ‘an unknown person.’ Two examples follow; the first one shows an unknown person performing an action, which is later contrasted to the nominalization of that verb in the second example.

(3.3)  
\[
\begin{align*}
\text{təd-əs-ename-da-dili} & \quad 1 \\
\text{NPOS-DETR-knowledge-VBZ2-IPFV}
\end{align*}
\]
\[
\text{‘Someone is studying. / People are studying. / There is studying going on.’}
\]

(3.4)  
\[
\begin{align*}
\text{təd-əs-ename-da-do} & \quad 1 \\
\text{NPOS-DETR-knowledge-VBZ2-NZR3}
\end{align*}
\]
\[
\text{‘...that is used to study’ (i.e., a book, it is used by someone to teach oneself.)}
\]

Here it is opportune to examine here the *t*-prefix. Although here and elsewhere that *t*-prefix is analyzed as a third-person reflexive/coreferential prefix, this prefix can also be used with the same nouns for other persons as the subject other than the third person. The distinction is more pragmatic in its semantics than morphological or syntactic. Meira (personal communication) observed that the *t-N-ge* is not merely a possessed noun with the third-person reflexive/coreferential prefix *t(ɨ)* followed by the instrumental *-ge*, since a possessed noun would also have a possessed suffix (see 3.1.5.7). In his data, *ti-daho-ge* ‘having a knife’ is different from *ti-daho-ru-ge* ‘having his own knife.’ Morphologically, the latter has the possessum suffix *-ru.* Syntactically, the latter can only occur with a third-person subject in a sentence (since *ti* ‘3R’ is ‘coreferential with the subject’). However, the former expression *ti-daho-ge* can co-occur with any person as the subject. Semantically, *ti-daho-ru-ge* is a true instrumental ‘he did it with his own knife’ while *ti-daho-ge* is more of an implied possessive predicate ‘having a knife, beknifed.’ Therefore, as I analyze the data from a morphological point of view, the interlinear texts show the *t*-prefix as 3R, but the reader needs to be aware that textually and pragmatically further interpretations will emerge.
3.1.2 Past nominal with -pɨ, -bɨ or -pə, -bə

The suffix -pɨ, -bɨ or -pə, -bə attached to a noun indicates the past feature of that noun. Many meanings are attributed to a past nominal. These include that the referent of the noun is no longer valid, or it is old, former, deceased, detached, unknown, or abandoned. This suffix comes between the nominal root and the possessum suffix -ri or -ri₁, -ru, or -Ø (see 3.1.3). Examples are given below.

(3.5) ətə 2
non.possessed.house
‘a house’

(3.6) ətə-bə 2
non.possessed.house-PST
‘an old/abandoned house’

(3.7) ətə-bə-bə 2
non.possessed.house-PST-PST
‘A very old/abandoned house.’

In the last example, reduplication of the suffix is used to emphasize its remoteness. As another example, consider the sentence uso ise-bi-ri ‘my husband’s deceased mother’, which, when the reduplicated suffix is used uso ise-bi-bi-ri, means that the mother-in-law has passed away a long time ago.

The past nominal is also used when the status of the referent has changed. For example, when a role someone had previously is no longer applicable or relevant.

(3.8) t-ɪɡə-ɕ-ɨ-bə(-ri) 2
3R-sing-ABTT-NZR1-PST(-POSS)
‘(his/her) former singer’

(3.9) i-atu-ɨ-bə(-ri) 2
3-split.log-NZR4-PST(-POSS)
‘a former logger’

This suffix is also utilized to form the word *photograph* as a photo indicates a fixed moment in the past. Similarly, it is used in the word *footprints* as footprints indicate that an animal walked through an area. As shown below, respectively.

(3.10) k-əs-egu-do-bə-ri
m-əs-egu-do-bə-ri 2
1-DETR-measure-NZR3-PST-POSS 2-DETR-measure-NZR3-PST-POSS
‘My photo, your photo’

(3.11) i-ʔu-ru-bə-ri 2
3-foot-POSS-PST-POSS
‘footprints / detached feet’

When referring to people, past nominal constructions are used to express that an individual is deceased.
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(3.12)  u-(i)so   i-se-bi-ri(1)
1-husband   3-mother-PST-POSS
'the deceased mother of my husband'

(3.13)  i-(i)me-ri   i-damo-bi-ri (1)
1-child-POSS   3-grandfather-PST-POSS
'the deceased grandfather of my child'

(3.14)  i-(i)me-ri   i-iūdo-bi-ri (1)
1-child-POSS   3-grandmother-PST-POSS
'the deceased grandmother of my child'

In Western Bakairi, a quite different process is used to express this. As first-
and third-person prefixes tend to be homophonous in Western Bakairi, the examples
below could be interpreted as a third person as well.

(3.15)  (i)-ime-ri   i-damu  uũtai (2)
1/3-child-POSS   1/3-grandfather deceased
'the deceased grandfather of my son'

(3.16)  (i)-ime-ri   uũtai   i-damu (2)
1/3-child-POSS deceased   1/3-grandfather
'the grandfather of my deceased son'

The past nominal is also used in words describing dissected or removed body
parts since they no longer belong to a body. They have become detached, and their
possessor may be unknown. The following Western Bakairi example shows that past
nominals are also used in that dialect.

(3.17)  tapirọ   i-daʔu-bə-ri (2)
cow   3-belly-PST-POSS
'cow’s guts'

A variety of additional meanings are conveyed by this suffix, including (a) the
last child, the baby of the family; (b) the leftover of food or the remains of something
that was used or cooked previously; (c) something small such as pebbles, specks of
dust, minute objects because they used to be part of something more substantial.

(3.18)  i-ema-rıbə-bə-ri-č  eã   i-də-li (2)
1-hand-PTC-PST-POSS-BEN   PTCL1  3S-go-IPFV
'He went to where I pointed.'

The semantic value of the following noun also changed once the past nominal
was added: emanı ‘object’ next to -pi, -bik(1) or -pə, -bə(2) means ‘captured’ or
‘victim.’
(3.19) Ø-emano-bi-ri (1)
3-object-PST-POSS
‘he who was captured’

Compounds or NPs can employ the past nominal as well, in which case only the right element of the compound carries the suffix.

(3.20) se i-āga?u-bə-ri (2)
tree 3-head-PST-POSS
‘tree stump’

(3.21) s-agu-ʔ O-euanike-ī-bə-ri (2)
3O-begin-NRZ4 3-finish-NZR4-PST-POSS
‘the winner’

Typically, the interpretation of past NPs depends on the context, as in the following example, where it can refer to the person, the vehicle, or the place where the person arrived.

(3.22) s-aĩ-to-bə-ri (2)
3S-arrive-NZR3-PST-POSS
‘arriving passenger/vehicle/place of arrival’

Similarly, the NP unə egatu-ho-bi, in the example below, means not only ‘a person who told stories, a storyteller’, but also ‘a place where stories were told, a story room’ and ‘a means by which stories were told.’

(3.23) unə Ø-egatu-ho-bi-ri (1)
story 3-tell-NZR3-PST-POSS
‘a storyteller/room/the means of telling a story’

3.1.3 Possessive paradigm with -ri (1) or -ri (2) and -ru or -ru

Possession is marked by a suffix added to the nominal root on the possesum, not on the possessor. Allomorphs of the possessum suffix exhibit a degree of vowel harmony (see 2.5.6). Roots ending in the back vowel /-o, -u/ are formed with a back-vowel suffix. All other roots are formed with a non-back vowel suffix. These formations are demonstrated below.

Except for roots ending in /-o, -u/, the possessum suffix is realized as -ri (1), or -ri (2).

(3.24) Ø-emela-ri (2)
3-face-POSS
‘his face’
When the nominal root ends in a labial back vowel /o, u/, the possessum is realized as -ru.

For some roots ending in /u/, the possessum is realized as either as -ru, or -Ø.

A plural -mo only follows the suffix for emphasis when the possessor is not pluralized.

Some high-frequency nouns mark possession via suppletion since their non-possessed stems differ from their possessed ones. Two pairs of examples demonstrate this point:
Typically, high-frequency nouns do not take the suffix -rɨ or -rɨ, instead, they take a -Ø possessive suffix, as in ieti-Ø ‘my house,’ and iedə-Ø ‘my hammock,’ iso ‘her husband’ and ise ‘his mother.’ See Appendix 1 for kinship terms and Appendix 2 for body parts.

3.1.4 Plural -(do)modo

Pluralization of nouns is achieved in accordance with the following two observations:

**Observation #1.** The plural suffix -mo is added to a 2nd or 3rd plural possessum. An example follows.

(3.37) i-uaməkə e-atə-ri-mo ı
3-brother.in.law 3-fishhook-POSS-PL
‘the brother-in-law’s fishhooks’

**Observation #2.** The suffix -do, -domo, -domodo, -ơ is added to non-possessed nouns, for instance, when the possessor is part of the animate class.

- The suffix -do, -domodo is added to animate nouns that do not end in -do.
- The suffix -modo is added to animate nouns that do end in the syllable -do. (Observe that -modo is also added to all words of the inanimate class.)
- The suffix -ơ is added to a handful of lexemes, such as imeơ ‘children.’ No words outside this very small group of nouns are attested taking the plural -ơ, which indicates that the -ơ allomorph of the suffix is now non-productive.

Non-possessed animate nouns take the plural suffix -do before the plural suffix -modo creating -domodo, an animate collective plural:

(3.38) ə}sigo-domodo ı
guest-PL
‘guests’

(3.39) təugunei-domodo ı
bird-PL
‘birds’

(3.40) aturua-domodo ı
Aturua-PL
‘the inhabitants of Aturua village’
The pleonastic reinforcement of the plural suffix in the above examples is optional for these words, which are also attested with –do. In fact, most non-possessed words exclusively occur with the –do variant of the plural suffix.

(3.41)  
iriu-a-do  
rooster-PL  
‘roosters’

When a noun already ends in the syllable -do, only the plural suffix -modo is added. Nouns that end in -do can be interpreted as singular or plural. For instance, pekodo means ‘woman’ and ‘women’ but the addition of -modo as in pekodo-modo can only mean ‘women.’ Other examples follow.

(3.42)  
modo-modo  
earthworm-PL  
‘earthworms’

(3.43)  
sodo-modo  
relative/owner-PL  
‘relatives’ or ‘owners’

The plural suffix is used primarily to emphasize the plurality of the noun, and, in practice, many speakers do not use plural markers systematically. When data are analyzed in isolation, apart from the discourse and pragmatic context, NPs can have multiple interpretations, as seen in the following pair of examples:

(3.44)  
əguro-do  
boy  
Ø-eti  
‘boy’s home’ or ‘boys’ home’ or ‘boy’s homes’ or ‘boys’ homes’

(3.45)  
əguro-do-modo  
boy-PL  
Ø-eti  
‘boys’ home’ or ‘boys’ homes’

Non-possessed inanimate nouns and nominalizations always form plurals with -modo. Some examples follow.

(3.46)  
siunari-modo  
story-PL  
‘stories’

(3.47)  
pani-modo  
food-PL  
‘food items’

(3.48)  
s-ətə-uə-do-modo  
3O-cut-CPLT-NZR3-PL  
‘cutting tools’
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Below are examples of nouns pluralized with -ô.

(3.49)  atae-ô  ⓪
friend-PL
‘friends’
(3.50)  ime-ô  ⓪
child-PL
‘children’
(3.51)  agaiti-ô  ⓪
elder-PL
‘elders’

3.1.5 Locatives

The expression of the locative case is relatively complex in Bakairi (see also Derbyshire (1999: 54)). Locative suffixes distinguish between stagnant (‘in, on’) and movement (‘into’), and their opposite sense is obtained by adding a negative suffix.

3.1.5.1 Locative(1) stagnant -ɨ or -ə

When the referent of the root is a liquid, the locative(1) attaches to the morpheme –ika ‘water,’ which is obligatorily left-attached to the root as the following example illustrates.

(3.52)  kârâ paru-ika-ə  ⓪
fish water-liquid-LOC1
‘The fish is in the water.’

Similarly, when the locus represents an enclosed area, the locative(1) is obligatorily preceded by the morpheme odai(1) or odâ(2) ‘inside.’

(3.53)  idu-oda-ə paikə  ⓪
forest-inside-LOC1 anteater
‘The anteater is inside the forest.’

Other instances of the use of this locative follow.

(3.54)  i-apa-ə  ⓪
3-next-LOC1
‘It is next to it.’
(3.55)  òuà-epia-ə  ⓪
road-side-LOC1
‘It is beside the road.’
3.56 se-ia-ə (2)
  tree-under-LOC1
  ‘It is under a tree.’

3.57 setagoa-ə (2)
  corner-LOC1
  ‘It is in the corner.’

3.1.5.2 Locative(2) dynamic -si/-zi(1) or -i(2)

The locative(2) indicates a dynamic locative, a movement toward a destination. Therefore, the suffix marks the goal of the action.

3.58 açúcar café-ika-i n-ie-tai (1)
  sugar coffee-liquid-LOC1 3A-make-IMM.PST
  ‘He put sugar in the coffee.’

3.59 idu-oda-i i-egau-š-tai (1)
  forest-inside-LOC1 1A-enter-IMM.PST
  ‘I just went into the forest.’

In the eastern dialect, the locative(2) suffix -si/-zi can be combined optionally with -ika and odai to reinforce the notion of movement.

3.60 pa-ika-zi n-ame-mo (1)
  water-liquid-LOC2 3-dive-PL
  ‘They dived into the water.’

3.61 tapirə i-huge-li ěrə tà-(i)tagu-ë-oda-si (1)
  bull 3S-fall-IPFV PTCL1 3R-box-ATTR-NZR1-inside-LOC2
  ‘The bull fell into the ditch.’

3.62 pa-ika-zi n-ame-mo (1)
  water-liquid-LOC2 3-dive-PL
  ‘They dived into water.’

3.63 tapirə i-huge-li ěrə tà-(i)tagu-ë-oda-si (1)
  bull 3S-fall-IPFV PTCL1 3R-box-ATTR-NZR1-inside-LOC2
  ‘The bull fell into the ditch.’

To express the meaning ‘not inside, out of,’ the negative suffix -pa/-ba attaches directly to the -ika or -oda morphemes.

3.64 paru-ika-ba n-egae-ragi maka (2)
  water-liquid-NEG 3-leave-IMM.PST AN.DIST
  ‘He came out of yonder water.’

3.65 idu-oda-pa n-œ-tai maka (2)
  forest-inside-NEG 3A-come-IMM.PST AN.DIST
  ‘He just came out of the forest.’
3.1.5.3 Locative suffix(3) -də

The locative(3) suffix -də ‘in, on’ is used primarily with words that refer to open fields, toponyms, and specific locations.

(3.67) seruseru campo-də ➁ 
dog field-LOC3
‘The dog is on the field.’

(3.68) syna ēs-enome-də-də-də ➁ 
1PL.EXC DETR-knowledge-VZR2-NZR3-LOC3
‘at our school’

(3.69) kurə-də tərə əti-də ➁ 
person-PL DIST party-LOC3
‘There are people at the party.’

(3.70) capitulo tokala-də, azaga-də ➁ 
chapter one-LOC3 two-LOC3
‘in chapters one and two’

(3.71) idu-də ➁ 
forest-LOC3
‘in the forest.’

It is also observed in a colloquialism, seen in the following example, to signify ‘something I want to have’ or ‘something that I am interested in.’

(3.72) i-enu-da ➁ 
1-eye-LOC3
‘in my eye’

Attaching the negative suffix to it forms the ablative or the point of departure.

(3.73) campo-də-ba k-æ-tai ➁ 
field-LOC3-NEG 1A-come-IMM.PST
‘I just came from the field.’

A reduction of -də with the nominalizer -d (see 3.2.2) also forms an ablative as =dô. In other words, the ablative dô is a reduction of a locative (LOC3) with a nominalizer (NZR3).

(3.74) paru=d(ə)-dô ➂ 
water-LOC3-NZR3
‘from the river’
Pragmatically, the three examples above are interpreted as ‘the one who is from the river,’ ‘the one who is from the city,’ and ‘the Brazilian one.’ Therefore, the reduction forming \(-d\) should be analyzed as a noun formed from the locative.

3.1.5.4 Locative(4) \(-u\alpha\) ‘above, on top’

The locative(4) suffix \(-u\alpha\) is used to express the sense that an object is above or on top of something or a place. When a person prefix is added to this locative, it becomes an independent word (a point which will be clarified below). The following example demonstrates the use of \(-u\alpha\) ‘on’ after a noun.

(3.77) \(\delta u\)-\(u\alpha\) \(t\alpha\)-(e)mano (2)
soil-LOC4 3R-object
‘The object is on the floor.’

(3.78) kau-\(u\alpha\) (1)
sky-LOC4
‘in the sky.’

The locative \(-u\alpha\) is also used for being on top of a moving animal or object.

(3.79) bicicleta-\(u\alpha\) (1)
bicycle-LOC4
‘on a bicycle.’

The expression ‘go on foot’ is formed in the same way.

(3.80) u-\(d\alpha\)-li u-(i)\(u\)-ru-\(u\alpha\) (2)
1S-go-IPFV 1-foot-POSS-LOC4
‘I am going on foot.’

The locative \(-u\alpha\) can be inflected for person. As such, it expresses the sense of ‘about someone, something.’ As a postposition, \(-u\alpha\) be inflected for person.

(3.81) i-\(u\alpha\) Ø-ke-li ur\(\alpha\) (2)
3-LOC4 3-say-IPFV 1SG
‘I am talking about him.’
When added to a deverb al nominalization such as *eme-dɨlɨ ‘morning,’ -*uəgə means ‘during, while.’ Unless a copula-less formation is the source of the deverbal nominalization, it could be argued that -*uəgə acts as a deverbal nominalizer here. An example follows.

(3.82)  ime-dili-*uəgə
        rise-IPFV-LOC4
    ‘(It’s) during the morning.’

Negating a word with this suffix produces a meaning akin to ‘off of.’

(3.83)  ðuð-*uəgə-pa tɕiɕ s-au-tai
        soil-LOC4-NEG manioc 1A-catch-IMM.PST
    ‘I plucked the manioc off of the soil.’

When a noun is formed with the suffix -*o-,*-o-*r (see 3.2.2), it means ‘the one who is located.’ For example, the word *uogór (probably *uəgə+-*r → *uogo through assimilation) means ‘one that is on top of…’ As a new nominal formation, it takes plural, past nominal, and other nominal affixes.

(3.84)  kawaru *uogo-*>*r-omo
        horse LOC4-NZR2-PL
    ‘those ones who are on top of the horse(s)’
(3.85)  kau *uogo-*r-pɨ-rɨ
        sky LOC4-NZR2-PST-POSS
    ‘the one that was in the sky’

3.1.5.5 Allative –*ōua

The allative –*ōua ‘onto’ indicates a movement towards a surface.

(3.86)  ðuð-*ōua n-i?uge-ragi *manga
        soil-ALL.3S-fall-IMM.PST mango.fruit/tree
    ‘The mango fruit just fell onto the ground.’
(3.87)  ðuð-*ōua=ʔa n-i?uge-ragi *manga
        soil-ALL-DAT 3S-fall-IMM.PST mango.fruit/tree
    ‘The mango fruit just fell onto the ground near me.’
(3.88)  se-*ōua
        tree-ALL
    ‘onto the tree’
(3.89)  se i-uata-ri-*ōua
        tree 3-branch-POSS-ALL
    ‘onto the tree’s branch.’

The allative can be inflected for person as in the example below.
3.1.5.6 Comitative *agə* and *-ge*

A comitative is used primarily to indicate with whom someone is performing an action. It is formed in accordance with one of three strategies:

1. With the postposition *-agə* being preceded by an inflected bound personal pronoun; and in fast speech after nouns as *-gə*.
2. With the independent word *agə* coming after common nouns, names, person pronouns, and in careful speech.
3. With the instrumental suffix *-ge*, commonly attached to loanwords. This point is described below in the following section.

The first strategy is exemplified below.

(3.91) ʔgi ina-gə əsiŋ-i
who 1PL.EXC-COM stay-NZR4
‘Who is going to stay with us?’

(3.92) podo t-iŋ-se auəkə paŋ-gə
meat 3R-eat-ABTT AN.MED manioc.flour-COM
‘He eats meat with manioc flour.’

(3.93) ie u-a-to auəkə
like/want 1S-COP1-NZR3 AN.MED
arakuma ipa-gə
hen souari.nut-COM
‘I like eating hen with souari nuts.’

(3.94) m-oŋ-diʔe əmə i-agə
2S-go-DESI 2SG 3-COM
‘Would you like to go with him?’

(3.95) idə-ʔe əmə u-agə
go-FUT 2SG 1SG-COM
‘You will go with me.’

The second approach is exemplified below. As an independent word, the comitative has been glossed here as *with*.

(3.96) ina idə-ʔe məkare-mo agə
1PL.EXC go-FUT AN.DIST-PL with
‘We will go with them.’

(3.97) podo t-iŋ-se auəkə peku agə
meat 3R-eat-ABTT AN.MED salt with
‘He eats meat with salt.’
When agə combines with the nominalizing suffix -də, -no, -Prə (see 3.2.2), a word with the semantic value of ‘a person who is with’ is created. Note that in the following example and elsewhere əgi is used for the animate beings, meaning ‘who’ or ‘what animal.’

(3.99) əgi ə̃mə agə-də (2)
who 2SG with-NZR3
‘Who is your companion?’

(3.100) podo agə-də (1)
meat with-NZR3
‘the one who is with the meat’

3.1.5.7 Instrumental t-N-ge

Attaching to a noun, the co-occurrence of the t- prefix (see 3.1.1) and the suffix -ge means ‘having or possessing N’ as well as ‘with N.’ Nouns, not loanwords, that begin with a vowel take the prefix t-. Nouns that begin with a voiceless stop (p, t, k) take a Ø- morpheme. For loanwords, this rule is applied inconsistently.

The following examples show the basic formation of a noun or nominalization beginning with a vowel.

(3.101) t-unə-ge-ı (1)
3R-story-INSTR-NZR4
‘storyteller’

(3.102) t-iə-ge-ı (2)
3R-smell-INSTR-NZR4
‘who/which has a smell’

(3.103) t-aua-ge-ı (2)
3R-wing-INSTR-NZR4
‘who/which has wings’

The following examples illustrate the use of a noun beginning with a voiceless stop.

(3.104) Ø-peto-ge kulo (1)
3R-fire-INSTR only
‘Only with fire.’

(3.105) Ø-pəsie-ge (2)
3R-belt-INSTR
‘with a seatbelt’
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(3.106)  Ø-taho-ge ②
3R-knife-INSTR
‘with a knife’

When used with loanwords, the formation is inconsistent. In many cases, the prefix is not used.

(3.107) podo  m-ə-də  angu-ge ②
meat  2A-eat.meat-PST polenta-INSTR
‘You ate meat with angu.’

(3.108) caneta-ge ①
pen-INSTR
‘with a pen’

(3.109) pariřeš-li  auako  pano-ge ②
clean-IPFV  AN.MED cloth-INSTR
‘He is cleaning with a cloth.’

The following examples illustrate the negative formation of loanwords. The second example is a borrowing from carteira ‘wallet, license.’

(3.110) dinheiro-ge-ba ②
money-INSTR-NEG
‘without money’

(3.111) ti-gatera-ge-ba ②
3R-license-INSTR-NEG
‘without a driver’s license.’

The instrumental(1) as N-ge is also used to signify ‘through,’ as seen below.

(3.112) øtø  ømam-u-ge ②
house door-INSTR
‘through a house door’

3.1.5.8 Perlative -oe

The perlative, which expresses that something or someone moved ‘through,’ ‘across,’ or ‘along’ is formed with the suffix -oe. The perlative is used almost exclusively with nouns that involve transportation.

(3.113) pepi-oe ②
canoe-PER
‘by canoe’

(3.114) karo-oe ②
car-PER
‘by car’
3.1.5.9 Benefactive -ẽ

The benefactive suffix -ẽ expresses that an activity is performed for the benefit of the individual to which this suffix is attached. The beneficiary of give, the addressee of tell, the person to whom something is shown, and the one to whom something is brought are formed with the benefactive -ẽ attached to a personal pronoun.

(3.115) òuā-oe ɸ
road-PER
‘through the road’

In addition to this usage, when the suffix attaches to a nominalized verb the benefactive is used to denote the purpose of an object, as seen below.

(3.116) ãvido  e-gɔ-ne  urɔ-ẽ ɸ
things  look-IMP-POL  1SG-BEN
‘Do take care of the things for me!’

(3.117) s-iudu-ze  õma-ẽ 1
1S-give-FUT  2SG-BEN
‘I will give something to you.’

(3.118) āgi-ẽ?  kārā  kurɔ-ẽ  s-e-tai 1
who-BEN  fish  1PL.EXC-BEN  1A-bring-IMM.PST
‘To which one of us? I brought the fish for us.’

(3.119) u-(i)so  siurɔ-ẽ 1
1-husband  of-BEN
‘This belongs to my husband.’

The benefactive may also express a purposive meaning.
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(3.123) sirə m-əwĩdua-to-ẽ ➀
IN.PROX 2A-eat-NZR3-BEN
‘This is for you to eat.’

(3.124) sirə m-ə-to-ẽ ➀
IN.PROX 2A-see-NZR3-BEN
‘This is for you to see.’

(3.125) ě-to-ẽ-ma-baĩɭ tɔɾə neləra ➀
see-NZR3-BEN-FOC-also DIST only
‘There is also one for you to see over there.’

3.1.5.10 Dative - ā /-Frã

The dative has two forms: - ā and -Frã. The former allomorph is used with speech-act participants (i.e., first and second persons) and the latter with non-speech-act participants (i.e., a third person).

The first allomorph - ā co-occurs with verbs such as ‘go,’ ‘travel away,’ ‘visit,’ as well as in causative formations (see 4.2.3 and 4.2.4).

(3.126) āgi-ã? tako-ã kārã s-a-tai ➀
who-DAT grandfather-DAT fish 1A-take-IMM.PST
‘To whom? I took the fish to my grandfather.’

(3.127) age-ho-ã sina n-ətə-Ø ➀
talk-CAUS-DAT 1PL.EXC 3S-go-PST
‘We went towards the sounds of barking.’

(3.128) sodo-ã sina i-də-li ➀
body/main-DAT 1PL.EXC 3S-go-IPFV
‘We are going to the river (figuratively).’

(3.129) campo-ã u-də-ʔe urə bola s-iə-e ②
field-DAT 1S-go-FUT 1SG ball 3O-kick-PURP
‘I will go to the field to kick ball.’

The following examples show the dative suffix - ā attaching to person pronouns.

(3.130) n-(i)udu-raki əmə-ã ②
3S-give-IMM.PST 2SG-DAT
‘He gave something to you.’

(3.131) podo i-ʔu-ribə s-iudu-raki e-iã iš-to-ẽ ②
meat 3-grill-PTC 1A-give-IMM.PST 3-DAT eat-NZR3-ATTR
‘I gave grilled meat for him to eat.’

(3.132) s-ene-ʔo-ragi e-iã-mo ②
1A-see-CAUS-IMM.PST 3-DAT-PL
‘I showed (myself) to them.’
The dative is used to indicate the experiencer of a feeling through a personal pronoun as (a) a possessor of the feeling, (b) an experiencer of the attributive, and (c) a recipient of the attributive. The examples below identify these adaptations.

(3.133) urə ɩgəwən (2)
1SG coldness
‘My cold.’
(3.134) t-ɩgəwən-e urə (2)
3R-cold-ATTR 1SG
‘I am cold.’
(3.135) i-ĩ t-ɩgəwən-e (2)
1-DAT 3R-cold-ATTR
‘It is cold to me.’

The second allomorph of the dative is -Ĩrã ‘to.’ It is commonly used with non-speech-act participants. It indicates a recipient or a place to which someone or something is moving. Below is an example of the dative -Ĩrã next to a place referring to a non-speech-act participant.

(3.136) kado Ṝ-eti=Ĩrã pilə keäkə i-də-li-mo əi-se (1)
bakururu 3-house=DAT after PTCL2 3S-go-IPFV-PL dance-PURP
‘After that, they went into the bakururu house in order to dance.’

When the dative is used in constructions where the causative (see 4.2.3 and 4.2.4) is attached to the verb, -Ĩrã marks the causee.

(3.137) pazikə udodo-Ĩrã əz-enu-esa-ge-ho-li (1)
anteater jaguar=DAT DETR-eye-scratch-REV-CAUS-IPFV
‘The anteater got its own eyes scratched by the jaguar.’ i.e., ‘The anteater caused the jaguar to scratch the anteater’s eye.’

3.1.6 Other nominal inflections

Other nominal inflections are augmentative, diminutive, and entitative.

3.1.6.1 Augmentative -tẽ / -dẽ

The augmentative suffix is -tẽ / -dẽ. It is phonologically conditioned and added to the right edge of the noun. It is often followed by ɯaũlo ‘like.’ Some examples follow.\(^{30}\)

\(^{30}\) Meira (personal communication) posits that /ɯaũlo/ is an irregular nominalized form of the non-nominalized /uara/ ‘like’ due to nasalization and /-ro/ or /-lo/ at the end. In Bakairi, ɯaũlo/ is used after onomatopoeia meaning ‘like.’
3.1.6.2 Diminutive -tǐ

Diminutive constructions are formed with the suffix -tǐ after the noun. The suffix is added at the right edge of nouns, which are typically followed by uaũlo ‘like.’

(3.140)  i-ʔu-ru-tǐ  uaũlo (2)
3-foot-POSS-DIM  like
‘his tiny feet’

3.1.6.3 Entitative -mi

The entitative -mi suffix expresses ‘one that is characterized by the feature X.’ The suffix -mi attaches to a noun ending in /-u/, the root from which adverbialized forms are derived (see 3.7). The following are examples of the entitative -mi.

(3.141)  sinu-mi (2)
lethargy-ENT
‘a lazy person or animal’
(3.142)  eanu-mi (2)
fear-ENT
‘a scared person or animal’
(3.143)  igigu-mi (2)
life-ENT
‘a person or animal full of life’
(3.144)  saikuru-mi (2)
sweetness-ENT
‘a sweet person or animal’
(3.145)  ilainu-mi (2)
disgust-ENT
‘a disgusting person or animal’
(3.146)  ipodu-mi (2)
embarrassment-ENT
‘an embarrassed person or animal’
3.2 **Nominal derivation**

Nominal derivations are possible across classes as well as within the nominal class. Deadverbials, deverbals, and past deverbal nominalizations are analyzed, respectively.

3.2.1 **De-adverbial nominalizer(1) -ĩ, -ũ**

The suffixation -ĩ to an adverb or an adverbial formation creates a deadverbial nominalization, meaning ‘one which is’ or ‘one who is.’ (In the first example below, although the segment -go is tentatively analyzed as -agə ‘with,’ Meira suggests it may be part of an older verb /gə/ incorporating ema ‘hand’.)

(3.147) tə-ema-(a)go-ze-ĩ ①  
3R-hand-COM?-ATTR-NZR1  
‘thief’

(3.148) ti-ãga-pil-e-ĩ ①  
3R-head-red-ATTR-NZR1  
‘one who has red hair’

(3.149) âzi t-apidur-e-ĩ ①  
3R-yellow-ATTR-NZR1  
‘yellow corn’

(3.150) sauari t-apidur-e-ĩ ①  
3R-yellow-ATTR-NZR1  
‘yellow corn’

(3.151) satubi t-iki-ze-ĩ ②  
3R-thin-ATTR-NZR1  
‘thin leaf’

Deadverbial nominalizations are negated with the negative existential particle ke-ba.

(3.152) t-apabil-e-ĩ ke-ba ①  
3R-red-ATTR-NZR1  PT-NEG  
‘It is not red.’

The following pair contrasts the negation of the instrumental case with its negated nominalization.

(3.153) tə-(e)sani-ge-ba ①  
3R-depth-INSTR-NEG  
‘not deep’

(3.154) tə-(e)sani-ge-ĩ ke-ba ①  
3R-depth-INSTR-NZR1  PT-NEG  
‘that is not deep’
The following pair contrasts the negation of the adverbial with its negated nominalization.

(3.155) ti-eku-do-ẽ-pa
   3R-measure-NZR3-ATTR-NEG
   ‘unmeasurable(-ly)’
(3.156) ti-eku-do-ẽ-ĩ ke-ba ①
   3R-measure-NZR3-ATTR-NZR1 PT-NEG
   ‘that has no measurement’

In some cases, instead of -ĩ, the entitative nominalization with the allomorph -ũ of primitive nouns may be used to impart a sense of ‘a person who is N.’

(3.157) ã-ga-si-ũ əmɔ ①
   head-LOC2-NZR1 2SG
   ‘You are a stubborn person.’

Deadverbial nominalizations with the allomorph -ũ are negated internally between the attributive suffix and the nominalizer.

(3.158) t-ita-ẽ-ba-ũ ②
   3R-mouth-ATTR-NEG-NZR1
   ‘mute person’
(3.159) t-ə-(em)u-ẽ-ba-ũ ②
   3R-eye-ATTR-NEG-NZR1
   ‘blind person’
(3.160) t-(s)in-e-pa-ũ ②
   3R-lethargy-ATTR-NEG-NZR1
   ‘active person’
(3.161) t-ə-(e)u-ne-ba-ũ ②
   3R-sickness-ATTR-NEG-NZR1
   ‘healthy person’

3.2.2 De-adverbial /-postposition nominalizer(2) -o, -no, -Frō

De-adverbial nominalizations with the suffix -o, -no, -Frō create a noun that possesses the quality of the adverb or numeral.

The allomorphs -o, -no are used to create nouns from nouns or nouns from adverbs, as in the following examples.
The following examples show that postpositions can be nominalized.

(3.164)  idu  oda-no
  woods  inside-NZR2
  ‘a forest-dweller’

(3.165)  ika-no
  liquid-NZR2
  ‘gourd’

The addition of the nominalizing allomorph -\(\text{̄}v\) to adverbs or postpositions creates ‘one who is ADV.’ In this process, one or more vowels of the adverb or postposition become /o/ through vowel harmony (see 2.5.6). These transformations are shown in the examples below:

(3.166)  iuage-\(\text{̄}v\)rő
  far-NZR2
  ‘one who is far’

(3.167)  kođeda-\(\text{̄}v\)rő
  fine-NZR2
  ‘one who is fine’

(3.168)  da-\(\text{̄}v\)rő
  LOC3-NZR2
  ‘one who is inside’

(3.169)  uaga-\(\text{̄}v\)rő
  LOC4-NZR2
  ‘one who is on the top’

(3.170)  k-agơ-\(\text{̄}v\)rő
  1PL-COM-NZR2
  ‘our companion’

(3.171)  e-nina-\(\text{̄}v\)rő
  2-against-NZR2
  ‘one who is beside you’

31 This word idu-no was more commonly used to mean ‘a forest hunting companion.’ It is now used for ‘a member of a group, a partner.’
Nominalizations such as the ones above can take person prefixes, plural markers, past nominal markers, and other affixes.

### 3.2.3 Deverbal entity nominalizer(3) (I) -to, -do and (II) -ho or -o, -ʔo

A deverbal entity nominalization forms a noun describing something that is a place, a time, or an object used for doing the action described in the verbal stem. Apart from stative verbs, there are two types of verbs in Bakairi (Type I and II). Knowing this distinction of the verbs is important to understand the distribution of the different allomorphs:

(a) Type I verbs and the stative copulative verb -a- are nominalized with one of the allomorphs -to / -do.

(b) Type II verbs are nominalized with the suffix -ho or -o / -ʔo.

The distribution of the different allomorphs within each verb type respects strict phonological conditions, i.e., the same [± VOICE] quality of the immediate-past suffix (see Chapter 2, Phonology). Highlights in the examples below illustrate this point. The following are some Type I deverbal nominalizations.

(3.172) u-i-tai  
1S-bathe-IMM.PST  
‘I took a bath’

(3.173) i-to  
bathe-NZR3  
‘bathroom’

(3.174) s-eka-dai  
1S-sit-IMM.PST  
‘I sat’

(3.175) eka-do  
sit-NZR3  
‘seat’

(3.176) s-eka-na-dai  
1A-store-TRVR-IMM.PST  
‘I stored something.’

(3.177) eka-na-do  
store-TRVR-NZR3  
‘cabinet’

Deverbal entity nominalizations take person prefixation, possessed suffixation, past possession suffixation, and plural markers.

The stative copulative -a- (see 4.1.1) is nominalized with -to meaning ‘one that is X, one for being X.’ The copula complement is more commonly used together with a desiderative adverbial meaning ‘a noun or a nominalization that is of someone’s liking.’
## TABLE 3.5: NOUN + LIKING + NOMINALIZED COPULATIVE VERB

<p>| | | | | | | |</p>
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<thead>
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<tr>
<td>n. + ize</td>
<td>+ person affix + COP + NZR3</td>
<td>Gloss</td>
<td></td>
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<td></td>
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<tr>
<td>1SG</td>
<td>n. + DESI + u-a-to</td>
<td>‘n. is of my liking’</td>
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<tr>
<td>2SG</td>
<td>n. + DESI + m-a-to</td>
<td>‘n. is of your liking’</td>
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</tr>
<tr>
<td>3SG</td>
<td>n. + DESI + Ø-a-to</td>
<td>‘n. is of his liking’</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1PL</td>
<td>n. + DESI + Ø-a-to + sina</td>
<td>‘n. is of our(EXC) liking’</td>
<td></td>
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</tr>
<tr>
<td>1PL</td>
<td>n. + DESI + kid-a-to + kurə</td>
<td>‘n. is of our(INC) liking’</td>
<td></td>
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</tr>
<tr>
<td>2PL</td>
<td>n. + DESI + m-a-to-mo</td>
<td>‘n. is of your liking’</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3PL</td>
<td>n. + DESI + Ø-a-to-mo</td>
<td>‘n. is of their liking’</td>
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</table>

Unlike what is found in common nouns, the plural -mo is added before the past nominal suffix.

## TABLE 3.6: NOUN + LIKING + PAST NOMINALIZED COPULATIVE VERB

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</tr>
<tr>
<td>n. + ize(1) + person affix + COP + NZR + PL + PST + POSS</td>
<td>Gloss</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1SG</td>
<td>n. + DESI + u-a-to-bi-ri</td>
<td>‘n. was of my liking’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2SG</td>
<td>n. + DESI + m-a-to-bi-ri</td>
<td>‘n. was of your liking’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3SG</td>
<td>n. + DESI + Ø-a-to-bi-ri</td>
<td>‘n. was of his liking’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1PL</td>
<td>n. + DESI + Ø-a-to-bi-ri + sina</td>
<td>‘n. was of our(EXC) liking’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1PL</td>
<td>n. + DESI + kid-a-to-bi-ri + kurə</td>
<td>‘n. was of our(INC) liking’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2PL</td>
<td>n. + DESI + m-a-to-mo-bi-ri</td>
<td>‘n. was of your liking’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3PL</td>
<td>n. + DESI + Ø-a-to-mo-bi-ri</td>
<td>‘n. was of their liking’</td>
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</tbody>
</table>

Type II verbs form nominalizations with the suffix -ho(1) or -o, -ʔo(2) serving as instrument nominalizations.
The Morphology of Nouns and Verbs  97

(3.178) egase-ho (1)
    come.out-NZR3
    ‘exit’

(3.179) eni-ho (1)
    drink-NZR3
    ‘cup’

(3.180) pai-ŋo (2) (from the verb: iuaili (2) ‘scratch’)
    scratch-NZR3
    ‘bleeder’

(3.181) ia-ŋo (2)
    bite-NZR3
    ‘syringe’

This suffix is also used as a location nominalizer, as evident in the formation of the words which express the cardinal directions ‘east’ and ‘west.’

(3.182) sisi Ø-egase-ho (1)
    sun 3-rise-NZR3
    ‘east’

(3.183) sisi i-huge-ho (1)
    sun 3-fall-NZR3
    ‘west’

Interestingly, the other cardinal points are sodo ‘to the river,’ i.e., ‘north’ and igowinu øeto ‘from where the cold comes,’ i.e., ‘south.’ As a rule, landmarks are used for these cardinal points, and each village has different north-south landmarks.

3.2.4 Deverbal entity nominalizer(4) -i, -ni

The deverbal entity nominalizing suffix -i, -ni has an agentive function. The nominalizing suffix is added after the verbal stem or after a verbalizing suffix. The following are examples of this nominalizer occurring directly after the stem.

(3.184) ai-ni (1)
    dance-NZR4
    ‘dancer’

(3.185) epaua-ni (2)
    pay-NZR4
    ‘payer’

The following are examples of the nominalizer coming after a verbalizer.

(3.186) enome-da-ni (2)
    knowledge-VBZ2-NZR4
    ‘teacher’
Nominalizations of transitive verbs are formed with a detransitivizer əd- (see 4.2.2), whereas intransitive verbs take the third-person subject prefix s-.

Agentivized words accept person-marking prefixes and other affixation. In the example below, the vowel of the verb shifted from /i/ to /u/ while adding the suffix.

The plural is formed with -modo.

The form of the agentive may alternate when co-occurring with the plural. For example, in the following plural formation of siutu ‘expert,’ -i becomes -ni.

An example of a negated agentivized verb follows.
3.2.5 Negative deverbal nominalizer(-tə̀rĩ, -də̀rĩ)

A negativizing deverbal nominalization creates nouns with the meaning ‘one who/that does not do.’ This suffix is likely a composite of the prohibitive morpheme -də̀ (see 4.2.8.4), which is later nasalized (-Ṽ), and the possessive suffix -rĩ (see 3.1.3). All verbs take one of the two allomorphs -tə̀rĩ, -də̀rĩ depending on a strict phonological condition, i.e., the same [± VOICE] quality of the immediate-past suffix. Consider the minimal pairs below.

(3.195)  n-od-opə-dai ¹
3A-DETR-return-IMM.PST
‘he returned’

(3.196)  od-opə-də̀rĩ ¹
DETR-return-NZR5
‘person who is gone’

(3.197)  n-oh-ogu-agi ¹
3A-DETR-marry-IMM.PST
‘he got married’

(3.198)  oh-ogu-də̀rĩ ¹
DETR-marry-NZR5
‘unmarried person’

(3.199)  n-ə̀e-tai ¹
3A-come.back-IMM.PST
‘he came back’

(3.200)  ə̀e-tə̀rĩ ¹
come.back-NZR5
‘absent person’

(3.201)  i-də̀-akĩ ¹
3S-go-IMM.PST
‘He went’

(3.202)  i-də̀-tə̀rĩ ¹
3S-go-NZR5
‘staying person’

3.2.6 Participles

A Bakairi participle, a word derived from a verb that is used as an adjective, is a nominalized verb, formed according to the valency of the verb: (a) Transitive verbs (Type I) take the participle suffix -tibi, -dibi(1) or -tibə, -dibə(2); and (b) Intransitive verbs (Type II) take the participle suffix -ipĩ, -ibi(1) or -ripa, -ripa(2).

Below are examples of Type I and Type II participles, respectively.

32 The word tə̀nũẽrĩ ‘one who does not have eyes’ may be related to this formation. The suggested segmentation of this word tə̀nũẽrĩ is 3R /t-/, enu- ‘eye’ + ATTR -ẽ + an unattested suffix -Ṙrĩ ‘not having.’
In a sentence, the participle places the focus on the object.

(3.205) ətə  kə-iʔtə-dibə́ 2
house  1A-build-PTC
‘The house was built by me.’

Similar examples are given below.

(3.206) arakuma  kə-iʔʔu-ribə́ 2
hen  1A-roast-PTC
‘The hen was roasted by me.’

(3.207) udodo  kə-iʔʔ-ripə́ 2
jaguar  1A-kill-PTC
‘The jaguar was killed by me.’

(3.208) iuelo  sirə́  s-aíge-ho,  sina  i-anə-tibi 1
new IN.PROX  3O-strain-NZR3  1PL.EXC  3-buy-PTC
‘This is the new strainer, which we bought.’

By itself, a participle does not discriminate animacy.

(3.209) Ø-eta-ge-ribə́ 2
3-cover-REV-PTC
‘one who/which was uncovered’

Next to a noun, the participle is a past nominalization (see 5.1.4).

(3.210) tohu  s-aeta-dibi 1
pumpkin  3O-plant-PTC
‘planted pumpkin’

A participle can be attached to an adverbializer -ː (see 3.7) forming a subordinate clause.

(3.211) a-ie-tibi-ː  sina  i-eiʔle-dili  auəkə́ 1
3O-make-PTC-ATTR  1PL.EXC  3S-laugh-IPFV  AN.MED
‘After making it, she laughed with us.’
A compound noun can be identified as a sequence of two common noun roots preceded by a person prefix and a possessive suffix.

(3.212) i-enu-(e)pi-ri ②
   1-eye-top-POSS
   ‘my eyelid’

(3.213) i-enu-(e)ta-ri ②
   1-eye-box-POSS
   ‘my eyeglasses’

The left root of a compound noun is limited to body parts. In its formative process, one of the roots loses a syllable. In some compounds, the last syllable of the first root is lost, whereas, in others, the first syllable of the second root is lost. In the two examples above, segmental reduction (i.e., the parenthetic syllable) occurs in the second root. In the following examples, the first root is morphologically reduced.

(3.214) i-em(l)i-hudu-Ø ①
   1-face-hair-POSS
   ‘my mustache’

(3.215) i-ãa(hu)-hudu-Ø ①
   3-head-hair-POSS
   ‘his head hair’

Many compound nouns are formed without syllable reduction.

(3.216) Ø-enu-anali-ri ②
   3-eye-core-POSS
   ‘the eye pupil’

(3.217) Ø-enu-kimunu-Ø ②
   3-eye-cover-POSS
   ‘the eyebrow’

(3.218) Ø-enu-pilu-Ø ②
   3-eye-redness-POSS
   ‘the red eyes’

3.3 Personal pronouns

In a Bakairi speech act, ‘first person’ and ‘second person’ are expressed with dedicated pronouns. The singular and plural third-persons are expressed through a set of demonstratives, which are described in section 3.3. Two plural first-person pronouns refer to the exclusion or inclusion of the addressee, in other words, an exclusive we and an inclusive we. Although semantically plural, these plural first-person pronouns do not take a plural suffix. Only the plural second- and third-person pronouns take the plural suffix -mo. In the examples below, only variations in pronunciation are marked.
(3.219) urə ‘I’
  ama ‘you’
  sina 1 or ina 2 ‘we-EXC’
  kurə ‘we-INC’
  amae-mo 1 or amare-mo 2 ‘you-PL’

Examples in sentences are provided below.

(3.220) t-utue-lə urə 2
  3R-know-EMPH 1SG
  ‘I know someone/something.’

(3.221) ie amə? 2
  like/want 2SG
  ‘Would you like some?’

(3.222) to-eʻe-pa keho33 sina i-eʻi-le-dili 1
  few-ATTR-NEG INTS 1PL.EXC 3S-laugh-IPFV
  ‘We laughed very much.’

Table 3.7 is based on Derbyshire’s model for the Cariban languages (1999: 54). The right column lists the attested demonstrative adverbs; items with 1 or 2 are found exclusively in each dialect; all remaining data are observable in both dialects.

<table>
<thead>
<tr>
<th>Free Personal pronoun</th>
<th>SG</th>
<th>PL</th>
<th>Demonstrative adverbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>urə</td>
<td>---</td>
<td>tarə, siarə, siariə, taulolə, tarəpə̀u</td>
</tr>
<tr>
<td>1 +2 EXC</td>
<td>sina1</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>ina2</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1(+2)+3 INC</td>
<td>kurə</td>
<td>---</td>
<td>---</td>
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<tr>
<td>2</td>
<td>amə</td>
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<td>amare2</td>
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3R – anaphoric

3AN

<table>
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<th>SG</th>
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<td>inəra</td>
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3INAN

3DEICTIC PROXIMATE

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3DEICTIC MEDIAL

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<th>Demonstrative adverbs</th>
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</tr>
<tr>
<td>sirə</td>
<td>sirəmodo</td>
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</tbody>
</table>

33 Today, keho is a non-segmentable intensifier meaning ‘very much.’ Historically, it may have consisted of ke ‘say’ or a proto-copula *ke – which is still used in keba ‘there isn’t,’ in keka, a generic past particle (see 4.2.7.3) – plus the suffix -ho ‘causative’ (see 4.2.4) or ‘circumstance nominalizer’ (see 3.2.3) plus -ə̀ ‘essive/similative denominalizing marker,’ i.e., literally, ‘as something to say.’
3AN    auəkə  asaemo (1)  asaremo (2)  auəkəmədo (1)  auəkəremo (2)
3INAN  auəkə  auəkəmədo

3DEICTIC DISTAL  tərə, tərələ, məłə, mərərə, təhərə, tərɨkə

3AN    məkə, maũkə  məkəremo (2)
3INAN  mərə  mərəmədo

### 3.4 Demonstrative pronouns

Deictic demonstratives are established in order of decreasing proximity from the speakers. *Proximal* refers to being near the speech-act participants, *medial* relates to being away from the speech-act participants but still within sight, and *distal* refers to a distance that is no longer within sight. Although a priori deictic demonstratives relate to their spatial distances, they are also used as existential copulas as seen in the examples here and elsewhere. In Bakairi, demonstratives can occur independently or co-occur with a noun. Their plural is formed with the suffix *-mo* or *-modo*.

Animate and inanimate nouns use different demonstratives as seen in the following pair.

\[(3.223)\] seruseru  mərə (1)  dog  AN.PROX
\[dog (is a) dog.\]
\[(3.224)\] amugə  sirə (1)  pan  IN.PROX
\[pan (is a) pan.\]

Demonstratives for the animate class refer to ‘he,’ ‘she,’ or ‘an animal,’ including detached parts of an animal and meat. The animate distals exhibit a variant (*maũkə*), which is not attested in the inanimate demonstratives.

**TABLE 3.8: ANIMATE DEMONSTRATIVES**

<table>
<thead>
<tr>
<th>3SG AN</th>
<th>3PL ANIM</th>
<th>Deictic Referencing</th>
</tr>
</thead>
<tbody>
<tr>
<td>mərə</td>
<td>mərə-mədo (1)  mesare-mo (2)</td>
<td>proximal</td>
</tr>
<tr>
<td>auəkə</td>
<td>auəkə-mədo (1)  auəkəmədo (2)</td>
<td>medial</td>
</tr>
<tr>
<td>məkə</td>
<td>məkə-mədo (1)  məkəmədo (2)</td>
<td>distal</td>
</tr>
<tr>
<td>maũkə</td>
<td>asae-mo (1)  asare-mo (2)</td>
<td>distal</td>
</tr>
<tr>
<td>inərə</td>
<td>akae-mo (1)  akare-mo (2)</td>
<td>anaphora</td>
</tr>
</tbody>
</table>

Below are some examples of animate demonstratives next to a noun, such sequences of a demonstrative and a noun can be the subject of a predicate noun or a phrase.
The inanimate demonstrative class consists of three spatial distances referring to the third person ‘it’ and ‘they.’ Their plural is formed with the suffix - modo.

**TABLE 3.9: INANIMATE DEMONSTRATIVES**

<table>
<thead>
<tr>
<th>3SG INAN</th>
<th>3PL INAN</th>
<th>Deictic Referencing</th>
</tr>
</thead>
<tbody>
<tr>
<td>sirə</td>
<td>sirə-modo</td>
<td>proximal</td>
</tr>
<tr>
<td>auərə</td>
<td>auərə-modo</td>
<td>medial</td>
</tr>
<tr>
<td>mərə</td>
<td>mərə-modo</td>
<td>distal</td>
</tr>
</tbody>
</table>

Examples are provided below.

(3.228) i-emano-la sirə ①
1-object-EMPH IN.PROX
‘This object is mine.’

(3.229) auərə-modo ke-ba rolə ema-ke-ri-mo ②
IN.MED-PL PT-NEG but hand-REV-POSS-PL
‘They took things but not these.’

(3.230) pei naka i-tibi-e-i mərə-modo ②
fruit bad COP-PTC-ATTR-NZR1 IN.DIST-PL
‘Those pieces of fruit are rotten.’

**3.5 Interrogative pronouns**

With the exception of /əgi/ ‘who,’ interrogative pronouns appear to be historically derived from /ədi/ ‘what.’ For instance, /ədi + uaũlo/ forms /ədaũlo/; /ədi + -ã/ forms /ədiã/; /ədi + -ra/ forms /ədira/; /ədi + aituo/ forms /ədaituo/.
Interrogative pronouns are not inflected into the plural, do not receive possessive morphology, and cannot be negated. Often in sentence-initial position, interrogatives can be combined with a noun.

(3.231) \(ədara\ pào-be=ka \ ŏmae-mo\)? ①

‘How many loaves of bread do you have?’

(3.232) \(ədara=ka \ hora\ a-uili?\) ①

‘What time is it?’

In questions, the interrogative clitic =\(ka\) is optional.

(3.233) \(ədura\ ōma\ anu-pe?\) ②

‘How old are you?’

(3.234) \(ədãulu\ iuenu?\) ②

‘What color is it?’

Interrogative pronouns are also attested in declarative sentences:

(3.235) \(ədãulu\ eã\ eti\ s-aï-to\) ②

‘Whatever way he was clad upon his arrival.’

(3.236) \(adì\ pe-ba-ro\ uãulo-ma, \ what\ have-NEG-INTS slow-FOC
café\ ku-le-lô\ a-iVê-kili-mo\) ②

‘If we do not have anything (to offer), we make only coffee.’

---

34 The interrogative word \(əgi\) is used for all animate beings. For the Bakairi, animals and humans alike engage in conversations and quite often identical terminology for humans is used for animals, such as offspring/children, male-female/husband-wife indicating that animals and humans share common traits.
3.6 Numerals

While the numerals from one to five, ten, and twenty are Bakairi words, the remaining numerals are loanwords. Numerals belong to a binary class system. There are two base numerals: *tokal*ə ‘one’ and *azag*ə (1) or *ahag*ə (2) ‘two.’ A combination of these terms leads to a few more numerals, such as 2+1, 2+2, and 2+2+1. The table below shows the Bakairi numerals.

<table>
<thead>
<tr>
<th>Table 3.11: CARDINAL NUMERALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Bakairi</td>
</tr>
<tr>
<td>tokalə</td>
</tr>
<tr>
<td>ahagə</td>
</tr>
<tr>
<td>ahagə tokalə</td>
</tr>
<tr>
<td>ahagə ahagə</td>
</tr>
<tr>
<td>ahagə ahagə tokalə</td>
</tr>
<tr>
<td>seis</td>
</tr>
<tr>
<td>sete</td>
</tr>
<tr>
<td>oito</td>
</tr>
<tr>
<td>nove</td>
</tr>
<tr>
<td>ahagə iemari</td>
</tr>
<tr>
<td>ahagə iemari, ahagə uʔuru azagə iemari, azagə uhuru</td>
</tr>
</tbody>
</table>

The numeral ten is expressed as *azagə iemari* ‘my hands’ and the numeral twenty is expressed as *azagə iemari, azagə uhuru* ‘my hands, my feet.’

(3.237) azagə i-ema-ri (1)
\[\text{two 1-hand-POSS ‘ten’}\]

(3.238) azagə i-ema-ri azagə u-(i)hu-ru (1)
\[\text{two 1-hand-POSS two 1-foot-POSS ‘twenty’}\]

For any numeral between or higher than the ones represented in Table 3.11, the expression *merə merə* ‘this and this’ or *merə merə* ‘that and this’ represents an indefinite quantity of the inanimate class. The expression *makə merə* means ‘that and this’ but it is used for two types of entities of the animate class, as in ‘this and that type of.’ Therefore, these three expressions no longer refer to spatial deixis.

(3.239) ahagə makə merə kauida (2)
\[\text{two \ AN.DIST AN.PROX macaw ‘There are two types of macaws.’}\]

Emphatic particles can be added to a numeral to intensify or otherwise change the meaning: -lə (firsthand) and =mə (non-visual) are the most common (see 5.6).
Syntactically, numerals precede nouns.

A numeral can be distanced from its modifying noun due to the obligatory object-before-verb positioning (see 5.1).

The attachment of the suffix -õ, -no, -rõ (see 3.2.2) to a numeral changes it into a common noun meaning ‘something or someone that is limited to that number.’ While a numeral does not take affixation, a derived common noun does (see 3.1). Table 3.12 shows that numeral derivation is limited to native Bakairi words.

**TABLE 3.12: NOMINALIZED NUMERALS**

<table>
<thead>
<tr>
<th>Western Bakairi</th>
<th>Eastern Bakairi</th>
<th>Free Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>tokale-õ</td>
<td>tokale-õ</td>
<td>‘who is one’</td>
</tr>
<tr>
<td>ahage-õ</td>
<td>azage-õ</td>
<td>‘who are two’</td>
</tr>
<tr>
<td>ahago tokale-õ</td>
<td>azago tokale-õ</td>
<td>‘who are three’</td>
</tr>
<tr>
<td>ahago ahage-õ</td>
<td>azago azage-õ</td>
<td>‘who are four’</td>
</tr>
</tbody>
</table>

Below are some examples.

(3.244) Paulo, João azag(e)-rõ-pi-ri ①  
Paulo, João two-NZR2-PST-POSS  
‘Paulo and João were twins.’

(3.245) urõ i-(i)me-ri tokale-õ ②  
1SG 3-child-POSS one-NZR2  
‘It is my only child.’
3.7 Adverbs and Adverbial Morphology

The term ‘adverb’ has been chosen here as this word class modifies nouns and verbs in Bakairi. Therefore, ‘adverb’ not ‘adjective’ is used throughout this text. What the reader might understand as an ‘adjective’ is accomplished by many forms of nominalizations in Bakairi (see 3.2).

Adverbs have two basic morphological distinctions:
(a) most are formed with a circumflex, namely, denominal attributive adverbializer \( t-N-e/ẽ \) or \( t-N-se/ze \), and
(b) very few adverbs lack any affixation.

The denominal attributive adverbialization process is illustrated below with the circumflex \( t-N-e/ẽ \). Examples of the circumflex follow. Note that the realization of the prefix is conditioned by the initial vowel of the root.

\[
\begin{align*}
(3.246) & \quad t-\epsilon bi-ri-ẽ & 3R\text{-payment-Poss-Attr} \\
& \quad \text{‘payable’} \\
(3.247) & \quad t-\epsilon zidi-ẽ & 3R\text{-territory-Attr} \\
& \quad \text{‘territorial’} \\
(3.248) & \quad ti-eku-do-ẽ & 3R\text{-measure-NZR3-Attr} \\
& \quad \text{‘measurable’} \\
\end{align*}
\]

A negative suffix \(-pa, -ba\) (see 2.5.1, for the distribution of the voice feature) expresses antonyms. Pairs of antonyms follow.

\[
\begin{align*}
(3.249) & \quad t-\epsilon ti-ẽ & 3R\text{-cloth-Attr} \\
& \quad \text{‘clad’} \\
(3.250) & \quad t-\epsilon ti-ẽ-ba & 3R\text{-cloth-Attr-NEG} \\
& \quad \text{‘naked’} \\
(3.251) & \quad t-a-se & 3R\text{-inside-Attr} \\
& \quad \text{‘full’} \\
(3.252) & \quad t-a-se-ba & 3R\text{-inside-Attr-NEG} \\
& \quad \text{‘empty’} \\
(3.253) & \quad tōʔo-e & \text{strong-Attr} \\
& \quad \text{‘strong’} \\
(3.254) & \quad tōʔo-e-ba & \text{strong-Attr-NEG} \\
& \quad \text{‘not strong’}
\end{align*}
\]
Adverbs can be intensified as in the examples below:

(3.257) t-an-e-begō  
3R-acid-ATTR-INTS  
’a bit acidic’

(3.258) tu-(i)dū(r)-begō  
3R-bitter-INTS  
’a little bitter’

Adverbs that lack affixation, i.e., lexical adverbs can also be intensified in the same manner.

(3.259) maʔedo-begō  
big-INTS  
’a little big’

(3.260) toʔo-begō  
strong-INTS  
’a little strong’

Syntactically, adverbs precede verbs, i.e., modifiers precede heads.

(3.261) uarə iuɛrə tod-oh-oguï-ho-ɛ a-iVe-dili-mo  
and today NPOS-DETR-marry-CAUS-ATTR 3O-make-IPFV-PL  
‘And today they are getting married.’

Adverbs modify nouns.

(3.262) tɔː-ze-pa kɔpɔ i-huge-li  
little-ATTR-NEG rain 3S-fall-IPFV  
‘It is raining a lot.’

(3.263) tɔː-ze-pa doce sina n-ei-O  
little-ATTR-NEG sweet stuff 1PL.EXC 3S-suck-PST  
‘We ate a lot of candy.’

(3.264) tɔː-pa igauŋu  
little(-ATTR)-NEG coldness  
‘It is very cold.’
The adverb *toepepa* (1) or *toepa* (2) modifies verbs.

(3.265) toe-pa ad-ape-li 
little(-ATTR)-NEG DETR-blow-IPFV
‘It is blowing a lot of wind.’

(3.266) toe-pa maripe Ø-egaki 
little(-ATTR)-NEG emu 3-run
‘The emus run a lot.’

(3.267) toe-pa ø-ie u-a-uali 
little(-ATTR)-NEG 2-like 1S-COP1-IPFV
‘I like you very much.’

The adverbial circumfix *t-N-e/ẽ* loses the prefix *t(a)*- to represent an essive adverbial function, i.e., ‘as, as in the capacity of, sort/kind of, like.’ This is observed especially with loanwords.

(3.268) inglês-ẽ ‘in English’
espanhol-ẽ ‘in Spanish’
gregü-ẽ ‘in Greek’

(3.269) português-ẽ ke-li auakə (1)
Portuguese-ATTR say-IPFV AN.MED
‘He spoke in Portuguese.’

Below is an example of an essive adverb in a sentence.

(3.270) azaga uguødō Ø-øepəna-ge-li, tokalo pekodo-ẽ,
two men 3-show-REV-IPFV, one woman-ATTR
e-ãg-õrō agaiti-ð-ẽ (1)
3-COM-NZR2 old-NZR2-ATTR
‘Two men showed up, one (dressed) as a woman, the other as an old person.’

Verbs are adverbialized with the attributive adverbializing suffix *V-e/ẽ*.

(3.271) eme-tibi-ẽ (…) (1)
dawn-PTC-ATTR
‘As it has dawned, (clause)’

(3.272) ad-aï-pi-ẽ (…) (1)
DETR-finish-PST-ATTR
‘As it is finished, (clause)’

(3.273) ai-tibi-ẽ (…) (1)
do-PTC-ATTR
‘As it is done, (clause)’
Finally, demonstratives are adverbialized with the attributive adverbializing suffix -e/ê.

There are four semantic types of adverbs in Bakairi: (1) colors, (2) physical properties, (3) human propensities, and (4) dimensions. Only Western Bakairi data are indicated with ②; otherwise, the data below are from Eastern Bakairi.

**COLORS**

(3.278)  
t-apabil-e  ‘red’  
t-apadur-e  ‘yellow’  
t-apek-e  ‘white’  
t-iziur-e  ‘purple, violet’  
t-oʔog-e ② ‘colorful, colored’  
t-ukobil-e  ‘brown’  
t-uku-e  ‘green, blue’  
t-upiur-e  ‘orange, auburn’  
t-utugi-ne  ‘dark olive skin color’  
t-ə(e)am-e  ‘dark’  
t-ə(e)amgi-ne  ‘black’  
t-iazin-e  ‘light, bright’

**PHYSICAL PROPERTIES**

(3.279)  
t-adig-e  ‘fat’  
t-igauan-e  ‘cold’  
t-iuak-e  ‘dirty’  
t-iuakur-e  ‘handsome, beautiful’  
t-okonu-ge  ‘soft, flaccid, mushy’  
t-oʔo-e ② ‘strong’  
t-agara-ne  ‘tight’  
t-un-e  ‘bloody’  
t-ʔuwaʔ-e ② ‘hard’  
t-ə(e)dopi-ge  ‘hot’
tə-(e)uən-e ‘sick’

HUMAN PROPENSITIES

\((3.280)\) t-ieil-e ‘smiling’
  t-itii-e \(\overset{2}{\text{}}}\) ‘sad’
  t-iiuəʔ-e \(\overset{2}{\text{}}}\) ‘quiet, serious’
  t-iuən-e ‘missing, lacking’\(^{35}\)
  t-iə-ge-e ‘having a smell’
  t-omar-e ‘happy’
  tə-(e)regir-e ‘he is worried, uneasy’

DIMENSIONS

\((3.281)\) t-agol-e ‘floppy, loose’
  t-apari-ge ‘having a wide canopy’
  t-idapə-ne ‘round, circular’
  t-imibakul-e ‘short (in length)’\(^{36}\),
  t-umol-e ‘wide, large, loose’
  tə-(e)sani-ge ‘deep, having depth’
  tə-(e)kari-ne ‘bent’

---

\(^{35}\) The nominalization /iuənu/ means ‘missing, being homesick, lacking’ as in the following example: /paru iuənu/ \(\overset{3}{\text{}}}\) ‘(I am) missing water → (I am) thirsty.’ As a verb, it is used as in the following example: /əmə kənuəmedili/ \(\overset{2}{\text{}}}\) ‘I am missing you → I miss you.’

\(^{36}\) The nominalization /t-imi-bakul-e-ı/ literally means ‘the one that is not long in length.’
Chapter 4
Inflectional and Derivational Morphology of Verbs

In this chapter, we will address the morphology of verbs in Bakairi. We begin with inflectional morphology and end with derivational morphology. Note that in the discussion of tense inflection, we will show that Bakairi has an alternative way to express past or future through the use of morphologically independent particles.

Three groups of Bakairi verbs present distinct morphology: copulative verbs, underived transitive verbs, and underived intransitive verbs. The copulative class is very small and not very common. The class of underived transitive verbs is labeled as Type I. Type II refers to underived, intransitive verbs.

In Bakairi, tense and aspect overlap, so a suffix marking aspect/tense comes after the stem of an underived verb. Therefore, the basic template of an underived verb is person prefix + verbal stem + aspect + mood.

4.1 Copulative verbs

There are two copulative verbs in Bakairi: a stative copulative -a- ‘be,’ and a change of state copulative -i- ‘become.’

For these two copulative verbs, the person inflection prefixes are:
- u- for 1SG,
- m- for 2SG and PL,
- Ø- for 3SG and PL, 1PL. EXC,
- kid- for 1PL. INC.

4.1.1 Stative copulative(1) verb -a-

The stative copula -a- requires an inflectional person prefix, which is similar to nominal possessive prefixes (see 3.1), and the imperfective suffix -ui̯lɨ ᵲ or -uəli̯n ᵲ. In interlinear glosses, this copula is labeled COP1. The examples below characterize the paradigm of this copula in the imperfective aspect. As the tense should be expressed externally via particles (see 4.2.7). The plural suffix -mo described in parenthesis below is used only for 2PL and 3PL.

(4.1) u-a-ui̯lɨ ₁
1SG-COP1-IPFV
‘I am being’

(4.2) m-a-ui̯lɨ(-mo) ₁
2-COP1-IPFV(-PL)
‘you are being’
In Bakairi, copula omission or zero copula represents a state thought of as permanent, the stative copulative -a- indicates a temporary state but not a change of state.

4.1.2 Change-of-state copulative(2) verb -i-

The change-of-state copulative verb -i-, glossed as COP2, indicates the sense of ‘become.’ It takes a person prefix (identical to the ones used with the stative copulative, see 4.1.1) and its suffix is -dɨlɨ(-mo) (identical to the imperfective Type I suffix, see 4.2.5).

The examples below establish the paradigm of this copula in the imperfective aspect. The plural suffix -mo, described below in parenthesis, is used only for 2PL and 3PL.

(4.5)  u-i-dilɨ(-mo)  1SG-COP2-IPFV
       ‘I am becoming’

(4.6)  m-i-dilɨ(-mo)  2-COP2-IPFV(-PL)
       ‘you are becoming’

(4.7)  Ø-i-dilɨ(-mo)  3/1PL.EXC-COP2-IPFV(-PL)
       ‘he is / we are / they are becoming’

(4.8)  kid-i-dilɨ  1PL.INC-COP2-IPFV
       ‘we are becoming’

The past or future tenses of this copula are expressed via suffixes (see 4.2.5).
4.2 Verbal inflection in independent verbs

Verbal inflection in Bakairi covers person distinctions, valency changes, aspect-mood distinctions, tense particles, negation, and number.

4.2.1 Person inflection

The shape of the person inflection prefixes is partly dependent on the presence of tense or aspect markers, on phonological conditioning, and on whether the prefix refers to an agent or to an object. These three factors play an important role in the selection of which prefix is chosen for the verbal stem: aspect markers (different for past and imperfective morphological categories), the initial vowel of the stem (most underived verbal stems begin with either /-i/ or /-e/ and a few derived stems begin with /-u/ or /-ə/ or /-o/), and valency (whether the agent or the object is indicated in the person prefix).

The examples below demonstrate a change of a person prefix according to aspect-mood for the same verbal stem eka ‘sit.’ For the formation of the imperfective, see 4.2.6 and the description of the generic past, see 4.2.5.2. Note that this stem eka means ‘sit’ as well as ‘ask for.’ They differ mainly in the imperative where ekagə means ‘please ask for it’ and ikagə means ‘please sit down.’

(4.9) kə-eVka-dili ➊
1SG-sit-IPFV
‘I am sitting.’

(4.10) s-eka-də ➋
1SG-sit-PST
‘I sat.’

Below are two examples of a person prefix changing according to the initial vowel of Type II verbal stem as there are phonological variations.

(4.11) Ø-iVke-li ➋
3SG-shave-IPFV
‘He is shaving’

(4.12) i-eVnaʔu-li ➊
3SG-sit-IPFV
‘He is closing’

Exclusively in first and second persons of Type I verbs, the person prefix indicates A-orientation or O-orientation.

---

37 Some of the material here first appeared in Imasato and Faria (2014).
38 Tense particles (see 4.2.7) are not technically part of verbal morphology.
All verbs show two sets of person prefixes: one for the past aspects and another for the imperfective morphology. Phonological variations are limited to the third person and the first person plural prefixes. Only person inflection prefixes for underived verbal stems are given below. These prefixes are used by both Type I and Type II indicating the agent or subject.

Note that verbal stems begin with either the vowel /e-/ and /i-/. When stems begin with the consonant /s-/, this consonant is dropped, and the person prefix set for /e-/ is used. For example, sameli ➂ ‘throw out’ → mameli ➂ ‘you are throwing out.’ Only one verb begins with a different vowel /a-/ aiedili ➂ ‘make’ or ‘build’ establishing an irregular formation, because a- remains unchanged and the person prefix set for stems beginning with /i-/ is inserted between a- and -iedili. For example, aiedili ‘make’ amɔi Ɂɛdili ‘you are making.’

<table>
<thead>
<tr>
<th></th>
<th>Stems with /e-/</th>
<th>Stems with /i-/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>kɔ-</td>
<td>kɔ-</td>
</tr>
<tr>
<td>2</td>
<td>mɔ-</td>
<td>mɔ-</td>
</tr>
<tr>
<td>3, 1PL. EXC</td>
<td>Ɂ-</td>
<td>Ø-</td>
</tr>
<tr>
<td>1PL. INC</td>
<td>kid-</td>
<td>kid-</td>
</tr>
</tbody>
</table>

Below are the person prefixes for the past tense aspects.

<table>
<thead>
<tr>
<th></th>
<th>Stems with /e-/</th>
<th>Stems with /i-/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>s-</td>
<td>s-      (pronounced [ʃ])</td>
</tr>
<tr>
<td>2</td>
<td>m-</td>
<td>m-</td>
</tr>
<tr>
<td>3, 1PL. EXC</td>
<td>n-</td>
<td>n-</td>
</tr>
<tr>
<td>1PL. INC</td>
<td>kɪ-</td>
<td>kɪ-</td>
</tr>
</tbody>
</table>

Additionally, the person prefixes can indicate the object of a Type I verb through an O-orientation perspective.

<table>
<thead>
<tr>
<th></th>
<th>Stems with /e-/</th>
<th>Stems with /i-/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1O</td>
<td>ie-</td>
<td>u-</td>
</tr>
<tr>
<td>2O</td>
<td>i-</td>
<td>œ-</td>
</tr>
</tbody>
</table>
4.2.2 Detransitivizer -ad

Formed through prefixes, detransitivization shows that the action of the verb is directed back on the agent. Apart from this canonical use, past bodily functions are formed through detransitivization expressing dispossession as bodily functions were once part of the individual, e.g., ejaculated, urinated, defecated, spat. Finally, detransitivization is required in a few verbs, e.g., ‘walk oneself’ or ‘learn’ which is the reflexive of ‘teach.’

The set of prefixes used with non-phonological environments is given below. The plural suffix -mo is added only to 2PL or 3PL. The reciprocal and mutual sense of the 2PL and 3PL is devised with the reduplication of the plural suffix as -mo-mo.

<table>
<thead>
<tr>
<th>TABLE 4.1: ALLOMORPHY OF THE DETRANSITIVIZER</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFIXES</td>
</tr>
<tr>
<td>ad- (1)</td>
</tr>
<tr>
<td>ad- (1)</td>
</tr>
<tr>
<td>od/-oh- (1)</td>
</tr>
<tr>
<td>az/-as- (1), or/-o- (2)</td>
</tr>
<tr>
<td>az/-as- (1), o/-o- (2)</td>
</tr>
</tbody>
</table>

A canonical example follows.

(4.15) k-ad-atə-agi (1)
1A-DETR-cut-IMM.PST
‘I just cut myself.’

The past action of what is considered intrinsically possessed, e.g., past bodily functions, is formed through detransitivization. The prefix təd- (possibly formed with the coreferential t- and the detransitivizer -ad) is required only for the past. A pair of examples of a bodily function is given below. While the imperfective verb in the first example cannot be detransitivized, the verb in the second example must take the prefix təd-. It could be argued that this prefix is a generic formation for bodily functions, a euphemism.

(4.16) kə-(e)ki-li (2)
1A-defecate-IPFV
‘I am defecating.’

(4.17) təd-ə(e)ki-Ø
NPOS-defecate-PST 1SG
‘I defecated.’
One use of detransitivization is the idea of being ‘self-initiated, or doing it out of one’s own will.’ In the example below, the verb *akobə* ‘take someone for a walk’ is detransitivized as ‘go for a walk,’ possibly as a deponent verb.

(4.18)  
\[\text{k-ad-akobə-dili}\]  
1A-DETR-take.someone.for.a.walk-IPFV  
‘I am going for a walk.’

The following pair shows the formation of a new semantic sense through detransitivization.

(4.19)  
\[\text{geografia i-enome-də-dili}\]  
geography 1O-knowledge-VBZ2-IPFV 2SG  
‘You are teaching me geography.’

(4.20)  
\[\text{geografia k-əs-enome-də-dili}\]  
geography 1A-DETR-knowledge-VBZ2-IPFV  
‘I am studying geography.’

Below is an example of reciprocity formed with detransitivization and reduplication.

(4.21)  
\[\text{n-əz-enana-də-mo-mo}\]  
3A-DETR-play-PST-PL-RECP  
‘They played with one another.’

### 4.2.3 Causative transitivizer (I) -nə

Causative transitivization is a valency-increasing operation that indicates that the subject causes someone or something to do or be something or it causes a change in the state of a non-volitional event. The causative suffix -nə often comes after the verbal stem (or occasionally after the nominal root) and before an aspect-mood suffix. As such, all causative transitivizers become Type I.

The following pair shows this process.

(4.22)  
\[\text{i-au-dili}\]  
1S-stand.up-IPFV  
‘I stand up.’

(4.23)  
\[\text{s-au-nə-dili}\]  
3O-stand.up-TRVR-IPFV 1SG  
‘I am helping him stand up.’

Recall that, here and throughout,  \( \tilde{N} \) represents a nasal segment that occurs when a verb in the imperfective aspect is inflected with an A-oriented person prefix (see 4.2.1). The nasal feature attached to the stem-initial vowel sequence spreads to target segments until it is blocked (see 2.5.4).
The next pair exemplifies the use of the causative transitivizer as a deadjectival verbalizer.

(4.24)  t-apek-e-ĩ ①
3R-white-ATTR-NZR1
‘one that is white’

(4.25)  m-aVpek-e-na-dili ①
2A-white-ATTR-TRVR-IPFV
‘You are whitening it.’

Below are examples in sentences.

(4.26)  mamãe  iso  akũũ i-enama-na-dili ①
mother husband PTCL4 1O-raise-TRVR-IPFV
‘My mother’s husband raised me a long time ago.’

(4.27)  ônibus  s-eparagu-na-dai  urũ ②
bus 1A-stop-TRVR-IMM.PST 1SG
‘I stopped the bus.’

Causativization often leads to derivations with new and unpredictable semantic meanings. Below, the derived meanings from ‘sitting’ are ‘saving money,’ ‘making a deposit’ and ‘putting it away,’ which are metaphorical fruitions of the meaning of the underived verb.

(4.28)  eka-dili ②
sit-IPFV
‘sitting’

(4.29)  eka-na-dili ②
sit-TRVR-IPFV
‘saving money’

4.2.4 Causative intransitivizer (II) -ho① or -o, -o②

Causative intransitivization is a valency-decreasing operation that removes an agent of the active voice and causes the object to become the subject of the newly-shaped intransitive verb. The causative intransitivizer is formed by placing the suffix -ho, -ho① or -o, -o, -o, -o② (see 3.2.3) between the verbal stem and the aspect-mood affixation. In this process, all causative intransitivizers become Type II.

The following pair shows this process.

(4.30)  i-ɔiVtũ-dili ②
3A-build-IPFV
‘He is building it.’
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(4.31) əitə-o-li (2)
build-CAUS-IPFV
‘It is being built.’

The causee of the causative is relocated to where a transitive object would be: right before the verb. The causee is identifiable by the dative suffix -ã (see 3.1.5.10) meaning ‘by.’

(4.32) ato Paulo-ã Ø-əitə-o-li (2)
house Paulo-DAT 3A-build-CAUS-IPFV
‘A house is being built by Paulo.’

An additional example is given with a causee in a causative formation. Meira (personal communication) notes that the dative might be expected to co-occur with the detransitivizer prefix -əd ‘to cause to V self’ = ‘to be V-ed’ (cf. the French construction with ‘se faire V’ = ‘to make oneself V’ = ‘to be V-ed’). This co-occurrence creates a passive sense.

(4.33) udodo Paulo-ã n-əd-i-o-raki (2)
jaguar Paulo-DAT 3A-DETR-kill-CAUS-IMM.PST
‘The jaguar was just killed by Paulo.’

4.2.5 Tense

Bakairi does not mark present tense in the verb. There are three distinct morphological formations or three different tenses that refer to the past: immediate past, generic past, and remote past. The immediate and remote pasts refer to specific contexts, i.e., the immediate past refers to a past that occurred within the past day, whereas the remote past refers to a past that occurred or is believed to have occurred a long time ago. The generic past refers to any previous time, overlapping the immediate and remote pasts. There are also morphological modifications to a verb to designate the future.

4.2.5.1 Immediate past (I) -tai, -dai and (II) -aki, -agi(1) or -raki, -ragi(2)

When indicating actions that occurred recently, Type I verbs take one of the immediate past allomorphs -tai, -dai, as shown below.

(4.34) s-etə-dai (2)
1S-sow-IMM.PST
‘I just sowed it.’

And Type II verbs take one of the allomorphs -aki, -agi(1) or -raki, -ragi(2).
4.2.5.2 Generic past (I) -da, (II) -Ø

The generic past tense covers any past action that has happened as well as those that are believed to have happened. Type I verbs take the suffix -da whereas Type II verbs take the suffix -Ø. Below is a Type I verb.

(4.36) s-ẽ-da ሁربط
1S-eat-PST
‘I ate.’

The following is an example of a Type II formation.

(4.37) s-ẽ-O ሁربط
1S-eat-PST
‘I ate.’

4.2.5.3 Remote past (I) -må, (II) -uå

The remote past indicates circumstances that are believed to have happened in a distant past. A Type I verb takes the suffix -Vmå.

(4.38) s-ẽ-V-må ሁربط
1S-eat-REM.PST
‘I ate a long time ago.’

A Type II verb takes the suffix -uå in the remote past.

(4.39) s-ẽ-uå ሁربط
1S-eat-REM.PST
‘I ate a long time ago.’

4.2.5.4 Future -se, -ze(1) or -e, -pə(2)

The future tense refers to an action that has not taken place yet but is expected to happen. A morphological future is obtained with the addition of the suffixation -se, -ze(1) or -e, -pə(2). The future tense of a given verb or the change-of-state copula(2) is not inflected for person leading to a simple morphology: verbal stem + suffix. A free personal pronoun indicates the subject or agent of the verb, or it is understood pragmatically.
The following are some examples of the future tense in sentence examples.

(4.40) siarə ekə-e əmə? ②
here sit-FUT 2SG
‘Will you sit here?’

(4.41) siki-ze auəkə əuiə-le-la ①
sleep-FUT AN.MED soon-EMPH
‘He is going to sleep soon.’

(4.42) idə-ə əmə uə əgo ②
go-FUT 2SG 1SG COM
‘You will go with me.’

4.2.6 Aspect: Imperfective (I) -dili① or -dili② and (II) -li① or -li②

Being the most common verbal affix in Bakairi, the imperfective ending refers to an incomplete ongoing action in the indicative mood. It expresses an event or a state with respect to its internal structure, instead of expressing it as a simple whole.

(a) A Type I imperfective stem takes the suffix -dili① or -dili②
(b) A Type II imperfective stem takes the suffix -li① or -li②.

In principle, all underived Type I verbs are transitive verbs, and all underived Type II verbs are intransitive. However, morphologically-complex verbs exhibit a less predictable valency, i.e., reduction and augmentation of syllables seem to affect the shape of the imperfective suffix.

The following examples show underived Type I formations.

(4.43) kə-iətvə-dili  [kəjətədili] ②
1A-set.up-IPFV
‘I am setting it up.’

(4.44) kə-iətvə-dili  [kəjətədili] ②
1A-simmer-IPFV
‘I am simmering it.’

Several Type I verbs have allomorphs with -kili①, -kili②. They are aiëkili ‘cook in a pot,’ êkili ‘see,’ idakili ‘listen,’ iuakili ‘believe,’ and ãtakili ‘fear.’ The following are examples of underived Type II formations.

(4.45) i-auvəku-li  [jəuku] ①
3A-catch-IPFV
‘He is catching someone.’

(4.46) i-evi-li  [jëv] ①
3A-take-IPFV
‘He is taking it.’
Below are some derived imperfective verb stems which become Type II. Note that detransitivated verbs, intransitive verbs, and quotative verbs are not nasalized in the imperfective.

(4.47) mə-enetɵ-ge-li [mənetəɣelyi] ②
2S-decrease-VZR1-IPFV
‘You are decreasing.’

(4.48) kə-enukibɵ-ge-li [kenukibəɣelyi] ②
1S-fan-VZR1-IPFV
‘I am fanning.’

(4.49) u-ge-li [uɣelyi] ②
1S-say-IPFV
‘I am saying.’

4.2.7 Tense particles

Four tense particles express notions of tense in an imperfective or copula-less sentence. The first two refer to a recent past, the third one refers to a generic past, and the fourth, the remote past. These tense particles or function words cannot be inflected. They often come in a medial or final position for imperfective and copula-less clauses.

4.2.7.1 Immediate past particle ẽrã① or eã②

The immediate past particle ẽrã① or eã② expresses the immediate occurrence of ‘just’ or ‘right now.’

(4.50) u-(i)ʔu-ru-uɑɣ-əl ø k-œ-ualı ②
1-foot-POSS-LOC4-EMPH PTCL1 1A-come-IPFV
‘I just came on foot.’

(4.51) adi-ǎ ø i-də-li? ②
where-DAT PTCL1 3S-go-IPFV
‘Where was he just going?’

It is used to denote a sense of a past copula.

(4.52) nigo Ø-eti-də ø urə ②
grandmother 3-house-LOC3 PTCL1 1SG
‘I was in my grandmother’s house.’

In the following example, the subject and verb are known pragmatically.

(4.53) si-unə-ri ø urə agə ②
3-story-POSS PTCL1 1SG with
‘He was telling me his story.’
The immediate past particle comes next to the core constituents as well as peripheral constituents, as given below.

(4.54) setagoa-zi .ToArray() 2
era  O-egatu-dili  t-odu-O  aga 1
corner-LOC2 PTCL1 3A-run-IPFV 3R-body-POSS with
‘It was running towards the corner with the body (of a mouse).’

In Bakairi, a sentence containing an interrogative pronoun nominalizes its verb. The particle ëра(1) or eа(2) imparts the past meaning of that nominalization.

(4.55) ëɔgi  age-i  eać 2
who speak-NZR4 PTCL1
‘Who was speaking?’
(4.56) ədaül  eš  eti  s-əi-to? 2
how PTCL1 clothing 3S-arrive-NZR3
‘How was he clad upon his arrival?’

4.2.7.2 Recent past particle keãkə(1) or kiãkə(2)

The recent past particle keãkə(1) or kiãkə(2) is used for occurrences within the past day or two.

(4.57) kopaelago  keãk  sina  tagirė  uataɔ
yesterday PTCL2 1PL.EXC  hunt when
i-da-li  eme-dili-uago,  øwïduani-pi-ri-č 1
3S-go-IPFV rise-IPFV-LOC4,  food-PST-POSS-ATTR
‘Early yesterday morning, we went hunting after eating (breakfast).’
(4.58) əlo  keãkɔ  O-ai-dili-mo 1
3DEICTIC.DISTAL PTCL2 3S-dance-IPFV-PL
‘They were dancing there.’
(4.59) ige-li  agš  kiãk  te-(e)øamu-ge 2
die-IPFV COM PTCL2 3R-ache-INSTR
‘(I) almost died having caught that disease.’

4.2.7.3 Generic past particle ani(1) or kinani(2)

The generic past tense particle ani(1) or kinani(2) is used by a speaker who has experienced firsthand the events. Two examples are given below.

(4.60) u-da-li  ani  i-me-ri  agš  paru-č 1
1S-go-IPFV PTCL3 1-child-POSS COM river-DAT
‘Some time ago, I went to the river with my son.’
(4.61) u-adu  Ø-eti  Ø-əd-(ad)u-ge-li
1-nephew 3-DTR-burn-VBZ2-IPFV
4.2.7.4 Non-visual past tense particle *akũuŋ*

The past-tense particle *akũuŋ* is used for hearsay events or non-visual circumstances that are believed to have happened in the past (e.g., mythological or Biblical stories). Some examples are given below.

(4.62) s-agu-ho-ẽ=mi  akũuŋ kūr-ẽ  ḍigo  PTCL4 PTCL4 people-ATTR animals

‘In the beginning, a long time ago, the animals were just like people.’

(4.63) udodo  oe-uli=mī  akũuŋ  PTCL4 jaguar come-IPFV=NVSL PTCL4

‘A long time ago, the jaguar came.’

(4.64) taz-itaĩ-ze  lel=mi  akũuŋ-akũuŋ  PTCL4 PTCL4

‘A long, long time ago, they could speak.’

4.2.8 Mood

Mood is the use of verbal inflections that allow speakers to express their attitude toward what they are saying (e.g., a statement of a fact, a desire, or a command). This section on the Bakairi mood investigates desiderative, imperative, venitive, prohibitive, cohortative, jussive, abilitative, and purposive morphological formations. Modal suffixes are not mutually exclusive. Aspect suffixes primarily come next to underived verbal stems, followed by one or two mood suffixes. But note that verbal derivation adds a suffix between the stem and the aspect suffix (see 4.3), and the same can be said about inflected verbs with causative suffixes (see 4.2.3 and 4.2.4). Venitives, prohibitives, and cohortatives are expected in word-final positions.

4.2.8.1 Desiderative *-dise, -dizẽ, -die, -diʔe*  

All verbs can take the suffix *-dise, -dizẽ, -die, -diʔe*, which indicates the speaker’s desire to fulfill the act expressed in the verb:

(4.65)  kɔ-ɗiʔe  PTCL4

‘I would like to see it.’

(4.66)  t-iki-diʔe  aukɔ  iramudo  PTCL4

‘That child wants to sleep.’

The negative is formed with the suffix *-ba.*
(4.67) i-(i)huge-dize-ba ɨ
1S-fall-DESI-NEG
‘I don’t want to fall.’

In desiderative constructions, the past is formed with a particle preceding the verb.

(4.68) iamime-ô loga keâk ti-ô-dise-ba mokô ɨ
child-PL neither PTCL2 3R-see-DESI-NEG AN.DIST
‘The children didn’t like to see him either.’

4.2.8.2 Imperative -kə, -gə

The imperative is employed for commands or requests. The imperative suffix -kə, -gə placed immediately after the underived verbal stem indicates that it is the imperative directed towards a single person.

(4.69) au-kə
stand.up-IMP
‘Stand up!’

(4.70) e-gə
look-IMP
‘Look!’

To direct an order to a collective or more than one person, the affix -taũ, -daũ is added immediately after the underived verbal stem, followed by -gə. This collective suffix differs from a cohortative since in the cohortative the speaker is included (see 4.2.8.5).

(4.71) ai-taũ-gə
make-COLL-IMP
‘Make it, all of you!’

(4.72) s-ωke-daũ-gə
3O-drag-COLL-IMP
‘Drag it, all of you!’

The following are examples of the imperative of the change-of-state copula -i- ‘become’ in copula constructions.

(4.73) ti-(i)pi-ze i-kə
3R-farm-ABTT COP-IMP
‘Do the weeding.’

(4.74) t-ωs-cane-ze-ba i-kə
3R-DETR-fear-ATTR-NEG COP-IMP
‘Be(come) fearless.’
As the imperative of the change-of-state copula -i- cannot combine with a negative suffix, negation is expressed by negating the preceding word.

4.2.8.3 Venitive -rə

A venitive with -rə indicates that the person to whom the request is made should ‘come and do something.’ It is formed with a compound of -gə ‘imperative’ and the venitive suffix -rə ‘to here.’

4.2.8.4 Prohibitive -də

The prohibitive suffix -də, having no voiceless variant, expresses that a verbal action should not be performed. Combining affixes with the prohibitive distinguishes formations: prohibitive for one, for all, with iteration, with a venitive quality, and a copular prohibitive with the verb ikə ‘do.’ Here are some examples of them.

First, an example of a prohibitive directed toward an individual.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(4.81)</td>
<td>au-də</td>
</tr>
<tr>
<td></td>
<td>stand.up-PRHB</td>
</tr>
<tr>
<td></td>
<td>‘Do not stand up.’</td>
</tr>
</tbody>
</table>
Next is a collective prohibitive.

(4.82)  au-taū-dọ  
stand.up-COLL-PRHB  
‘Do not stand up, you all.’

An iterative, collective prohibitive is provided below.

(4.83)  au-tō-daū-dọ  
stand.up-ITE-COLL-IMP  
‘Do not stand up again, you all.’

A transitive object can be inflected at the beginning of the prohibitive verb as it normally would in the affirmative. This type of prefixation is seen in the following examples.

(4.84)  ki-eili-dọ  
1PL.O-laugh-PRHB  
‘Do not laugh at us!’

(4.85)  kəd-iō-dọ  
1SG.O-bite-PRHB  
‘Do not eat me!’

4.2.8.5 Cohortative (I) -ne or (II) -re

Cohortatives signal mutual encouragement for the speaker and the addressee(s). The Bakairi cohortatives (‘let us do’) are formed with the suffix -ne for Type I verbs, and the suffix -re for Type II. Some examples of the suffix -ne follow. Although the free translations may seem misleading as they use intransitive verbs, they are grammatical transitive in Bakairi.

(4.86)  ki-egatu-ne  
1PL.run-HORT  
‘Let us run.’

(4.87)  ka-ika-ne  
1PL-sit-HORT  
‘Let us sit.’

Some examples of -re follow.

(4.88)  ki-eni-re  
1PL-drink-HORT  
‘Let us drink.’
The cohortative (alternatively this refers to a homophonous and independent particle) can soften a negative imperative, with a role comparable to ‘please.’

(4.90)  
\[
\begin{align*}
\text{t-αe-to-ē-ba-ne} & \quad \text{i-kə} & \quad \text{siarə} \quad (2) \\
3\text{R-come-NZR3-BEN-NEG-HORT} & \quad \text{COP-IMP} & \quad \text{here}
\end{align*}
\]

‘Do not come here anymore.’

(4.91)  
\[
\begin{align*}
\text{t-ət-ò-à-ba-ne} & \quad \text{i-kə} & \quad \text{mərərə} \quad (2) \\
3\text{R-go-ITE-DAT-NEG-HORT} & \quad \text{COP-IMP} & \quad \text{DIST}
\end{align*}
\]

‘Do not go there anymore.’

### 4.2.8.6 Jussive -si, -zi(1) or -i, -ʔi(2)

Jussive or permissive forms, such as letting someone do something, consist of an inflected verb followed by the jussive suffix -si, -zi(1) or -i, -ʔi(2). Note that the verbal jussive is homophonous with the nominal locative (see 3.1.5.1). Examples are given below.

(4.92)  
\[
\begin{align*}
u-\text{da-ʔi} & \quad (2) \\
1\text{S-go-JUS} & \quad \text{‘Let me go.’}
\end{align*}
\]

(4.93)  
\[
\begin{align*}
s-i\text{itu-e} & \quad \text{u-da-ʔi} & \quad \text{uao} & \quad \text{mərərə} \quad (2) \\
3\text{O-find.out-PURP} & \quad 1\text{S-go-JUS} & \quad \text{POL.PTC} & \quad \text{DIST}
\end{align*}
\]

‘Now, let me go way over there in order to find it out.’

(4.94)  
\[
\begin{align*}
u-i-ʔi & \quad (2) \\
1\text{S-bathe-JUS} & \quad \text{‘Let me bathe.’}
\end{align*}
\]

(4.95)  
\[
\begin{align*}
s-\text{emə-ʔi} & \quad (2) \\
3\text{O-put.on-JUS} & \quad \text{‘Let me put it on.’}
\end{align*}
\]

### 4.2.8.7 Abilitative t-V-se, t-V-ze(1) or t-V-e, t-V-ʔe(2)

An abilitative verb expresses a potential action or the ability to fulfill an action. The abilitative mood is formed with the circumfix t-V-se, t-V-ze(1) or t-V-e, t-V-ʔe(2). The allomorphic variation between t-, ti-, ti- and tə- seen in the examples in this section have been previously described (see 2.5.5). Verbs prefixed with the abilitative circumfix cannot contain a person prefix. Instead, an unbound pronoun is used.

The following example of the abilitative is formed with the allomorph t-V-se(1).
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(4.96) t-igə-se urə 1
3R-sing-ABTT 1SG
‘I can sing.’

Below are examples of the allomorph t-V-ze(1) or t-V-e(2).

(4.97) ti-goke-ze urə 1
3R-wash-ABTT 1SG
‘I can clean it.’

(4.98) t-ohō-ge-ze auəkə 1
3R-lay-INSTR-ABTT AN.MED
‘It can lay eggs.’

(4.99) t-(e)ga-ʔe məkə kauaru 2
3R-run-ABTT AN.DIST horse
‘That horse can run.’

Below is an example of a question and an answer using an abilitative verb.

(4.100) leidi t-(e)ni-ʔe əmə? eʔe t-(e)ni-ʔe(2)
milk 3R-drink-ABTT 2SG yes, 3R-drink-ABTT
‘Can you drink milk? Yes, I can.’

The negation of the abilitative is obtained with a nominalization of the verb and a subsequent adverbialization, which is then followed by a verb with negative inflection. This is exemplified in the pair below. The first example shows the negated verb, whereas the second example shows nominalization and subsequent adverbialization of that verb.

(4.101) n-ad-akobə-bəra 2
3A-DETR-take.someone.for.a.walk-NEG
‘He does not walk.’

(4.102) t-ad-akobə-do-e n-udu-ba 2
3R-DETR-take.someone.for.a.walk-NZR3-ATTR 3A-know-NEG
‘He cannot walk.’

4.2.8.8 Purposive with V-se/-ze(1) or V-e/-ʔe(2)

The purposive mood represents a purpose of a motion verb, which appears next to a motion verb, such as ‘go in order to do, come in order to do;’ and it is formed with the suffix V-se/-ze(1) or V-e/-ʔe(2).

Below are two examples of purposive constructions.
Inflectional and Derivational Morphology of Verbs

Additional inflectional and derivational affixes can be added between the verbal stem and the purposive suffix.

(4.105) s-au-tô-ze u-da-li  
3O-hold-ITE-PURP 1S-go-IPFV
‘I go in order to hold it again.’

(4.106) s-âu-nɔ-tô-ze u-da-li  
3O-stand.up-TRVR-ITE-PURP 1S-go-IPFV
‘I go in order to raise it again.’

A verb inflected with the purposive suffix -se, -ze may co-occur with a motion verb as seen in the examples below. Note that the motion verb øe ‘come’ takes transitive person inflection as well as Type I suffixation.

(4.108) pirau e-se k-øe-uili  
arrow fetch-PURP 1A-come-IPFV
‘I have come in order to fetch arrows.’

(4.109) as-euani-ze k-øe-uili  
DETR-work-PURP 1A-come-IPFV
‘I have come in order to work.’

(4.110) paru eni-ze k-øe-uili  
water/river drink-PURP 1A-come-IPFV
‘I have come in order to drink water.’

4.2.9 Negative (I) -pira, -bira(1) or -pora, -bora(2) and (II) -pa, -ba

Bakairi uses two different suffixes to express negation:40 Type I verbs are negated with the suffix -pira, -bira(1) or -pora, -bora(2), while Type II verbs are negated with the suffix -pa, -ba.

The following examples demonstrate the negation of Type I verbs.

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40 A more comprehensive study of expressions of negation in Bakairi is found in Faria (2016).
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(4.111) n-ad-akobə-bəra ②
3A-DETR-take.O.for.a.walk-NEG
‘He does not walk.’

(4.112) n-iga-para ②
3A-create-NEG
‘He didn’t create anything.’

The following pair demonstrates the negation of Type II verbs.

(4.113) n-iueni-ba ②
3S-paint-NEG
‘He didn’t paint.’

(4.114) n-ia-pa ②
3S-kill-NEG
‘He didn’t kill.’

When negation is associated with a venitive sense such as in the verbs meaning ‘come, arrive, return, and approach here,’ the vowel in the last syllable of the negative suffix changes from -ra to -rɨ ① or -rɨ ②, as in:

(a) {-bira/-pira ①} → {-biri/-piri ①}
(b) {-bəra/-para ②} → {-bərə/-para ②}

The following examples associate negation in the verb with a venitive movement. Although əe ‘come’ and aĩ ‘arrive’ are intrinsically intransitive verbs (Type II), they take transitive negative suffixes (Type I). These examples demonstrate this point.

(4.115) n-əe-parə ②
Ô-a-uəli ②
3S-come-NEG 3S-COP1-IPFV
‘He is not going to come.’

(4.116) n-aĩ-parə ②
3S-arrive-NEG
‘He did not arrive.’

Negation can be intensified with the frustrative particle uəne.

(4.117) k-əd-ukagə-bira uəne a-ze ①
1A-DETR-break-NEG FRUST COP-PURP
‘It was not my intention to break anything.’

The following example makes use of negation.
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(4.118) əmə kə-ẽ-para urə-ro uataə, auadiəli
2SG 1A-see-NEG 1SG-INTS if delivery
i-ʔe i-gəʔe-dibə ka-(i)uṼdu-li 2
2-wife 3A-call-PTC 1S-give-IPFV
‘If it is improbable that I’ll see you, I will give the delivery to your wife.’

4.2.10 Plural -mo

The verbal suffix -mo can be added at the right edge of a verb to represent plurality. This suffix is only used with the 2PL and 3PL.

(4.119) ma-eṼdïta-dili-mo 2
2PL.A-host-IPFV-PL
‘you are hosting’
(4.120) n-enomi-dai-mo 3
3PL.A-circle-IMM.PST-PL
‘they circled’

In imperatives (see 4.2.8.2), a collective plural is formed with -taï, -daï.

4.3 Verbal derivation

This section dedicates two subcategories to verbal derivation or verbalization of nouns to Type I and Type II verbs. Three additional subcategories describe derivational affixes, which change the meaning of the base but leave the category unchanged. They are iterative, reversative, and completive.

4.3.1 Denominal intransitive verbalizer (II) -ke, -ge

The suffix -ke, -ge has two morphological functions: (a) a derivational one by turning nouns into intransitive verbs, i.e., it is a denominal verbalizer, described below; and (b) also a derivational one that does not change the part of speech, but changes the meaning by expressing the contrary sense of a given verb (see 4.3.4). It seems to have a consistent semantics: the derived verb subtracts the original noun from it.

Three pairs of examples below demonstrate denominal derivations.

(4.121) euni 2
smoke(n.)
‘smoke’
(4.122) Ø-eunu-ke-li 2
3A-smoke(n.)-VZR1-IPFV
‘He is creating smoke.’
4.3.2 Denominal transitive verbalizer (I) -də

Nouns can also be verbalized with the suffix -də. The suffix applies to one lexical category (i.e., nouns) changing them into another category (i.e., verbs). It seems to have a consistent semantics: the derived verb adds or provides the original noun to it.

(4.127) n-era-da-dili (1)
3-stick-VBZ2-IPFV
‘He is sticking it vertically’

(4.128) n-eta-da-dili (1)
3-cage-VBZ2-IPFV
‘He is locking it.’

(4.129) pape-ge i-vê-di-da-dili-ro (1)
paper-INSTR 3-clothing-VBZ2-IPFV-INTS
‘He sure is going to cover it with paper.’

4.3.3 Iterative (I) - tô, - dô and (II) - ô

Iteration, or frequentative, expresses frequent repetition or intention of action. It is formed with a suffix next to the verbal stem. The iterative suffix for Type I verbs is - tô, - dô and for Type II is - ô. The Type I pair below demonstrates how it is formed.

(4.130) s-âl-tai (2)
1A-grill-IMM.PST
‘I grilled it.’

(4.131) s-âl-tô-dai (2)
1A-grill-ITE-IMM.PST
‘I grilled it again.’

With the incorporation of the iterative suffix, a Type II verb becomes Type I as it is observed in the pair below.
Inflectional and Derivational Morphology of Verbs

(4.132) kə-iVpi-li  
1A-farm-IPFV  
‘I am farming.’

(4.133) kə-iVpi-ō-dili  
1A-farm-ITE-IPFV  
‘I am farming again and again.’

The iterative suffix can co-occur with the imperative suffix (see 4.2.8.2).

(4.134) au-tō-daũ-gə  
stand.up-ITE-PL-IMP  
‘Stand up again, all of you!’

It can also co-occur in purpose-of-motion constructions (see 4.2.8.8).

(4.135) s-aua-tō-ze u-da-li  
3O-hold-ITE-PURP 1S-go-IPFV  
‘I am going in order to hold it again.’

4.3.4 Reversative (II) -ke, -ge

The attachment of the reversative suffix -ke, -ge to a verb leads to its semantic antonym (e.g., open → close, put on → take off). Any verb derived with the reversative suffix becomes Type II. Note that the reversative suffix is homophonous with the denominal verbalizer (see 4.3.1).

The following examples demonstrate this basic formation and the change in meaning.

(4.136) kə-ioVli-li  
1A-inflate-IPFV  
‘I am inflating’

(4.137) kə-ioVli-ke-li  
1A-inflate-REV-IPFV  
‘I am deflating’

The examples below show how a Type I becomes Type II after the annexation of the suffix.

(4.138) mə-eVto-dili  
2A-cast-IPFV  
‘You are casting.’

(4.139) mə-eVto-ge-li  
2A-cast-REV-IPFV  
‘You are harvesting.’
4.3.5 **Completer -uə**

The completive suffix -uə is added to verbs to signify the completeness or fullness of action. In some contexts, it is translated as ‘well’ and in others as ‘all.’

Some verbs require syllable reduction in order to accommodate the completive suffix. In the following contrastive pair, the syllable /go/ is deleted from the stem, while the completive -uə is added before the aspect-mood suffix. After affixation, all verbs with the completive affix become Type I.

(4.140) k-uʔkagə⁴¹-dili ⁴¹
1A-break-IPFV
‘I am breaking it’

(4.141) k-uʔka-uə-dili ⁴¹
1A-break-CPLT-IPFV
‘I am breaking it all’

The attachment of the completive transforms a Type II into a Type I verb, as in the example of *iudu* ‘give.’

(4.142) kə-(i)uʔdu-li ¹
1A-give-IPFV
‘I am giving it.’

(4.143) kə-(i)uʔdu-uə-dili ¹
1A-give-CPLT-IPFV
‘I am giving it all.’

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⁴¹ One might posit that the syllable /go/ is an affix indicating singularity, but there is no other occurrence in the corpus.
Chapter 5
Syntax

Bakairi syntax is, for the most part, similar to the syntax of other Carib languages. The main transitive clause has a fairly rigid OV sequence. Adverbial and postpositional phrases are placed peripherally more flexibly. Paratactic constructions are a common feature of Carib languages. The juxtaposition of clauses is the most attested pattern, in which nominalizations, adverbializations, and postpositions replace subordinate clause constructions (Derbyshire 1999: 54-60).

This chapter is divided into the following sections: clausal constituents and constituent order, morphosyntactic alignments, clause-level syntax, sentence types, and sentence elements.

5.1 Clausal constituents and constituent order

Word order and linearization of major clausal constituents are discussed here as constituent order. The idea of a basic Bakairi word order refers to the alignment of the clausal constituents ‘in stylistically neutral, independent, indicative clauses with full noun phrase participants, where the subject is definite, agentive, and human, the object is a definite semantic patient, and the verb represents an action, not a state or an event’ (Siewierska 1999: 412). With this in mind, 171 clauses were collected to establish a basic constituent order in Bakairi.

There are four main variations of the clausal constituents: OVA, AOV, VS, and SV. Four observations can be said about them: (a) the OV order is always expected, i.e., the overt transitive object comes before the verb; (b) occurring in discourse-medial position and referring back to the previous clause(s), AOV or SV is an unmarked sequence unless when it is used for emphasis, contrast, or textual continuity; (c) a constraint can be established that pronouns used as S or A must come after verbs and no more than one constituent precedes the main predication (V or OV); and (d) copulative verbs are expected in a clause-final position.

The following chart shows the result of the syntactic analysis of these 171 clauses. Note that constituents are treated here in terms of Dixon’s primitives: A, S, O, and V, where A stands for a transitive agent, S for an intransitive subject, O for the direct object, and V for the verb.

42 Some of the material described in this section first appeared in Faria (2014).
43 To keep the text homogeneous and simple, formulations—such as A, P, S, and V by Comrie (1981: 81-96) or Creissels’ constituents S-O-V-X, where X stands for the oblique argument (2005: 1-15)—are not used in this grammar.
Table 5.1 Constituent Order in Transitive, Intransitive, and Copulative Clauses

<table>
<thead>
<tr>
<th>Transitive (58)</th>
<th>Total</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>OV</td>
<td>29</td>
<td>A is only inflected</td>
</tr>
<tr>
<td>AOV</td>
<td>13</td>
<td>A is a noun or NP</td>
</tr>
<tr>
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<td>0</td>
<td>A is a pronoun</td>
</tr>
<tr>
<td>OVA</td>
<td>2</td>
<td>A is a noun or NP</td>
</tr>
<tr>
<td>OVA</td>
<td>14</td>
<td>A is a pronoun</td>
</tr>
<tr>
<td>Intransitive (90)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>15</td>
<td>S is only inflected</td>
</tr>
<tr>
<td>SV</td>
<td>35</td>
<td>S is a noun or NP</td>
</tr>
<tr>
<td>SV</td>
<td>0</td>
<td>S is a pronoun</td>
</tr>
<tr>
<td>VS</td>
<td>26</td>
<td>S is a noun or NP</td>
</tr>
<tr>
<td>VS</td>
<td>14</td>
<td>S is a pronoun</td>
</tr>
<tr>
<td>Copulative (23)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clause-final</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

This section will look into intransitive, transitive, and stative clauses, followed by a deverbal adjective, existential, and ‘purpose-of-motion’ clauses. The last subsection will view the reduction and omission of constituents.

5.1.1 Intransitive clauses

Intransitive clauses are typically formed with both constituents overtly expressed. The subject can be formed with a noun, noun phrase, or a pronoun, which can come before or after the intransitive verb. This is statistically observed in the data, and both alignments (VS and SV) can represent unmarked sequences.

(5.1) tə-(e)gə-ʔə mako kauaru ə
3R-run-ABTT AN.DIST horse
‘That horse can run.’

Subject fronting of a noun or a noun phrase in intransitive clauses is expected when used for emphasis, correction, or focus. Otherwise, an SV sequence can be equally expressed as a VS sequence without alteration to its meaning.

(5.2) siogo s-iki-li ə
father 3S-sleep-IPFV
‘My father is sleeping.’

If the subject is a demonstrative or a personal pronoun, the stylistic default order is VS.
Plausibly, the order with a detransitivized verb (see 4.2.2) is identical to that of an intransitive clause (see 5.1.1). The example below illustrates such a formation.

\[
\text{(5.3) siarə eka-e əmə \(\text{\(2\)}\) here sit-FUT 2SG} \\
\text{‘You are going to sit here.’}
\]

The exclusive first-person plural pronoun \(\text{sina}\) or \(\text{ina}\) ‘we’ is expected next to its verb in a prefixed position.\(^{44}\) Therefore, \(\text{sina}\) or \(\text{ina}\) is an exception of the obligatory ordering as VS for pronouns.

In sum, the constituent order of intransitive clauses with noun phrases and pronouns is:

- **VS** (when S is an NP or a pronoun, except \(\text{sina}\) or \(\text{ina}\))
- **SV** (when S is an NP or the pronoun \(\text{sina}\) or \(\text{ina}\))

Finally, when subject fronting with a pronoun or demonstrative is necessary for emphasis, correction, or focus, the subject is often accompanied by a focus element (see 5.6) expressing that the discourse context is special. In the example below, the emphatic -lo comes next to the personal pronoun, because the consultant rectifies an incorrect assertion.

\[
\text{(5.5) urə-lo inäri O-auí-pira \(\text{\(1\)}\) 1SG-EMPH always 3O-hunt-NEG} \\
\text{‘It is I who does not hunt anymore.’}
\]

### 5.1.2 Transitive clauses

An overt object must precede the transitive verb as in the sequence: OV. Two transitive orders are attested: OVA and AOV. When the agent is expressed through a demonstrative or personal pronoun, the agent often follows the verb: OVA. Occasionally, it precedes the object for emphasis, contrast, or textual continuity. When the agent is expressed through a noun or a noun phrase, OVA and AOV are possible sequences. Finally, the overt occurrence of all constituents of the OVA or AOV sequence is more common in discourse-initial contexts.

The OVA order is demonstrated below.

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\(^{44}\) Meira (personal communication) mentions that this phenomenon is also seen in Apalai, another Cariban language. In Apalai, the exclusive first person plural pronoun /ina/ together with the third person inflection /\(n\)/ becomes a preverbal prefix /inan-/ , never occurring after the verb.
The AOV order is demonstrated below.

(5.8) ərigə pido n-ə-də 2
hawk chick 3A-eat.meat-PST
‘The hawk ate the chick.’

If the object is a body part (highlighted in the examples below), that noun must be incorporated into the verb, and verbal prefixes will be added before the incorporated noun.

(5.9) k-əz-ita-goge-li, əz-ita-goge-ti-ri-ə
detr-mouth-wash-IPFV DETR-mouth-wash-NZR4-PST-POSS-ATTR
ěra aro=agə a-iVe-dili 1
PTCL1 rice=COM 3O-make-IPFV
‘I washed my mouth. Once the mouth was washed, I soon cooked the rice.’

(5.10) sabonete-ge k-aga-koge-Ø
body.soap-INSTR 1A-head-wash-PST
‘And I washed my head with soap.’

5.1.3 Stative clauses

A stative clause in Bakairi consists of a verb or an adverb expressing a non-dynamic action. The stative verbs in Bakairi are (a) verbs of perception and sensation (ę ‘see,’ ida ‘hear,’ ekeĩ ‘feel’), (b) stance verbs (uno ‘stand,’ eka ‘sit’), and (c) mental attitude (utu ‘know/understand,’ iuũ ‘believe’). Notions of relations as in ‘resemble’ and ‘look like’ do not establish stative clauses in Bakairi because they are expressed through the similitative particle ara ~ ara ‘like’ or through the attributive circumfix t-N-e/ə, t-N-se/-ze (see 3.7).

The example below of a stative clause observes the OVA sequence.

(5.11) nunə s-e-də urə 2
moon 1A-see-PST 1SG
‘I saw the moon.’

When a non-core (or peripheral) argument is present, it is attested at the edges of the main constituents.
(5.12) saguʔoč kinane bicicleta n-utu-ba kuro-domodo 2
past remote bicycle 3O-know-NEG person-PL
‘A long time in the past, we Indigenous did not know about bicycles.’

Also in contrast to dynamic verbs, verbs that express a preference, such as ie ‘like/want,’ employ the same sentence structure as the abovementioned stative verbs. Therefore, they are included here. The constituent order of preference verbs is the same as expressed above, the object must come before the verb, and a pronoun indicating the subject is placed after the verb.

(5.13) məkə agurodo ie urə 2
AN.DIST man like/want 1SG
‘I like that man.’

If a copulative verb is used to impart an imperfective aspect, the copulative verb must come at the end of the clause: O+V+COP.

(5.14) toɛ-pa məkə ie u-a-uəli 2
little(-ATTR)-NEG AN.DIST like/want 1S-COP1-IPFV
‘That is the person of much liking to me.’

When nominalized, the copula remains at the end of the clause.

(5.15) pənu ie-pa. urə pəni ie u-a-to 2
pepper like/want-NEG 1SG food like/want 1S-COP1-NZR3
‘I don’t want pepper. Food is what I want.’

When an interrogative pronoun is used as an agent (dgi), the order remains AOV. As stative verbs make use of a split inflection mechanism, the object (not the subject) is inflected before the verb ize(1) or ie(2) ‘like,’ which also respects a person hierarchy describe further below (see 5.2).

(5.16) dgi k-ie-pa. dgi kurə ie-pa 2
who 1PL.INC-like/want-NEG who 1PL.INC like-NEG
‘Nobody likes us. Nobody likes us.’

Unlike its behavior next to motion verbs (see 4.1.1 and 5.1.2), sina(1) or ina(2) comes after the verb ize(1) or ie(2) ‘like.’

(5.17) pai-ho ize-pa-mo sina 1
scratch-NZR3 like/want-NEG-PL 1PL.EXC
‘We do not want the scratcher.’
5.1.4 Deverbal adjective clauses

Deverbal adjective clauses come after the noun to which they refer. For a state thought of as permanent, the clause is formed through copula omission or zero copula.

(5.18) peto i-atu-ribə log 3-split-PTC
‘It is a split log.’

In a similar sense, the deverbal adjective clause can come next to adjectives. A sequence of two demonstratives after the noun phrase expresses the sense ‘an indefinite object.’

(5.19) parare i-adu-ipi maũkə merə seriema 3-burn-PTC AN.DIST AN.PROX
‘A seriema is brown.’

A deverbal adjective clause with multiple components organizes itself as possessor – partitive – deverbal, as in the example below.

(5.20) piru mitu siuhudu-ge s-auatərə-dibi arrow curassow feather-INSTR 3O-remove-PTC
‘It is an arrow with the removed feathers of a curassow.’

5.1.5 Existential clauses

Existential clauses express the presence of something. They are realized through (a) a phonologically conditioned positive suffix -pe, -be ‘have;’ (b) a deictic demonstrative; or (c) a copula-less clause. The constituent order of an existential clause is OVA, when the agent is a free personal pronoun or demonstrative. With a more distinct or rigid linearization, the existential element is sentence-initial.

(5.21) perguntə-be urə question-EXIST 1SG
‘I have a question.’

(5.22) poro?o-be kīa arakuma etari-odaə fox-EXIST perhaps hen box-inside-LOC1
‘There must be a fox in the henhouse.’

Even without an overt possessor, an existential element remains sentence-initial.
(5.23) eunu-pe iuerox 2
smoke-EXIST today
‘There is smoke today.’

The independent word peba establishes the negation of this clause type.

(5.24) əto i-goke-ho pe-ba kekko urə 1
clothing 3-wash-NZR3 have-NEG PTCL2 1SG
‘I didn’t have any laundry detergent.’

In a copula-less clause, the existential sense is obtained with a demonstrative.

(5.25) təlo eunu iuerox 2
3DEICTIC.DISTAL smoke today
‘There is smoke today.’

5.1.6 ‘Purpose-of-motion’ clauses

A ‘purpose-of-motion’ clausal construction, also known as purposive construction, is a string of two verbs in which the main predicate is a motion verb, and the other expresses the purpose of the motion. The most prominent motion verb is tədətali(1) or tədətali(2) ‘go,’ though other verbs indicate motion as well. The ‘purpose-of-motion’ verb is inflected with a purposive suffix (see 4.2.8.8). The ‘purpose-of-motion’ verb always precedes the main predicate, and a past particle is required to express the past tense overtly.

(5.26) karoui=m akṣuə t-ago-茀rə ago
karowi=NVSL PTCL4 3R-COM-NZR2-COM
āga-silu-ge-ze i-də-li-mo 1
head-shave-REV-PURP 3S-go-IPFV-PL
‘Karowi (i.e., Kurupira) and his companion went in order to have their heads shaved.’

(5.27) kəra aue-ze i-də-li-mo kekko 1
fish catch-PURP 3S-go-IPFV-PL PTCL2
‘They went in order to catch fish.’

5.1.7 Valency reduction and omission of constituents

From one or two objects and peripheral arguments, verb valency controls the number of arguments that a clause possesses. In Bakairi, valency reduction occurs markedly in discourse-medial environments where some nonverbal constituents can be omitted. The subject is only referred to by pronouns or indirect references in discourse-medial contexts. As a result, the subject or agent, and the direct object can be omitted through valency reduction processes.
The following discourse-medial sentences omit the object argument.

(5.28)  
\[
\begin{align*}
\text{bicicleta} & \quad \text{ime} & \quad \text{i} & \quad \text{b} & \quad \text{ɨ} & \quad \text{r} & \quad \text{ɨ} & \quad \text{Ø} & \quad \text{i} & \quad \text{Ṽ} & \quad \text{du} & \quad \text{ɨ} & \quad \text{i} & \quad \text{u} & \quad \text{r} & \quad \text{i} & \quad \text{e} & \\
\text{bicycle} & \quad \text{small-PST-POSS} & \quad \text{3S-give-IPFV} & \quad \text{3-older.sister-POSS-BEN} & \\
\text{əz-enan} & \quad \text{do-e} & \\
\text{DET}\text{-play-NZR3-BEN} & \\
\text{He gave his older sister a small bicycle in order to play with it.'}
\end{align*}
\]

(5.29)  
\[
\begin{align*}
\text{i} & \quad \text{ĩ} & \quad \text{ã} & \quad \text{i} & \quad \text{udu} & \quad \text{rip} & \quad \text{ə} & \quad \text{mo} & \quad \text{sir} & \quad \text{ə} & \quad \text{eti} & \\
\text{1-DAT} & \quad \text{3S-give-PTC-PL} & \quad \text{INAN.PROX} & \quad \text{1-shirt} & \\
\text{kə-a} & \quad \text{Ve-pəra} & \quad \text{ro} & \quad \text{ə} & \quad \text{u} & \quad \text{rə} & \quad \text{2} & \\
\text{1A-use-NEG} & \quad \text{but} & \quad \text{1SG} & \\
\text{This is the shirt which they gave me, but I never used it.’}
\end{align*}
\]

Below, two contexts initiate omissions more prominently: omission in answers and omission of the inanimate direct object.

Omission in Answers: Ellipsis is observed in Bakairi when the answer of a \textit{wh}-question omits not only nominal but also verbal segments that have no direct relation to the \textit{wh}-question.

(5.30)  
\[
\begin{align*}
\text{ədikə} & \quad \text{a=ka} & \quad \text{auəkə} & \quad \text{korie?} & \quad \text{auəkə-lo} & \quad \text{1} & \\
\text{where} & \quad \text{COP=QST} & \quad \text{AN.MED} & \quad \text{wildcat} & \quad \text{AN.MED-EMP} & \\
\text{Where is the wildcat? That one (meaning, there).’}
\end{align*}
\]

(5.31)  
\[
\begin{align*}
\text{ədikə} & \quad \text{ə-daho-ru?} & \quad \text{tərə=mi} & \quad \text{ure} & \quad \text{i-aə} & \quad \text{1} & \\
\text{where} & \quad \text{2-knife-POSS} & \quad \text{here=NVSL} & \quad \text{bench} & \quad \text{3-under} & \\
\text{Where is the knife? Here, under the bench.’}
\end{align*}
\]

Omission of the Inanimate Direct Object: An inanimate direct object pronoun is often omitted.

(5.32)  
\[
\begin{align*}
\text{t-} & \quad \text{iuəkəur-e-ɨ} & \quad \text{ke-ba-mə} & \quad \text{kiəkə} & \quad \text{mərə} & \quad \text{3R-beauty-ATTR-NZR1} & \quad \text{PT-NEG-FOC} & \quad \text{PTCL2} & \quad \text{INAN.DIST} & \\
\text{əto} & \quad \text{aiuto} & \quad \text{s-amə-ro} & \quad \text{kopalegə-ro} & \quad \text{2} & \\
\text{clothing, therefore} & \quad \text{1A45-throw-INTS} & \quad \text{yesterday-INTS} & \\
\text{That shirt was not beautiful, so I threw it out yesterday.’}
\end{align*}
\]

5.2 Morphosyntactic alignment

Ergativity is present in many but not all Carib languages (Derbyshire, 1999: 60). Without case markings in the main constituents and relying solely on its constituent order patterns, Bakairi fails to be an ergative language. Nonetheless, the

\[45\text{Meira (personal communication) points out that some person-marking prefixes on transitive verbs might co-index both A and O participants. If the prefix } s\text{- marks 1A3O, the object is also referenced, no omission occurs in the example.}\]
inflection of a transitive verb being either A-oriented or O-oriented is likely a historical trait of its ergativity.

This section describes the nature of the transitive constituents and how it influences morphosyntactic alignment.

Since a transitive object immediately precedes its verb (OV), the constituent order plays a significant role in understanding who performs the verb action. A person hierarchy is a guiding factor in the choice of an agent or object person inflection of transitive or verbs. The verbal inflection respects the following hierarchy: first person > second person > third person. The syntactic expression of this hierarchy is illustrated with examples below.

A first person agent outranks all other syntactic persons. As a result, the first person agent prefix is expressed on the verb.

\[
\text{Agent (I) > Patient (you) (1A>2O)}
\]

(5.33) amə ka-enagaë-dili 2
2SG 1A-observe-IPFV
‘I am observing you.’

(5.34) auakə si-uagi-ʒ-tai 2
AN.MED 1A-wake.up-IMM.PST
‘I’ve just woken him up.’

(5.35) agəu s-i-ʃ-raki 2
snake 1A-kill-IMM.PST
‘I killed the snake.’

(5.36) auərə k-aŋpom-dili 2
INAN.MED 1A-twist-IPFV
‘I am going to twist that one.’

A first person object or patient outweighs all other syntactic persons.

\[
\text{Agent (I) > Patient (me) (1A>3O)}
\]

(5.37) i-enome-də-də əmə 2
1O-knowledge-VBZ2-PST 2SG
‘You taught me.’

(5.38) i-ə-də auakə 2
1O-hit-PST AN.MED
‘He hit me.’

A first person object or patient outweighs all other syntactic persons.
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Patient (me) > Causer (it.inanimate)  (3A>1O)

(5.39)  u-(u)rusi-də iə 2
1O-drag-PST IN
'It (here, a river rapid) dragged me.'

A second person agent outweighs a third person object.

Agent (you) > Patient (him)  (2A>3O)

(5.40)  auəkə ə-ĩɛ-ɛ (2)
AN.MED 2A-take.care.of-FUT
'You will take care of him.'

Agent (you) > Object (it.inanimate) (2A>3O)

(5.41)  sirə m-aɁpami-dili (2)
INAN.PROX 2A-twist-IPFV
'You are twisting this.'

Similarly, a second person object outweighs a third person agent.

Patient (you) > Agent (he)  (3A>2O)

(5.42)  ø-ø-də auəkə (2)
2O-hit-PST AN.MED
'He hit you.'

Patient (you) > Causer (it.inanimate)  (3A>2O)

(5.43)  peto ø-(a)du-ge-li (2)
fire 2O-burn-VBZ1-IPFV
'The fire is burning you.'

Finally, an animate third person outweighs an inanimate one.

Agent (he) > Object (it.inanimate)  (3A>3O)

(5.44)  tuhu i-aɁme-li auəkə (1)
pebble 3A-throw-IPFV AN.MED
'He is throwing pebbles.'

5.3  Clause-level syntax: noun phrases

A noun phrase (NP) is a phrase that has a noun or pronoun as its head and performs the same grammatical function as a single noun, which plays a particular role within the syntactic structure of a sentence. This section describes simple noun phrases, complex noun phrases, nominal quantifications, and possession.
5.3.1 Simple NPs

A sequence of a demonstrative and a noun, a personal pronoun and a noun, or a proper noun and a noun can establish a simple noun phrase. Only its head takes particles, postpositions, or affixes.

(5.45)  kurə məkə əgurodo ʽ2
      people   AN.DIST   man
‘That man is indigenous.’

A demonstrative by itself can be pluralized with *modo* forming a noun phrase.

(5.46)  kurə məkə-modo ʽ2
      people   AN.DIST-PL
‘Those people are indigenous.’

The plural marker may not precede the head of the noun phrase.

(5.47)  kurə məkə əgurodo-modo ʽ2
      people   AN.DIST   man-PL
‘Those men are indigenous.’

Only the head noun takes particles, postpositions, or suffixes, such as past nominal, and negative markers. The following pair shows this constraint.

(5.48)  auəɾə-pe ʽ2
  3.INAN.medial-EXIST
‘There is.’

(5.49)  auəɾə  paru-pe ʽ2
  3.INAN.medial   water-EXIST
‘There is water.’

A personal pronoun or a proper noun before a noun functions as the modifier of that noun. In Western Bakairi, first and third person bound pronouns are homophonous as shown below.

(5.50)  urə  i-me-ri tə-(e)ui-ə ʽ2
  ISG  1-child.POSS   3R-hunger-ATTR
‘My child seems hungry.’

(5.51)  Paulo  i-me-ri tə-(e)ui-ə ʽ2
  Paulo  3-child.POSS   3R-hunger-ATTR
‘Paulo’s child seems hungry.’
For pets, livestock, or food items, a hyperonym meaning ‘pet,’ ‘livestock’ or ‘food item’ must occur between the modifier and the noun. In the example below, the first person modifier is inflected in the hyperonym.

(5.52) i-egi  kauaru  n-ige-Ø  ᆁ
1-pet  horse  3S-die-PST
‘My horse died.’

5.3.2 Complex NPs

Bakairi features a mixture of head-initial and head-final structures leading to complex noun phrases. Pronouns, demonstratives, numerals, and other nouns are positioned to the left of the head noun. Nominalizations, participles, and adverbs are positioned to the right. Head nouns are highlighted in the examples in this section.

(5.53) urə  i-me-ri  agurodo  tokale-ð  ᆁ
1SG  3-child-POSS  man  one-NZR2
‘My male child is only one.’

(5.54) tələ  urə  ahagə  tokalə  pōuñ  iuelo-modo  ᆁ
3DEICTIC.DISTAL  1SG  two  one  necklace  new-PL
‘I have three new necklaces.’

A sequence of a noun followed by a nominalization forms a complex noun phrase. Three examples are given below.

(5.55) sauari  t-apiegur-e-i  ᆁ
leaf  3R-thin-ATTR-NZR1
‘a thin leaf’

(5.56) tohu  s-aeta-dibi  ᆁ
pumpkin  3O-plant-PTC
‘a planted pumpkin’

(5.57) sauə-ri-uaŋə  azagə  edì  s-alokua-ni  ᆁ
wing-POSS-LOC4  two  wire  3O-rise-NZR4
‘On its wings, there are two lifting wires.’

As nominal quantification applies to noun phrases in general, it is described below.

5.3.3 Nominal quantification

Most quantifications are obtained through two quantifiers: tožepa₁ or tožpa₂ and idanaru. Numerals are also a type of quantification (see 3.6). The quantifier tože-ze-pa₁ or tože-pa₂ ‘not few, not a little’ can be translated as ‘much, many, a lot, and very,’ and it is formed with the adverb tože-ze ‘little, few,’
followed by the negative suffix -pa. In Western Bakairi, the attributive morpheme -ze is elided. Here and elsewhere, the elided segment is parsed in the interlinear text in parentheses.

(5.58) toē-pa  tərə  ətə-də  mahagə  (2)
      few(-ATTR)-NEG DIST  home-LOC3  mosquito/house.fly
‘There are many mosquitoes/house flies at that home over there.’

(5.59) toē-ze-pa  kehoō  sina  i-eiVe-dilī
      few-ATTR-NEG  INTS  1PL.EXC  3A-laugh-IPFV
      məkə  uguōdə  (1)
      AN.DIST  man
‘We laughed very much at that man.’

The quantifier idənə̀rə ‘all, everybody or everything’ differs from the verbal completive suffix -uə (see 4.3.5), because the suffix is limited to the verbal quantification, while idənə̀rə expresses the totality of an argument. This point is illustrated below.

(5.60) idənə̀rə  i-(i)ze-ri  s-iōke-agı  (1)
      all  1-farm-POSS  1-weed-IMM.PST
‘I have weeded everything on the farm.’

(5.61) n-egate-ragi  idənə̀rə  keəōo  urə-á  (1)
      3-tell-IMM.PST  all  PTCL  1SG-DAT
‘He has told me everything.’

(5.62) æ-tau-gə  idənə̀rə!  (1)
      come-PL-IMP  all
‘Come, everybody!’

When it is deemed necessary to clarify that idənə̀rə refers to humans, the term can be used in combination with kurədo ‘people.’

(5.63) idənə̀rə  kurə-do  i-eVni-li  (1)
      all  person-PL  3S-drink-IPFV
‘Everybody drank.’

5.3.4 Possession

The possessive relationship between two words, whereby one word modifies the other, is expressed through (a) possessive morphology on the possessed noun or possessum (see 3.1), and (b) possessive relation between two words. In Bakairi, there are a number of ways to express possessive relations.

The basic structure of a possessive phrase consists of a possessor followed by a possessum. In Bakairi, the possessum (i.e., possessed noun) is marked with possessive morphology. The following example illustrates this type of formation.
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(5.64) āgaʔu i-euənu ②
head 1-pain
‘I have a headache.’

Although the construction illustrated above is seen as a complex noun phrase, it is possible to analyze it as an apposition. Consider, for instance, ieuənu ① ‘I am hurting, I am sick, my pain, my illness.’ When euənu occurs by itself, without being preceded by a body part, it means ‘be hurting, be sick, one’s pain, one’s illness.’

If a sequence of a denominal adverb and a possessed noun form a predicate sentence (not a possessive noun phrase), the possessed noun is inflected.

(5.65) tə-(e)uən-e i-ema-ri ②
3R-pain-ATTR 1-hand-POSS
‘My hand is painful.’

Possession can also be expressed analytically. An analytical possession consists of the use of a free personal subject pronoun (having the syntactic role of possessive pronoun) followed by the possessum (i.e., possessed noun). The four pairs of examples exemplify this type of possession.

(5.66) i-enome-ri ②
1-knowledge-POSS
‘It is my intelligence.’

(5.67) urə enome-ri ②
1SG knowledge-POSS
‘It is my intelligence.’

(5.68) i-enu-də ②
1-eye-LOC3
‘It is in my eye’ which is used to mean ‘I want it.’

(5.69) urə enu-də ②
1SG eye-LOC3
‘It is in my eye’ a colloquialism used to mean ‘I want it.’

(5.70) i-ego-ru ②
1-pestle-POSS
‘It is my pestle.’

(5.71) urə ego-ru ②
1SG pestle-POSS
‘It is my pestle.’

(5.72) i-(e)nu-eta-ri ②
2-eye-cage-POSS
‘It is your pair of glasses.’

46 Other examples of disorders are idəʔu euənu ‘bellyache,’ ereri euənu ‘liver ache’ or ‘stomachache’ or ‘heartburn,’ ɨrə euənu ‘toothache,’ and īvətərī euənu ‘earache.’
An apposition of two person pronouns cannot be interpreted as a possession construction. Pronouns are not possessable; therefore, the sequence of personal pronouns represents coordination meaning ‘you and I,’ not ‘you are mine.’

A hyperonymous possession is a distinct way of expressing possession of pets, domesticated livestock, and food. The hyperonymous expression, for instance, *egi* ‘pet,’ is inflected with a possessor morpheme. The pet or food remains an uninflected noun even though it is the possessum. Commonly possessed or domesticated animals are parrots, dogs, chickens, horses, and cattle.

The inflected hyperonymous expressions for pets are, in Western Bakairi, *ieg* ‘my pet,’ *igi* ‘your pet,’ *egi* ‘his pet,’ and, in Eastern Bakairi, *ieg* ‘my pet,’ *igi* ‘your pet,’ *egi* ‘his pet.’ Two examples of pets are given below.

Examples of food (meat and fruit alike) are given below.

An inanimate possession can be expressed by the use of the hyperonymous noun *emano* ‘a possessed thing’ followed by the uninflected noun or noun phrase.
Possessive expression with *siurə*: by making use of the possessive marker *siurə* ‘of,’ it is possible to clarify who the possessor is. Eastern speakers pronounce this postposition as [sjurə ~ hjurə], whereas Western speakers prefer [jurə]. The second example below indicates that this is possession construction.

(5.80) əmə siurə? ə
2SG INAN.PROX
‘Is this yours?’
(5.81) əmə iuɾə siurə? ə
2SG of INAN.PROX
‘Is this yours?’

The word *siurə* ‘of’ is also used to establish a genitive relation between two inanimate nouns with the meaning ‘made of.’ This does not refer to ownership, but to a part-whole possession.

(5.82) toʔu iuɾə pوغu ə
pumpkin of porridge
‘Porridge of pumpkin.’

This genitive word *siurə* is often attested in the data as part of the sequence possessor-*siurə*-possessum. Between two animate entities, *siurə* acquires the meaning of ‘belongs to.’ The examples below illustrate this meaning.

(5.83) [href missing] ə
1SG of 2SG
‘You belong to me.’

In possession with *siurə*, not the two nouns but the genitive marker is accompanied by any adverbial modifications, for instance, by sentence particles (see 5.6).

(5.84) əmə iuɾə-la urə ə
2SG of-EMP 1SG
‘I really belong to you.’

### 5.4 Clause-level syntax: coordination and subordination

When a sentence contains two or more clauses, these clauses can establish a relation of coordination and subordination. Coordinated sentences contain two or more independent clauses joined with a coordinating conjunction. A subordinated construction combines an independent clause and one or more dependent clauses. In this section, we will come to the conclusion that such a shape of subordination is not formally expressed in Bakairi.
5.4.1 Coordinate clauses

In coordinate clauses, coordinating morphemes are used to join two or more items (such as words, clauses, or sentences) of equal syntactic importance (Givón 2001: 327ff). The Bakairi clauses (verbal, stative, deverbal adjective, existential, and purpose-of-motion) can be coordinated as (a) clauses lacking negative morphemes; (b) clauses containing negative morphemes; (c) non-verbal coordination; (d) contrasting clauses; and (e) opposing clauses. These five types of coordination are explained below.

5.4.1.1 Coordinating clauses with -pɨlə̅ or -pərilə̅

The agreement of two clauses, which cannot contain any negative morpheme, is formed with a variant of the coordinating conjunction -pɨlə̅ or -pərilə̅. This conjunction is attested in various sequences as follows:

(sentence initial)  alapilə̅₁ or alapərilə̅₂ + (clause+clause)
(sentence initial)  adverb⁴⁸ + -pilə̅₁ or -pərilə̅₂ + (clause+clause)
(elsewhere) (clause+clause) + lapilə̅₁ or lapərilə̅₂

Given the high number of variants of -pɨlə̅₁ or -pərilə̅₂ ‘also,’ we posit that the conjunction consists of multiple morphological elements, such as -a- ‘copula,’ or the prefix a- ‘it,’ lapərəi ‘too,’ and -la- ‘emphatic particle.’ The reasons for the contractions of some of these segments have yet to be established.

In Bakairi, many antonyms are expressed with the negative suffix -pa, -ba ‘not.’ When -pa, -ba ‘not’ occurs in any constituent of the coordinated clauses, it is ungrammatical to use one of the variants of the coordination conjunction -pɨlə̅₁ or -pərilə̅₂ ‘also.’ Therefore, the conjunction -pɨlə̅₁ or -pərilə̅₂ is formally used to express the coordination of two or more morphologically positive clause types as given in the example below.

(5.85)  Daniel, Maria  eogůru  i-ê-dili,
         Daniel, Maria  crying  3A-see-IPFV
         eagôrô-modro eogůru  i-ê-dili  lapilə̅ uarə̅₁
         other-PL  crying  3A-see-IPFV also and
         ‘Daniel saw Maria crying and (he) saw also the others crying.’

A coordination that implies a choice as in ‘either A or B is true’ is realized with -pɨlə̅₁ or -pərilə̅₂ ‘also’ as in the following example.

---

⁴⁸ The adverb alə is used as a sequential time marker.
5.4.1.2 Coordinating clauses with \textit{lagoło}

When two clauses each containing a negative morpheme are coordinated, the second negated verb is followed by \textit{lagoło} 'either.' All examples of \textit{lagoło} in the corpus follow the final coordindant.

\begin{itemize}
  \item (5.87) \textit{adi pe-ba t-ūr-e-pa lagoło uara 1} what have-NEG 3R-meat-ATTR-NEG either and
  \textit{‘There was nothing, not even meat.’}
  \item (5.88) \textit{toë-ze-pa lagoło doce 1} few-ATTR-NEG either sweet.stuff
  \textit{‘There is also a lot of pastry.’}
  \item (5.89) \textit{s-auî-pa, s-az-ie-ba lagoło 1} 1-hunt-NEG 1-DETR-make-NEG either
  \textit{‘I didn’t hunt or cook.’}
\end{itemize}

If \textit{nem} ‘also not,’ a borrowing from BP, is used with two negated clauses, the first verb is followed by \textit{lagoło} and the second by \textit{nem}.

\begin{itemize}
  \item (5.90) \textit{k-auî-pira, lagoło k-az-ie-bira nem 1} 1A-hunt-NEG either 1-DETR-make-NEG also.not
  \textit{‘I don’t hunt nor cook.’}
\end{itemize}

The use of the loanword \textit{nem} can lead to the absence of \textit{lagoło}.

\begin{itemize}
  \item (5.91) \textit{Tereza leidi n-anû-pira i-se nem s-auîpura 1} Tereza milk 3A-buy-NEG COP-FUT also.not 3O-sweetness
  \textit{‘Tereza will not be buying milk nor sugar.’}
\end{itemize}

5.4.1.3 Coordinating clauses with \textit{uaro}

The coordinating conjunction \textit{uaro} is used as simple conjunction of two nouns, adverbs, personal pronouns, and clauses. When this conjunction coordinates two or more clauses (all of which must be symmetric alignment either positive or negative), their subject is identical. The conjunction \textit{uaro} ‘and’ is located at the end of the sentence.
(5.92) pekodo uguôdo uarə ①
woman man and
‘woman and man.’

(5.93) t-une məkə i-ãgahu-də, i-hohu-də uarə ①
3R-blood AN.DIST 3-head-LOC3 3-chest-LOC3 and
‘Its blood is on its head and on its chest.’ (about a bull which fell into a ditch)

Some examples indicate that *uarə* is equally used in disjunctions indicating that the distinction between conjunctions and disjunctions may not be relevant in Bakairi.

(5.94) pabai ie Ø-a-to ke-ba quiabo
my father like 3S-COP1-NZR3 PT-NEG okra
*pimentão* uarə ②
bell.pepper and
‘Okra and/or bell pepper is not of my father’s liking.’

The following example illustrates two motion-of-purpose clauses with *uarə*.

(5.95) u-da-aki ʒwi ene-se, ad-atə-ho-bi-ri
1S-go-IMM.PST remedy bring-PURP DETR-cut-CAUS-PST-POSS
akəzι-ze uarə ①
stitch-PURP and
‘I went there in order to bring a remedy and stitch up what was wounded.’

The coordination of two negative clauses also makes use of *uarə*.

(5.96) ohogui-rəbə ke-ba məkə pekodo
tarry-PTC PT-NEG AN.DIST woman
tənil ke-ba uarə ②
from.here PT-NEG and
‘That woman is not married, nor is she from here.’

The following example illustrates a symmetric alignment in verbs before *uarə*.

(5.97) kogonekə i-se karaiua-ɛ
afternoon COP-FUT foreigner-ATTR
ti-ualu-ge-mo i-se uarə ①
3R-party-INSTR-PL COP-FUT and
‘In the next afternoon, having a party as foreigners do.’
The coordination of syntactic arguments formed with the instrumental *t*-N-*ge* ‘possessing a noun’ follows the same pattern, the second or last item is followed by *uar*ə.

(5.98)  
\[
\begin{align*}
\text{ti-} & \text{dinheiro-} \text{ge} & \text{makə} & \text{Marcos} & \text{ti-garo-} \text{ge} \\
& & 3\text{R-money-INSTR} & \text{AN.DIST} & \text{Marcos} & \text{3R-car-INSTR} \\
& \text{t-ana-} & \text{uar} & (2) \\
& & \text{3R-land-INSTR} & \text{and} \\
\end{align*}
\]

‘Marcos has money, a car, and a plot of land.’

The following example shows coordination with two past deverbal nominalizations.

(5.99)  
\[
\begin{align*}
\text{ma-} & \text{uVTu-} \text{ba} & \text{a-ge-ho-} \text{bi-ri} \\
& & 2\text{-know-NEG} & \text{3O-1A-say-CAUS-PST-POSS} \\
& \text{i-} & \text{enome-ho-} \text{bi-ri} & \text{uar} & (1) \\
& & 1\text{-knowledge-CAUS-PST-POSS} & \text{and} \\
\end{align*}
\]

‘You did not know what I said or what I taught.’

5.4.1.4 *Coordinating contrastive clauses with* *olə*(1) *or* *rolə*(2)

When two contrasting clauses are coordinated, *olə*(1) *or* *rolə*(2) ‘but’ is used to show an unexpected result in contrast to the expectation if:

(a)  
\[
\begin{align*}
\text{a verb containing a negative suffix } & \text{-pira, -birə}(1), \text{-pəra, -bəra}(2), \text{-pa, -ba} \\
\text{or a frustrative element is present as in the example below.} \\
\end{align*}
\]

(5.100)  
\[
\begin{align*}
\text{tə-} & \text{(e)mano-} \text{la} & \text{uane} & \text{Ø-euane-li, s-iutu-i-} \text{ə} \\
& & \text{3R-object-EMPH} & \text{FRUST} & \text{3-work-IPFV} & \text{3O-know-NZR4-DAT but} \\
\end{align*}
\]

‘This object is for work, but by those who know it.’

(b)  
\[
\begin{align*}
\text{it is a sequence of two contrasting VPs as in the example below.} \\
\end{align*}
\]

(5.101)  
\[
\begin{align*}
\text{i-(e)} & \text{ti} & \text{s-emagaene-ə} & \text{epera-no} & \text{s-anə-} & \text{əe rolə} & \text{ura}(2) \\
& & 2\text{-clothes} & \text{3O-steal-NZR2} & \text{replace-NZR2} & \text{1-buy-FUT} & \text{but 1SG} \\
\end{align*}
\]

‘They stole your clothes from me, but I will buy a replacement.’

Contrasting coordination may occur even when the disparity is no longer evident.

(5.102)  
\[
\begin{align*}
\text{n-} & \text{ota-ragi} & \text{tə-(e)ma-} \text{ge rolə} & \text{eə} & \text{i-də-li}(2) \\
& & \text{3S-go-IMM.PST} & \text{3R-hand-INSTR} & \text{but PTCL1} & \text{3S-go-IPFV} \\
\end{align*}
\]

‘He’s gone, but he went with it in his hand.’
5.4.1.5 Coordinating clauses with the frustrating *uəne*

When one of two clauses shows an expectation that has a frustrating result, it is formed with the frustrative conjunction *uəne*. This conjunction, which at times means ‘although,’ is placed after the verb expressing the frustrated expectation.

(5.103)  
\[ u-\text{də-}p\!a \quad i-\text{ʔe} \quad urə, \quad 1\text{S-go-NEG COP-FUT 1SG} \]
\[ u-\text{də-diʔe} \quad uənε \quad urə 2 \quad 1\text{S-go-DESI FRUST 1SG} \]
‘Although I’m not going to go, I really want to.’

A frustrative clause can co-occur with a contrastive clause as in the examples below.

(5.104)  
\[ u-\text{də-diʔe} \quad uənε \quad urə, \quad 1\text{S-go-DESI FRUST 1SG} \]
\[ u-\text{də-}p\!a \quad i-\text{ʔe} \quad urə \quad \text{rola} \quad 2 \quad 1\text{S-go-NEG COP-FUT 1SG} \quad \text{but} \]
‘I’m not going to go, but I really want to.’

(5.105)  
\[ u\text{dodo, } kə-\text{ʔe-}p\text{ra} \quad uənε \quad a-\text{ʔe,} \quad 1\text{A-see-NEG FRUST COP-ABTT} \]
\[ bizeru \quad n-ə-raki \quad \text{rola} \quad 2 \quad 3\text{S-kill-IMM.PST} \quad \text{but} \]
‘I couldn’t see it, but a jaguar killed a steer.’

5.4.2 Subordinate clauses

Four types of subordinate or dependent clauses are usually differentiated: (a) relative clauses, (b) adverbial clauses, (c) verb-complement clauses, and (d) non-complement clauses. Unlike the main clause, a subordinate clause makes use of subordinators, which are invariable grammatical particles (Givón 2001: 100).

The Bakairi way of expressing dependent clauses is by way of a deverbal participial or nominalized forms, placed paratactically or appositively within the sentence. Although functionally these constructions establish dependence relations between them and other sentence constituents, formally they are not subordinate clauses. We will, nevertheless, investigate these functional constructions that are equivalent to subordinate clauses in other languages.

Relative pronouns and subordinate conjunctions do not exist as a separate class in Bakairi. Instead, a number of morphemes are used to indicate a dependence relation between sentence constituents. The morphemes, i.e., suffixes which at times can become independent words, are placed after a nominalized verb. Below is a shortlist
of these morphemes or words sorted out by their different meanings and relations in the sentences: time, cause/effect, comparison/contrast, and possibility/conditional.

<table>
<thead>
<tr>
<th>Time</th>
<th>Cause/Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>-bigeduo⁴⁹ ‘after’</td>
<td>-bərɛlɔ ‘since’</td>
</tr>
<tr>
<td>ilɔpɪriɛ⁵⁰ ‘that done’ (sentence initial)</td>
<td>-ɛ ‘because’</td>
</tr>
<tr>
<td>-tuo/-duo ‘when, whenever’</td>
<td></td>
</tr>
<tr>
<td>ate (&lt; BP atɛ) ‘until’</td>
<td>Possibility/Conditional</td>
</tr>
<tr>
<td>irainɔ ‘before’</td>
<td>uataa⁵¹ ‘if’</td>
</tr>
<tr>
<td></td>
<td>ipa-ro ‘if not’</td>
</tr>
</tbody>
</table>

Comparison/Contrast

ara ‘as if, like’
ara ‘while, like’

The following subsections explore five types of clausal dependency: relativization, time adverbials, concurrent adverbial expressions, result adverbial expressions, and cause-reason clauses.

5.4.2.1 Relativization

In Bakairi, the participle is used to obtain the effect of a relative clause in other languages. The deverbal participle is placed next to a noun phrase in a paratactic relationship, usually with an intonational break. A deverbal participle nominalization is commonly used as a deverbal adjective as part of a noun phrase (see 5.1.4). This process is demonstrated through the examples below.

The first example refers to a simple transitive clause (see 5.1.2).

(5.106) i-eti k-aḇkazı-li ¹
1-clothing 1-sew-IPFV
‘I sewed my fabric.’

The second example illustrates a deverbal adjective as part of the noun phrase. As such, the deverbal adjective, being the participle of a transitive verb, is inflected with a third person object prefix s- (see 5.1.4).

(5.107) eti s-ātɔ-ibi ¹
clothing 3O-cut-PTC
‘It is a cut fabric.’

In the examples below, the participle is used as part of a sentence containing a verbal predicate. In this case, the participle, which we consider as a relative clause, is

⁴⁹ Note that -duo ‘when’ co-occurs in forming the word -pigeduo, -bigeduo ‘after.’
⁵⁰ The word ilɔpɪriɛ¹ consists of ila ‘that,’ the morpheme -pɪɛ¹ ‘done, former, past’ and the attributive -ɛ.
⁵¹ Alternatively, uataa ‘if’ is pronounced as [watai]¹ or [wataj]².
inflected with a person prefix indicating the transitive agent.

(5.108) i-eti k-āta-ibi k-aʔkɔzi-li
1-clothing 1A-cut-PTC 1-sew-IPFV
‘I sewed my clothing, which I had already cut.’

(5.109) iuelo sir̓ə̓ s-aʔge-ho sina i-anə-tibi
new INAN.PROX 3O-strain-NZR3 1PL.EXC 3A-buy-PTC
‘This is the new strainer, which we have bought.’

Another means used to obtain the effect of a relative clause is by way of the nominalization of verbs and adverbs. The nominalizing suffix works as a semantic/functional equivalent to subordination, because affixes (prefixes and suffixes) of a nominalization encode referencing other elements of the clause. For instance, the third person coreferential prefix t(ə)- establishes an adjectival relation with the noun phrase resulting in ‘which is.’ A nominalization with the coreferential affix (in square brackets in the example) is non-restrictive and can be removed without change in meaning.

(5.110) [t-ıu בתור-e-i] mərə nadi sauʔku
[3R-beauty-ATTR-NZR1] INAN.DIST houseplant flower
‘That is a houseplant flower [, which is beautiful].’

Nominalizing suffixes encode different inherent meanings, which are often interpreted as relative clauses. For instance, -to, -do, -ho (-o, -ʔo) is used as ‘an object that…, a place that…, where…’ e.g., paru osiodo ‘where the rivers meet,’ from the verb osio ‘meet, unite.’ More suffixes of this type are provided as follows:

(a) {-pa-û/-ba-û} ‘who/which does not…’ (a composite with the negative suffix -pa, -ba) (see 3.2.1).
(b) {-də, -no} ‘that is/has…, who does…’ (see 3.2.2).
(c) {-do} ‘where …’ (see 3.2.3).
(d) {-tə} ‘who has…’ (see 3.2.1 and 3.2.4).

The following examples demonstrate how they are used as relative clauses. The head noun is followed by the adverbial nominalization in boldface, containing one of the relativizing suffixes. (As previously mentioned, such nominalizations can alternatively be analyzed as appositions: ‘a winged one’, ‘a non-mouthed one,’ and ‘the salty one.’)

(5.111) tərə tala emano t-auə-ge-i-modo
DIST 3DEICTIC.DISTAL object 3R-wing-INSTR-NZR4-PL
‘There is over there an object, which has wings.’

(5.112) aʔurodo t-ita-ē-ba-û kə-ē-dili akšu̍ ə
man 3R-mouth-ATTR-NEG-NZR2 1A-see-IPFV PTCL4
‘A long time ago, I saw a man who was dumb.’
Another type of relativization designates relations of places by adding the deverbal nominalizer morpheme -piri/-biri(1) ‘where it happens.’ When -to/-do/-ho(1) is added between the stem and the nominalizer as in -tobiri/-dobiri(1) (see 3.2.3), the clause is used to establish a causative relation between the verbs, e.g., ‘where it is made to happen’ (see 4.2.4). Finally, reduplication of the nominalizer, as in -pibiri/-bibiri, is used to express a past notion of the relation of place, e.g., ‘where it happened’ (see 3.1.2).

5.4.2.2 Time adverbials

Sentences may contain several events occurring at different times, in which one event expresses the temporal reference with respect to which the main event of the sentence must be interpreted. Bakairi often uses functionally equivalent adverbial expressions (in square brackets in the example).

(5.114) iuerə  eme-dili-uəɡə  as-egu-do-bi-ri,
[today rise-IPFV-LOC4 DETR-measure-NZR3-PST-POSS]
sina  n-ə-tai(1)
1PL.EXC  3 A-eat-IMM.PST
‘We ate [while the pictures were taken today in the morning].’

In the previous example, the locative postposition uəɡə ‘on’ is used with the meaning ‘during, while’ following the deverbal nominalization emedili ‘morning.’ This temporal use of the locative expression is quite frequent cross-linguistically.

Similarly, the adverbalizing postposition -tuo, -duo ‘when, while’ expresses a simultaneous action when it is added to a verb.

(5.115) ipege-duo,  n-adakə-də(1)  pull-while  3A-DETR-take.O.for.a.walk-PST
‘While pulling, he walked.’

(5.116) ke-duo  n-adakə-də(1)  speak-while  3A-DETR-take.O.for.a.walk-PST
‘While speaking, he walked.’

When -tuo, -duo is added to a verb, the verb takes person inflection but not a suffix indicating aspect or mood.

(5.117) u-ge-duo,  s-adakə-də(2)  1S-speak-while  1A-DETR-take.O.for.a.walk-PST
‘As I spoke, I walked.’
Adverbial phrases (an expression operating adverbially) may both precede or follow the sentence predicate. The adverbial phrases below are formed with -tuɔ.

(5.119)  n-o-to-ɔ-dɔ  i-e-tuɔ  1 3A-hide-PST  O-see-when
‘He hid when he saw me.’
(5.120)  i-e-tuɔ  n-o-to-ɔ-dɔ  1 3A-hide-PST
‘When he saw me, he hid.’

Another type of temporal relation between parts of a sentence is established with -barɛ ‘since,’ which is used together with an adverb of time, and it is an inceptive mark of the adverbial clause.

(5.121)  pia-ɔ-õ-bɔrɛ-la,  k-ɔs-euani-li  1
early-NZR2-since-EMPH  1A-DETR-work-IPFV
‘I have been working since early.’
(5.122)  pealɔ  Œ-uage-raki  iuerɔ-bɔrɛ-la  ȉ-çuüdi
early 1-wake.up.IMM.PST today-since-EMPH l-hunger/sickness
‘Because I woke up early today, I am hungry/sick.’

We must conclude that the Bakairi temporal relations are expressed by way of adverbial phrases, not formally different from other APs, PPs, or even simple adverbs.

5.4.2.3 Concurrent adverbial expressions

Bakairi has adverbial markers that express concurrent temporal relations, i.e., one clause co-occurring simultaneously with another: iraɪna ‘before,’ and -pigɛduo, -bigɛduo ‘after’ and -duo ‘when’ (see 5.4.2.4). In a sentence, these clauses occur before or after the core constituents often where an adverb is expected. The highlighted clauses in the second and third examples below fill the same position used by the highlighted adverb in the first example.

(5.123)  pogu  s-eni-ag  pealɔ  1
porridge 1S-drink52-IMM.PST  early
‘I had porridge early.’

52 Note that the intransitive eni ‘drink’ increases valency to mean ‘to drink something’ when preceded by an object even though it is still inflected as an intransitive verb.
The adverbial marker -pigeduo, -bigeduo₁ or -pigeduo, -bigeduo₂ ‘after’ is preceded by a verbal stem without aspect-mood suffixation.

(5.126) iguã-pigeduo, podo s-ə-da ı
darken-after meat 1A-eat-PST
‘After it got dark, I ate meat.’

(5.127) i-pigeduo, podo s-ə-da ı
bathe-after meat 1A-eat-PST
‘After bathing, I ate meat.’

(5.128) i-uaduí ohoguí-bigeduo, pogu s-eni-Ø ı
1-nephew marry-after porridge 1S-drink-PST
‘After my nephew’s wedding, I had porridge.’

(5.129) tad-as-ename-da-bigeduo, paru s-eni-Ø ı
NPOS-DETR-knowledge-VBZ2-after water/river 1S-drink-PST
‘After teaching, I drank water.’

Although the adverbial -bigeduo, -pigeduo₁ or -bigeduo, -pigeduo₂ ‘after’ is usually attached to verbs, we find it occurring next to a non-verbal word kopalegə ‘yesterday/tomorrow’ forming kopalegəbigeduo ‘the day after tomorrow.’

(5.130) kopalegə-bigeduo ı
day.which.is.not.today-after
‘the day after tomorrow’

The rarity of the adverbial marker co-occurring with non-verbs seems to indicate that this is an exception rather than an expansion of the use of this adverbial marker.

5.4.2.4 Result adverbial expressions

Consequence or result adverbial expressions are formed with aituo ‘thus.’ This word is probably morphologically composed of a- ‘it’ + i- ‘be’ + -tuo ‘when / after’ = ‘after it being’ or ‘consequently.’ If so, aituo is not a syntactic subordinator, but an adverbial marker. In the following example, aituo marks the result or consequence of the action expressed in the main clause.
A question that requests reason with adaituoka ‘why’ is followed by an adverbial expression conveying cause or reason. The cause-reason clause is introduced by the subordinating conjunction adaituo ‘because.’ A cause-reason clause formation can stand alone or be accompanied by the main clause. The order of the adverbial clause and the main clause is interchangeable. As previously mentioned, =ka is an optional interrogative clitic (see 3.5).

5.5.2.5 Cause-reason clauses

A question that requests reason with adaituoka ‘why’ is followed by an adverbial expression conveying cause or reason. The cause-reason clause is introduced by the subordinating conjunction adaituo ‘because.’ A cause-reason clause formation can stand alone or be accompanied by the main clause. The order of the adverbial clause and the main clause is interchangeable. As previously mentioned, =ka is an optional interrogative clitic (see 3.5).

5.5 Sentence types

The sentence types in Bakairi are divided as declarative, copulative, interrogative, imperative, comparative, and quotative.

5.5.1 Declarative

Declarative sentences state facts or arguments, and they range from (in)transitive clauses to ‘purpose-of-motion’ clauses. Existential clauses are typically declarative sentences as they make a statement using copula constructions or existential verbs, but the most common declarative sentence in Bakairi is the discourse-initial sentence when all constituents are present as an introductory statement (see 5.1).

5.5.2 Copulative

In Bakairi, copular sentences are devised with two arguments (a copular subject CS and a copular complement CC) joined by an underlying copula verb. Copula-less, also known as copula-free or zero-copula sentences, are feasible in affirmative and interrogative sentences.

The following is an example of a copula-less sentence.
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(5.133) iuage-no urə 2
far-NZR2 1SG
‘I’m from afar.’

(5.134) t-iuəkur-e-i əmə 2
3R-beauty-ATTR-NZR1 2SG
‘You are beautiful.’

Below is an example of a copular sentence.

(5.135) tokələ kula ərə Ø-a-uli tokələ-lo 2
one only here 3S-COP1-IPFV one-EMPH
‘There is a small one here. (It’s) just one.’

Negative copular sentences require the presence of a negative existential word keba, which co-occurs with nouns, pronouns, adverbs, and copulative verbs. As such, keba appears between one of these constituents and the plural marker.

(5.136) karaiua ke-ba-modo Ø-a-uli-mo 1
foreigner PT-NEG-PL 3S-COP1-IPFV-PL
‘They are non-foreigners, i.e., natives.’

A past copulative sentence with a noun phrase is formed with the addition of one of the following tense particles ẽrə or eə 2 or keəkə 1 or kiəkə 2 keəkə, ani, akəuə (see 4.2.7).

(5.137) nigo Ø-eti-də eə urə 2
grandmother 3-house-LOC3 PTCL1 1SG
‘I was just at my grandmother’s house.’

(5.138) i-pə sisi, eamu,
do-NEG sun darkness

eamu lelə-lo kopacləəkeəkə 1
darkness really-EMPH yesterday PTCL2
‘The sun didn’t (come out); it was dark, really dark yesterday.’

A future copulative sentence is expressed with a future copula ise 1, iə 2.

(5.139) əmə iurə i-əe sirə 2
2SG of COP-FUT INAN.PROX
‘This will become yours.’

(5.140) koədə i-əe ərə m-a-uli 2
good COP-FUT DIST 2S-COP1-IPFV
‘You will be better over there.’
The previous example refers to a situation in which a child does not know why he has to stay at the health center when he is sick. By utilizing the copula *auɨlɨ* or *auɭi* ulaɨ*, the parent builds a stronger argument connecting the *staying over* and *getting better*. The progression from being sick to getting better is made clear by the combination of two copulas: *iɭe* ‘future-tense particle of the copulative *-i-*’ and *mauɭi* ‘imperfective copula *-a-*’.

Copular sentences can also express a sense of (im)possibility.

(5.141) əmə ke-ba-ro uatai ədurɔ
2SG PT-NEG-INTS if how
kurà to-i-ɭe urɔ (2)
because 3R-COP2-ABTT 1SG
‘If it weren’t for you, I don’t know what I could have become.’

Copulative sentences in the imperfective aspect are quite robust.

(5.142) toɛ-pa mako iɛ u-a-uali (2)
little(-ATTR)-NEG AN.DIST like/want 1S-COP1-IPFV
‘It is him that I like very much.’
(5.143) tokalɔ-lɔ iɭe u-a-uali (2)
one-EMPH COP-FUT 1S-COP1-IPFV
‘I will be one.’
(5.144) akuru mɔʁ sinumi-ɛ m-a-ului uarɔ (2)
MIR INAN.DIST laziness-ATTR 2S-COP1-IPFV thus
‘In fact, you’re being lazy about that.’
(5.145) kogoneka mako siunu-pe Ø-a-uali (2)
afternoon AN.DIST bug.sp-EXIST 3S-COP1-IPFV
‘In the afternoon, there are insects over there.’
(5.146) ida-uə-taiɭ-gə pialə Ø-a-uali ume-lɔ (2)
go-CPLT-PL-IMP early 3S-COP1-IPFV time-EMPH
‘Go all of you while the time is still early.’

5.5.3 Interrogative

Interrogative sentences make use of interrogative pronouns and the interrogative clitic *=ka*, which is used for closed and open-ended questions alike. The interrogative clitic *=ka* is described in other Cariban languages. In Arara do Pará, it is used exclusively for yes-no questions (S. D. Souza 2010: 98). Examples of questions with the interrogative clitic are provided presently.

The interrogative clitic is attested next to an interrogative pronoun.

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53 Arara do Pará is a Cariban language spoken in Southern Amazonia with some linguistic similarities to Bakairi.
The interrogative clitic is attested next to a desiderative adverbial.

(5.147) əgi=ka əmə? 1
who=QST 2SG
‘Who are you?’

The interrogative clitic can occur next to an existential verb.

(5.148) urə ize=ka əmə? 1
1SG like=QST 2SG
‘Do you like/want me?’

The interrogative clitic can be used after an adverb plus copula.

(5.149) adi pe-ba=ka əmə autə? 2
what have-NEG=QST 2SG there(PROX)
‘Don’t you have anything there?’

The interrogative clitic can occur next to an augmentative particle.

(5.150) iuage a=ka? 1
far COP=QST
‘Is it far?’

The interrogative clitic is attested next to copulative verbs regardless of the inanimate or animate nature of the referent.

(5.151) ada kuru=ka i-se kə-iš-li? 1
how INTS=QST COP-FUT 1-kill-IPFV
‘How will I be killing it for real?’

The interrogative pronoun adika 1 or adika 2 does not co-occur with the interrogative clitic =ka. Instead, an optional copulative verb is added to supplement the interrogative sense.

(5.152) adi a=ka auəə? 1
what COP=QST INAN.MED
‘What is that?’ (for inanimate concepts)

(5.153) əgi a=ka məə? 1
who COP=QST AN.PROX
‘Who is this?’ (for people and animals)
In the western dialect, the =ka can combine with the venitive suffix -rə to form the sequence karə.

Yes/no questions do not require the interrogative clitic =ka. In this situation, the listener knows that this is a question because of a change in the intonation at the end of the question.

The following example refers to an object that was expected to be collected at the moment.

The interrogative pronoun of a question containing a tense particle (see 4.2.7) need not contain an interrogative clitic.

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54 The semantic notion of ‘box, hole’ has two similar phonetic realizations, *tstegunẽ* and *tstagateẽ*. Both are nominalizations from the adverbs *tstage* and *tstagune*, which are formed with the circumfixes *t*-ADV-*ge* and *t*-ADV-*ne*. The first word is, therefore, derived from a stem *eta*, meaning ‘hole’ (e.g., *se etar* ‘tree hole’), also ‘container.’ In *tstegune*, the basis is a word *etagu*, perhaps derived from *eta* ‘hole’ with a suffix *-gu*, and apparently synonymous with *eta* ‘hole’ (Meira, personal communication). This point needs further investigation.
Interrogative constructions involving an interrogative pronoun and a verb are quite rare in Bakairi. Typically, an interrogative sentence is a nominal construction or a nominalized verb next to a copula. This point is illustrated with two examples.

(5.163) ǥi i-\text{?e} əe-ni? (2)
who COP-FUT come-NZR4?
‘Who is coming?’ (literally ‘who will become the coming person/people?’)

(5.164) əda\text{?i} o e s\text{-ai-}tə si\text{ra?} (2)
what PTCL1 3S-arrive-NZR3 here
‘How did he get here?’ (or ‘what was the vehicle?’)

The final example contains an interrogative pronoun followed by a nominalized verb without the use of a copula. The verbal stem *eta* ‘box’ signifies ‘where it is holed’ after nominalization.

(5.165) ədi\text{?a} tə-(e)ta-ge-\text{i} i-ta-ri? (2)
where 3R-box-INST-NZR4 3-mouth-POSS
‘Where is the house’s exit?’

5.5.4 Imperative

Imperative sentences are typically formed with an optional vocative together with a verb (see Appendix 1). The verb can take affixes, typical for the imperatives, followed by the imperative suffix -\text{kə}, -\text{gə}. Some examples of imperative sentences follow.\textsuperscript{55}

(5.166) iga-u\text{?}-\text{tə}-\text{gə}, ika-dai\text{-}gə uara.
enter-CPLT-PL-IMP sit-PL-IMP and
aukuma i-\text{?rū.} s-\text{ə}-\text{tə}-\text{gə}-\text{ne.} (1)
hen 3-meat 3O-bite-PL-IMP-POL
‘Come in and sit down, all of you. This is cooked chicken. Eat, all of you.’

\textsuperscript{55} Affixes can be added to an imperative verb (see 4.2.8.2) to impart further meaning, such as totality, repetitiveness, and venitive. Additionally, demonstratives (see 3.4) are used in imperative sentences to impart clarity.

\textsuperscript{56} See 4.2.8.4 for the morphology of the prohibitive.
5.5.5 Comparative

In Bakairi, comparative sentences express comparisons between nouns, nominalizations, property concepts (i.e., semantic adjectives), and adverbs in a very similar manner. This section will describe comparative sentences of equality, superiority, and superlatives.

**Comparison of equality:** When two noun phrases of equal characteristics are being compared, the first of the two noun phrases is followed by *ərə* ‘like.’ The second is followed by *uərə* ‘and.’ Hence, the comparison of equality template is:

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[ ] first NP + ərə, second NP + uərə
```

Below is an example of a comparison of equality.

(5.168) *Antônio* caneta-mod-pe ərə  *Paulo* caneta-mod-pe uərə

‘Antônio has as many pens as Paulo does.’

The omission of the second *caneta-mod-pe* does not affect the meaning.

(5.169) *Antônio* caneta-mod-pe ərə  *Paulo* uərə

‘Antônio has as many pens as Paulo.’

**Comparison of superiority:** When expressing superiority of one noun phrase over another, the superior one is always expressed first. It is then followed by the inferior noun phrase, which is necessarily followed by *takaze1* or *takae2* ‘more than.’ This marker is formed with the circumfix *t-V-ze/-e* ‘abilitative,’ and the stem *aka* ‘surpass.’ Therefore, a comparison of superiority follows the template:

```
[ ] superior argument, inferior argument + takaze1 or takae2
```

Below is an example.

(5.170) *Brasília*-də  *Cuiabá*-də  t-aka-e  kurə  agi  Ø-a-uali

‘Brasília surpasses Cuiabá with respect to how many people it has.’
An alternative order is also viable. However, the superior noun phrase must come first and the inferior one is still followed by takaze₁ or takae₂ ‘more than.’

(5.171) Brasília-da kurə agi Ø-a-uəli Cuiabá-da t-aka-e 2
Brasília-LOC3 people many 3S-COP1-IPFV Cuiabá-LOC3 3R-surpass-ABTT
‘Brasília surpasses Cuiabá with respect to how many people it has.’

The modifier agi ‘many’ can come before or after takaze₁ or takae₂ to express degrees of comparison. The following examples demonstrate comparisons of superiority. The first example shows a comparison without any modifier. The second and third examples are formed with adverbial modifiers in boldface.

(5.172) João Antônio t-aka-e i-oʔoũ 2
João Antônio 3R-surpass-ABTT 3-strength
‘João is stronger than Antônio.’

(5.173) João Antônio t-aka-e nela-lo i-oʔoũ 2
João Antônio 3R-surpass-ABTT only-EMPH 3-strength
‘João is much stronger than Antônio.’

(5.174) João Antônio ago-pa t-aka-e i-oʔoũ-ge 2
João Antônio much-NEG 3R-surpass-ABTT 3-strength-INSTR
‘João is a bit stronger than Antônio.’

In comparisons, the noun ending in -u or -u is obligatorily inflected with a person prefix designating the superior argument. In the examples below, this agreement is represented in boldface.

(5.175) urə Jonas t-aka-e u-oʔoũ 2
1SG Jonas 3R-surpass-ABTT 1-strength
‘I am stronger than Jonas.’

(5.176) Jonas urə t-aka-e i-oʔoũ 2
Jonas 1SG 3R-surpass-ABTT 3-strength
‘Jonas is stronger than I am.’

(5.177) amə urə t-aka-e a-omaru 2
2SG 1SG 3R-surpass-ABTT 2-happiness
‘You are happier than I am.’

(5.178) urə a'ma t-aka-e u-omaru 2
1SG 2SG 3R-surpass-ABTT 1-happiness
‘I am happier than you are.’

A superlative comparison is morphologically identical to a comparison of superiority. Additionally, it is formed with the inferior argument as idənərə ‘of all’ coming before takaze₁ or takae₂.
João idənərə t-aka-e toʔə-e ①
João everybody 3R-surpass-ABTT strong-ATTR
‘João is stronger than everybody.’

Hence, a basic template for the superlative comparison is:

superior argument, inferior argument, (+ modifier) + takaze(1) or takae(2) + adverb

The following are two examples of superlatives, one of an animate word class with idənərə ‘all’ and the other of an inanimate word class without idənərə.

Paulo idənərə t-aka-ze tak-uəlo ①
Paulo everybody 3R-surpass-ABTT tall-like
‘Paulo is taller than everybody.’

ie-garo-ri-mo=Vrâ t-aka-ze iməsedо-ɛ ①
1-car-POSS-PL=DAT 3R-surpass-ABTT big-ATTR
‘My car is the biggest.’

5.5.6 Quotative

The Bakairi language does not have indirect quotations, only direct quotations next to a clause containing a verb such as ‘say,’ ‘ask’ or ‘answer.’ Direct quotations come in two variants. The first compulsory variant uses a quotative verb after its quotation (“…” said he), in other words, the quoted material comes first, where the transitive object is expected. This sentence-final quotative clause ends with a deictic demonstrative indicating not only the speaker of the quotation but also his spatial location. In the second variant, the quotation is preceded and followed by two quotative verbs. The preceding quotative clause marks the beginning of the quotation, whereas the following marks its end. The preceding quotative verb clarifies who the source of the quotation is with a proper noun, a subject fronting (SV) mechanism. An example of the first variant is given below.

“pepi sərə,” Ø-ke-li auəkə ②
canoe INAN.PROX 3-say-IPFV AN.MED
“This is a canoe,” says he.’

For the second variant, the preceding quotative verb must contain a transitivizing a- prefix, as in augel, amigeli, agelı ...① ‘I say, you say, he says …’ The person inflection comes between the a- prefix and the stem. This morphology is seen only with this verb and with the verb aie ‘make.’ An example of the second variant is given below.

57 A study of the reported speech in Bakairi is found in Faria (2015).
172 A Grammar of the Bakairi Language

(5.183) Paulo a-Ø-ge-li, “podo m-ə-da,” Ø-ke-li auəkə (2)
Paulo a-3-say-IPFV meat 2A-eat-PST 3-say-IPFV AN.MED
‘Paulo says, “You ate meat,” says he.’

There is a special usage for a first person reporter. As this quotation often expresses thoughts, a first person quotation is a type of thinking or a form of speaking to oneself. For the first person quotation, the quotative verb represents various kinds of mental activities in which no actual talking is involved. Some semantic equivalents become part of this lexical domain: knowledge, perception, and reflection. Such notions can be called inner speech.

(5.184) ‘manga ōua k-əku-zi-ha,’ u-ge-li (1)
mango-tree onto 1A-climb-JUS-INTS 1S-say/think-IPFV
‘I thought “I can climb higher onto the mango tree.”’

(5.185) ‘sina i-də-li,’ u-ge-uə-dili (1)
IPL.EXC 3S-go-IPFV 1S-say/think-CPLT-IPFV
‘I thought “we are going together.”’

In the following sentence, a mother tells her child that they should return to their village in the company of a man who is leaving soon. This is an example of the cohortative use of the quotative verb.

(5.186) a-u-ge-li ērə i-me-ri-Vrə, “inoro i-agə,”
a-1A-say-IPFV PTCL2 1-child-POSS-DAT let us go 3-COM
Ø-ke-li urə (2)
3-say-IPFV 1SG
‘I pleaded with my child, “Let’s go with him,” pleaded I.’

The verb kel(1) or kel(2) is used to quote questions and answers.

(5.187) “ədikə a-ukono?” O-ke-li (1)
where 2-younger.brother 3-say-IPFV
‘Where is your younger brother?’ asks she.’

(5.188) atərəbə auəkə,” Ø-ke-li (1)
3DEICTIC.MED AN.MED 3-say-IPFV
‘He is over there,” answers he.’

In the following example, the quotative verb refers to an inner speech. A man, who observes from a distance that a house is catching fire, wonders what is happening. The following exemplifies the analytical use.

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58 Thoughts can be also expressed with the nominal base -nana- ‘thought, opinion, an inner feeling.’ The nominal base takes person inflection and suffixes as in ienanzı ‘in my opinion.’
In the sentence below, a boy retells the story of when he disobeyed his mother and decided to climb a mango tree. As he is not an apt climber yet, he falls off the tree and breaks his arm. Below is an excerpt from that narrative with a quotation in the contemplative use.

(5.190) “manga ḍua k-ṇaku-zi-ha,” u-ge-li (2) mango.tree ALL 1A-climb-JUS-INTS 1S-say-IPFV

“I can climb higher onto the mango tree,” thought I.”

5.5.7 Mirative

Personal pronouns, demonstratives, and interrogatives can come next to a mirative word. Mirativity refers to the marking of a proposition as representing information that is new to the speaker. Expressing emphasis or surprise with the behavior of others, a mirative construction is expressed with the word akuru next to a pronoun.

(5.191) akuru mərə sinumi-ē m-a-uəli uarə (2) MIR INAN.DIST lazy-ATTR 2S-COP1-IPFV and

“And you are so lazy.”

(5.192) ḏgi akuru n-ọtọ-ba mərə (2) who MIR 3S-go-NEG DIST

‘Nobody goes there.’

(5.193) akuru ọmə=ē (2) MIR 2SG-INTS

‘Man! You…!’

5.6 Sentence-level elements

Sentence-level elements are segments—from morphemes, clitics, particles to words—that must be associated with part or the whole sentence to impart meaning. Sentence-level elements that encode grammatical categories, such as bound morphemes, postpositions, and the like, have already been described in Chapter 3. Tense particles and other sentence-level elements have been described in Chapter 4. This final section of the grammar will describe three very productive sentence-level elements: a firsthand emphatic particle, a non-firsthand clitic, and a focus/topic particle.
5.6.1 Sentence-level firsthand emphatic -lə

When a speaker and/or listener are participants in a firsthand experience, the emphatic particle -lə is applied, rendering a strong sense of being true. It can be translated as ‘truthfully’ or ‘honestly.’ In the following examples, any constituent of the sentences can be followed by -lə.

(5.194) kurə-lə sərə ki-gəro-rı ➀
   1PL.EXC-EMPH INAN.PROX our-car-POSS
   ‘This car is ours.’
(5.195) u-ʔureta-rı kə-čəka-nə-do-lə sərə ➀
   1-shoe-POSS 1A-keep-TRVR-NZR3-EMPH INAN.PROX
   ‘This is the place for keeping my shoes.’
(5.196) t-ita ri-ge-lə məko ➀
   3R-mouth-POSS-INSTR-EMPH AN.DIST speak-EMPH-DAT
   ‘By that one who spoke with his own mouth.’

The particle -lə is also used for quotations or hearsay as a reinforcement of its veracity.

(5.197) s-eni-Ø kopalegə-lə ➀
   1S-drink-PST yesterday/tomorrow-EMPH
   ‘I drank yesterday.’
(5.198) t-utue-lə urə ➀
   3R-know-EMPH 1SG
   ‘I know it.’
(5.199) paru-pe-lə uəne tərə-ma-ro ➀
   water/river-EXIST-EMPH FRUST here-FOC-INTS
   ‘For the time being, there is water right here.’

The particle -lə can be employed next to most sentence constituents:
(a) after numerals tokalə-lə ‘this one.’
    azaga-lə ‘these two.’
(b) after interrogative pronouns ʔgi-lə? ‘who?’ (pointing at someone unknown).
    ədi-lə? ‘what?’ (about to say something).
    ədaulo-lə? ‘anything?’ (visually).
(c) after nouns əme ri-lə? ‘your child!’ (visually).
    kurə-lə ‘of humans’ (pertaining to adults).
    t-ita ri-ge-lə ‘with the mouth.’
(d) after conjunctions, adverbs lapari-lə ‘also’ (showing an indigenous person).
    nələ-lə ‘only’ (showing only one item).
    iuerə-lə ‘today’ (emphasizing the day).
    kopalegə-lə ‘yesterday for real’.
(e) after verbs k-aiʔ dili-lə ‘we are coming’ (while arriving).
    ienangədə-lə ‘remember me?’
(f) after postpositions  
  \textit{i-eti-do-lo} ‘in my house’ (within sight).
  \textit{uọgọ-lo} ‘on’ (as in I came on foot).

5.6.2 Sentence-level non-firsthand $=\text{mi}^{(1)}$ or $=\text{mọ}^{(2)}$

The clitic $=\text{mi}^{(1)}$ or $=\text{mọ}^{(2)}$ is used as a non-firsthand evidential. It not only indicates the type of evidence but also validates the statement, reassuring its veracity (even if, rhetorically), as a truth marker. It is often attested in past non-visual descriptions.

(5.200)  
\text{u-do-li=mọ} \quad \text{ke-ba} \quad \text{keāka}^{(2)} \quad \text{1S-go-IPFV=NVSL} \quad \text{PT-NEG} \quad \text{PTCL2}  
‘I was not going to go.’

(5.201)  
\text{kāra=mọ} \quad \text{ke-ba} \quad \text{keāka}^{(2)} \quad \text{fish=NVSL} \quad \text{PT-NEG} \quad \text{PTCL2}  
‘It was not a fish.’

(5.202)  
\text{auọ} \quad \text{kule=mọ} \quad \text{ke-ba} \quad \text{keāka}^{(2)} \quad \text{INAN.MED} \quad \text{RSTR=NVSL} \quad \text{PT-NEG} \quad \text{PTCL2}  
‘It was not only that.’

It can be used in a current situation when the object is not visible, as in the example below.

(5.203)  
\text{ọdikọ (a=ka) } \text{ọ-uai-ho-ru?} \quad \text{tarọ=mi } \text{ure } \text{ia-ọ}^{(1)} \quad \text{where (COP=QST) 2-grate-NZR3-POSS} \quad \text{here=NVSL} \quad \text{seat under-LOC1}  
‘Where is your grater? It’s somewhere here under the seat (but I cannot see it).’

The sequence $\text{mi ani}$ points out the truth of what has occurred in a more remote past: $=\text{mi}$ ‘non-visual’ and $\text{ani}$ ‘remoteness in time.’ In storytelling, the sequence $\text{mi ani}^{(1)}$ is employed extensively since anecdotes have or may have happened a long time ago; they are supposed to be real.

(5.204)  
\text{ilọ-pi-ri-ĉ} \quad \text{mi} \quad \text{ani} \quad \text{it-PST-POSS-ATTR} \quad \text{NVSL} \quad \text{PTCL23}  
\text{pazikọ udodo=\text{\textbar}ra age-li(…)}^{(1)} \quad \text{anteater jaguar=DAT} \quad \text{speak-IPFV}  
‘After that, a long time ago, the anteater told the jaguar(…).’
The verb …kehōl(1) or …keʔōli(2) ‘it is said that…’ often comes next to mi ani.

5.6.3 Sentence-level focus/topic -ma

The particle -ma is used next to different parts of speech to indicate the focus as well as the topic of the statement. Therefore, the focus/topic particle can co-occur with any other marker.

(5.205) təd-ecka-do-la-ma sirə(1)
NPOS-sit-NZR3-EMPH-NVSL INAN.PROX
‘This is a thing to sit on.’

(5.206) kə-(e)mano-la-ma sirə təkə pəresia uarə(1)
1PL-object-EMPH-NVSL INAN.PROX bow arrow and
‘These bow and arrow belong to us.’

This particle is often used to indicate which part of the speech, highlighted in the examples below, is marked for focus.

(5.207) aði ke-ba-ma omo(2)
what PT-NEG-FOC 2SG
‘You are absolutely nothing.’

(5.208) s-agu-ʔo-ê-ma kinane koëdə(2)
3O-begin-NZR3-ATTR-FOC PTCL3 good
‘It used to be good.’

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59 The verb …kehōl(1) or …keʔōli(2) ‘it is said that…’ is a defective formation because it never takes first or second person inflections.
Bibliography


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1. Bakairi Kinship

Using the Iroquois kinship system, Bakairi kinship is divided as classificatory and descriptive lexemes. Classificatory lexemes are those that refer to only one person, such as the terms ‘husband’ and ‘wife.’ Descriptive lexemes refer to a class or a group of individuals, such as ‘parents’ (referring either to the father or his brother or the mother or her sister). Descriptive lexemes can take the plural -domodo, whereas classificatory ones cannot.

The guiding parameter in this system relates to the eligibility for marriage. Cross-cousins being potential spouses are referred to with the same term ‘cousin,’ (i.e., a potential spouse). In contrast, parallel cousins are genetically too close to Ego to be suitable spouses or sexual partners. They are called ‘brother’ and ‘sister.’ Additionally, the Bakairi people distinguish ‘same-sex’ (parallel family members) from ‘cross-sex’ siblings. In other words, a male Ego’s brother is named differently from a female Ego’s brother (i.e., the word ‘brother’ for a man is different from the word ‘brother’ for a woman), a ‘younger brother’ of the Ego is different from an ‘older brother’ in terminology. Thus, the gender of Ego and the age-rank position in the family are relevant factors in kinship.

Table 1 was obtained from http://familypedia.wikia.com/wiki/Iroquois_kinship. The chart is under the category of public domain files.
The father’s brothers and the mother’s sisters are considered identical blood relatives, so they are collectively called ‘father’ and ‘mother,’ respectively. The brother of the mother and the sister of the father, however, are called ‘uncle’ and ‘aunt,’ as they are Ego’s potential in-laws.

Below is the kinship paradigm. The fourth column of data is used for the 3SG, followed by 3R referring to a coreferential noun. The rightmost column demonstrates the vocabulary inflected with the 1PL.INC prefix \( k- \). The second and third person can take plural suffixes.

### TABLE 2: BASIC KINSHIP PARADIGMS

<table>
<thead>
<tr>
<th>VOC</th>
<th>my</th>
<th>your</th>
<th>his</th>
<th>3R</th>
<th>our</th>
</tr>
</thead>
<tbody>
<tr>
<td>grandfather</td>
<td>tako</td>
<td>idamu</td>
<td>adamu</td>
<td>idamu</td>
<td>tidamu</td>
</tr>
<tr>
<td>grandmother</td>
<td>nigo</td>
<td>ᣨ_AMDUIDU</td>
<td>ᣨ_AMDUIDU</td>
<td>ᣨ_AMDUIDU</td>
<td>ᣨ_AMDUIDU</td>
</tr>
<tr>
<td>father, paternal (parallel) uncle</td>
<td>siogo</td>
<td>iwi</td>
<td>֠_wi</td>
<td>iwi</td>
<td>tiwe</td>
</tr>
<tr>
<td>mother, maternal (parallel) aunt</td>
<td>seko</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
</tr>
<tr>
<td>(cross) uncle</td>
<td>ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
</tr>
<tr>
<td>(cross) aunt</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
</tr>
<tr>
<td>cross-uncle’s wife</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
</tr>
<tr>
<td>cross-aunt’s husband</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
</tr>
<tr>
<td>older brother</td>
<td>ᷣisposable ᷣisposable ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable ᷣisposable ᷣisposable</td>
</tr>
<tr>
<td>younger brother</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
<td>ᷣisposable ᷣisposable</td>
</tr>
</tbody>
</table>

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61 These four vocatives designate different titles via chronological stages of life. The first is my uncle—potential father-in-law, the second is my aunt’s husband, the third my husband’s father and the fourth is my children’s grandfather.

62 These four vocatives designate different titles via chronological stages of life. The first is my aunt—potential mother-in-law, the second is my uncle’s wife, the third is my wife’s mother, and the fourth is my children’s grandmother.
1.1 The grandparents’ generation
Ego may not use given names when addressing the generation of grandparents. The use of the title tako ‘grandfather,’ and nigo ‘grandmother’ is required throughout the speech. The collectivized nouns tako-domodo and nigo-domodo represent ‘my grandfather and his brothers’ and ‘my grandmother and her sisters,’ respectively.

1.2 The parents and their siblings
Ego may not use given names when addressing the parent generation. The terminology is relatively simple, with two large groups: the parallel relatives (which include the parents and siblings of the same sex) and their cross-relatives (blood relatives of the opposite sex, such as the mother’s brother, and the spouses of this generation).

tiupi ‘cross-aunt’ is the same term used for ‘mother-in-law.’ Another term that can also be used to describe the relation to one’s usoiše ‘mother-in-law’ (literally, ‘mother of my husband’).

The uninflected term kugu ‘my uncle’ also refers to ‘father-in-law.’ Just like the previous entry, greater affection can be implied by using ‘uncle’ to refer to a ‘father-in-law,’ and in fact any ‘cross-uncle’ is a potential ‘father-in-law.’ The less affectionate term is ůwidiũiũ ‘father of my wife.’

To address ise the ‘wife’ of a blood relative, a descriptive term is used. For instance, uso ise ‘my husband’s mother.’ Similarly, to address the husband of a blood relative, one uses the descriptive form adding the root iso ‘husband’ to any classificatory name, as in uso iso ‘my husband’s father.’

1.3 Ego, siblings and, peers
The terminology for the siblings and peers of Ego is the most complex in the kinship system because it is directly associated with the process of marriage, land property, and political status.

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63 For male Ego, his brother’s daughter. For female Ego, her sister’s daughter.
The terminology varies according to the gender of Ego. paigo is an older brother of a male Ego and the reduplicated syllable uiui (sometimes shortened to [wi:]) is the older brother of a female Ego. There is also variation in the lexicon depending on whether Ego is a cross or a parallel relative of the peers. Parallel relatives tend to be regarded as siblings, whereas cross relatives are potential spouses; hence, they are described differently. The age of the other in relation to Ego is expressed with a different lexical term (older male cousin, younger male cousin...).

Once, for instance, a male Ego is married, his wife and her family are renamed accordingly. Prefixes are added to the lexemes, clarifying this intricate connection.65 Many times long compounds indicate this complex familial connection. The compound, ‘my brother-in-law’s wife’ (meaning either ‘my husband’s brother’s wife’ or ‘my wife’s brother’s wife’) can only be translated into Bakairi if the exact relation is expressed in full: ‘my husband’s brother’s wife’ or ‘my wife’s brother’s wife.’ It is imperative to express the exact relationship with the Ego in the Bakairi culture.

1.4 The children
When addressing the younger generation, it is not necessary to use kin terms; the addresser may use given names and personal pronouns, as well as any of the terms representing the kin relationship. In using kin terms, affixes are required to express possession (my child). The language shows specialization in lexemes expressing parallel and cross nephews and nieces, the vocative is uadu66 for ‘cross nephew,’ iuadu ‘my cross nephew.’ For ‘cross niece,’ the vocative is uase, iuase is ‘my cross niece.’

1.5 The grandchildren
The terminology is simple for the tier of the grandchildren. iuuri means ‘my grandchild,’ iuuri ‘your grandchild,’ iuuri ‘his grandchild,’ iuuri is the coreferential ‘the grandchild,’ and the compound root iue is ‘the grandchild of.’ It is more common, however, to address grandchildren by nicknames, a common practice in the Bakairi culture.

1.6 How to address someone in the Bakairi communities

1.6.1 As an insider
The category of the insider contains direct members of the family, cross and parallel kinfolk. Family members use vocative forms to address each other accordingly; these vocatives express endogamous levels of the social unit. Insiders may also use proper names to address each other, though it is less common to do so.

1.6.2 As an outlier
An outlier, a characteristic relating to someone who does not have direct

64 The Bakairi word for ‘wife’ can indeed be pronounced in many ways, either to express affection or as a simple play with words: iuidi, iuedi, iued, iuidi, plus other combinations.
65 For the husband of a blood relative, the descriptive form is used by adding the root iso to any classificatory kinship term.
66 Though less common, iuadui is also possible to be referred to as tikao.
ancestral relation with another person, is divided into two groups. Group 1 consists of a Bakairi individual who does not belong to the family and does not have relatives in that family. Marriage with an outlier of this group 1 is considered the first level of exogamy. Some non-Bakairi indigenous people who live among the Bakairi and may be married to someone in the community also belong to this group. Group 2 consists of indigenous and non-indigenous people who are not Bakairi and do not reside in the Bakairi settlements.

Outliers (groups 1 and 2) must address the Bakairi people by: (a) their given names, under which they were registered in a notary office, or (b) by a different Christian name received in Catholic or Protestant communities or (c) by nicknames. To call each other, these outliers make use of more formal or different proper names than those who are from ‘inside’ the family.

1.6.3 Seeing the world through the eyes of the youngest in the household

As in many languages, Bakairi families call their members by various kin terms—descriptive titles (such as a singular term for ‘husband’) and classificatory titles (such as the same term for ‘father’ or the ‘father’s brother’). Different words are used at different stages of life. To illustrate a few, a woman calls her boyfriend ‘cousin,’ then ‘lover’; she switches to ‘my husband’ after getting married before having a child. Once the first child is born, she calls her husband ‘daddy,’ and once her child has a child of its own, she calls her husband ‘grandpa.’ This anthroponomical graduation applies to most family members. Her cross-uncle is called ‘uncle,’ then ‘father-of-her-husband,’ then ‘grandfather-of-her-child.’ Many descriptive and classificatory anthroponyms are compounds. This manner of addressing family members is a way of seeing the world through the eyes of the youngest member of the family.

Children are expected to call their mother ‘mother’ throughout their lives. Their mothers, on the other hand, call a son ‘son’ only while he is single and without children, and does not have any nephews or nieces via siblings. If the son becomes an uncle, his mother addresses him as ‘uncle.’ Descriptive and classificatory titles change as new family functions are assumed by the family members.
2. Body Parts

Table 3 contains a list of body parts, and some related vocabulary at its end. Nominal bare roots and third-person inflection are listed. The list begins from the top of the head moving downward. In compounds, morphological boundaries are marked with a hyphen. Further morphological modifications, such as person prefixation, follow the rules set in Chapter 3.

<table>
<thead>
<tr>
<th>Bare root</th>
<th>3SG</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ŭga-si ①</td>
<td>ĭ-ũga-si-ri</td>
<td>‘brain’</td>
</tr>
<tr>
<td>hudu ①</td>
<td>siu-hudu-Ø</td>
<td>‘hair’</td>
</tr>
<tr>
<td>ŭga-hudu</td>
<td>ŭ-ũga-hudu-Ø</td>
<td>‘head hair’</td>
</tr>
<tr>
<td>ŭga ①</td>
<td>ŭ-ũga-Ø</td>
<td>‘head’</td>
</tr>
<tr>
<td>ŭga-hu ①</td>
<td>ŭ-ũga-hu-Ø</td>
<td>‘(emotional) heart’</td>
</tr>
<tr>
<td>odo ①</td>
<td>e-odo-Ø</td>
<td>‘body’</td>
</tr>
<tr>
<td>emela ①</td>
<td>e-emela-ri</td>
<td>‘face’</td>
</tr>
<tr>
<td>emidi ①</td>
<td>e-emidi-ri</td>
<td>‘forehead’</td>
</tr>
<tr>
<td>edi-hudu ①</td>
<td>e-edi-hudu-Ø</td>
<td>‘beard’</td>
</tr>
<tr>
<td>edi ①</td>
<td>e-edi-ri</td>
<td>‘jaw’</td>
</tr>
<tr>
<td>enu ①</td>
<td>e-enu-ri</td>
<td>‘eye’</td>
</tr>
<tr>
<td>enu-gorolu</td>
<td>e-enu-gorolu-Ø</td>
<td>‘tear’</td>
</tr>
<tr>
<td>enu-pi ①</td>
<td>e-enu-pi-ri</td>
<td>‘eyelash’</td>
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<td>enu-hudu ①</td>
<td>e-enu-hudu-Ø</td>
<td>‘eyelash’</td>
</tr>
<tr>
<td>enu-pialogu ①</td>
<td>e-enu-pialogu-Ø</td>
<td>‘eyelid’</td>
</tr>
<tr>
<td>enu-anali ①</td>
<td>e-enu-anali-ri</td>
<td>‘eye pupil’</td>
</tr>
<tr>
<td>enu-kimunu ①</td>
<td>e-enu-kimunu-Ø</td>
<td>‘eyebrow’</td>
</tr>
<tr>
<td>inata ①</td>
<td>c-įnata-ri</td>
<td>‘nose, nostril’</td>
</tr>
<tr>
<td>iuapa ①</td>
<td>i-įuapa-ri</td>
<td>‘check’</td>
</tr>
<tr>
<td>ita ①</td>
<td>i-įta-ri</td>
<td>‘mouth’</td>
</tr>
<tr>
<td>opi ①</td>
<td>i- opi-ri</td>
<td>‘lip’</td>
</tr>
<tr>
<td>ie ①</td>
<td>i- (i) e-ri</td>
<td>‘tooth’</td>
</tr>
<tr>
<td>ilu ①</td>
<td>i- ilu-Ø</td>
<td>‘tongue’</td>
</tr>
<tr>
<td>idaku ①</td>
<td>i- idaku-Ø</td>
<td>‘saliva’</td>
</tr>
<tr>
<td>erehu ①</td>
<td>i- erehu-Ø</td>
<td>‘gum’</td>
</tr>
<tr>
<td>iuţa ①</td>
<td>i- (i) uţa-ri</td>
<td>‘outer ear’</td>
</tr>
<tr>
<td>itagu ①</td>
<td>i- (i) tagu-Ø</td>
<td>‘inner ear’</td>
</tr>
<tr>
<td>uimi ①</td>
<td>i- uimi-ri</td>
<td>‘neck’</td>
</tr>
<tr>
<td>igo ①</td>
<td>i- (i) go-ru</td>
<td>‘throat, thrachea’</td>
</tr>
<tr>
<td>igutu ①</td>
<td>i- (i) gutu-ru</td>
<td>‘rib’</td>
</tr>
<tr>
<td>ikana ①</td>
<td>i- (i) kana-ri</td>
<td>‘ribeage’</td>
</tr>
<tr>
<td>ihohu ①</td>
<td>i- (i) hohu-Ø</td>
<td>‘chest’</td>
</tr>
<tr>
<td>ekaradau ①</td>
<td>e- (e) karadau-ru</td>
<td>‘lung’</td>
</tr>
<tr>
<td>ibi ①</td>
<td>i- (i) bi-ri</td>
<td>‘bone’</td>
</tr>
<tr>
<td>enutdo ①</td>
<td>ĭ-enutdo-ri</td>
<td>‘joint’</td>
</tr>
</tbody>
</table>
itubi ①  i-(i)tubi-ri  ‘skin’
țua ①  i-(i)ua-ri  ‘breast’
euə ①  e-(e)uə-ri  ‘arm’
sauə ①  s-(s)au-ri  ‘forearm’
iataba ①  i-(i)tataba-ri  ‘armpit’
iataba-uəigu ①  i-(i)tataba-uəigu-Ø  ‘armpit hair’
isiobulu ①  i-(i)isiobulu-Ø  ‘elbow’
ema ①  e-(e)ma-ri  ‘hand’
ema-kua ①  e-(e)ma-kua-ri  ‘palm’
ema euili ①  e-(e)ma-rí euili  ‘finger’
ema-koa ①  e-(e)ma-koa-ri  ‘wrist’
enuta-do ①  ie-(e)nuta-do  ‘knuckle’
hoda ①  í-ôda-ri  ‘nail’
siue ①  i-siue-rí  ‘stomach’
enedi ①  e-nedi-ri  ‘vein’
ere ①  e-(e)re-ri  ‘liver’
epamugu ①  e-(e)epamugu-Ø  ‘kidney’
ere-nuku ①  e-(e)re-nuku-ru  ‘pancreas’
iuiku eta ①  iuiku e-(e)ta-ri  ‘bladder’
idahu ①  i-(i)dahu-Ø  ‘belly’
ekoromí ①  e-(e)ekoromí-ri  ‘intestines’
iuałka ①  i-(i)uałka-ri  ‘navel’
ika ①  i-(i)ka-ri  ‘back’
ehibi ①  e-(e)hibi-ri  ‘anus’
ile ①  i-(i)ile-ri  ‘penis’
emu ①  e-(e)emu-Ø  ‘testicle’
eli ①  i-(e)li-ri  ‘vagina’
ime ①  i-(i)ime-ri e-(e)ta-ri  ‘uterus’
iuama ①  i-(i)uama-ri  ‘genitalia’
iuama-hudu ①  i-(i)uama-hudu-Ø  ‘pubic hair’
epadi ①  e-(e)epadi-ri  ‘hip, waist’
iuedi ①  i-(i)iuedi-ri  ‘thigh’
ezeñu ①  e-(e)zeñu-ru  ‘knee’
ipeña ①  i-(i)ipeña-ri  ‘leg’
ipeña-uəigu ①  i-(i)ipeña-uəigu-Ø  ‘leg hair’
ihu ①  i-(i)ihu-ru  ‘foot’
esiuido ①  i-esiuido-ru  ‘foot sole’
eu(ə)nu ①  e-(e)euñu-Ø  ‘pain’
ie euñu ①  i-(i)ie euñu-Ø  ‘toothache’
idåhu euñu ①  i-(i)idåhu-euñu-Ø  ‘stomachache’
3. Interlinear Text

The following text ńzi itabiēli unari sirə is an oral report of a Bakairi ritual called ‘the baptism of the corn.’ The text was recorded in the late 1960s. The recording was transcribed by native teachers, who utilized a simple five-vowel system, instead of the required fourteen-vowel system of the Eastern dialect. The local people in the village helped with the translation, however, they failed to mention the name of the narrator. In 1972, the same text ńzi itabiēli unari sirə resurfaced in a graded primer for children. It was copied just as it was first printed without any improvements on the orthography. The Portuguese translation was slightly amended eliminating a handful of errors. Fernando Caiaua’s name, an active teacher in his community who wanted to document various aspects of the daily lives of the Bakairi, was included after the text but it is not clear what his role was in relation to this text (1972: 1-4). This second text was later used in another primer without any adaptations. In 2012, five speakers were consulted in order to adapt the text to a fourteen-vowel system according to the Eastern dialect. In the process, they noticed that a few of the words are no longer in use but they refrained from making changes to the word choices of the text. The text is transcribed phonologically below.

The ‘baptism of the corn,’ a type of thanksgiving festival, occurs annually in the second fortnight of January, right before the harvest of the corn. The event takes place overnight, perhaps because at this time of the year the humidity and heat are quite unbearable for a daytime festivity. Many provisions must be made for the festival (selection of a chief, invitation of singers, musicians, and dancers, cooking of meals, and a communal hunt before the festival) with roles that are split between men and women. As the storyteller is a man, he focuses on the role of men in the festival, making a short mention of how women partake.

In preparation for the festival, men go on a hunt to gather as much game as they can. There are three different groups that are led by three chiefs and assistants. These groups may spend a day and a night (viz. Friday) in the forest. When they return, they go to their gardens to gather corn, which is later used in the festival. Some villagers paint their bodies with dies collected from the forest.

At the outset, the festival takes place in the central hut. There are different dances, songs, and musical presentations throughout the night. As the corn is roasted, the kernel must be removed from the cob with their teeth. Then the participants head to the front of the chief’s house. A handful of the corn kernel is thrown by each member at the house of the chief of the festival. Then more corn is removed and thrown at the cardinal points. The festival ends in the morning as the sun is rising. Meals are exchanged and some food is eaten. Village members are supposed to express gratitude to the cooks as the event reaches an end.

67 In 1991, a copy of this early work was obtained in the archives of the former Summer Institute of Linguistics which was located in Brasilia.
This is the story of the corn ritual!

There is a man who, until it happens, is the chief of the corn ritual.

He, who speaks to all of us,

talks to all man INAN.MED until

for everybody to pack.

He and his hunting partner(s) leave to go on a communal hunt.
i-di-li-mo il-pi-ri-č odora-lō iuage ida-ipi-č
3S-go-IPFV-PL  it-PST-POSS-ATTR enough-EMPH far go-PTC-ATTR
‘doing that, they have gone far enough’

azi iuakuru ti-č-tuo-mo pilą
wildlife good 3R-see-when-PL after
‘once they have found good (game) wildlife’

Ø-osida-dili-mo ta-(e)ti-mo Ø-i-Vta-dili-mo-ro
3S-settle-IPFV-PL 3R-house -PL 3A-pluck-IPFV-PL-INTS
‘they settle down by setting up a hut.’

ilema pilə tærə Ø-č-dai-lə podo i-su-V-li-mo
then after DIST 3A-see-lMM.PST-EMPH game 3S-hunt-IPFV-PL
‘after that, there they hunt what they found’

atē Ø-o ho-ba-dili-mo
until 3S-strong-NEG-IPFV-PL
‘until they cannot carry anymore’

ilema pilə idanəra t-o ho-ba-biguedu-mo márə
then after all 3R-strong-NEG-when-PL INAN.DIST
‘afterwards, when everybody can no longer carry anything else’

t-atuna-ge-ho-mo-bi-ri odasi ituo Ø-odopə-dili-mo
3R-set.up-REV-CAUS-PL-PST-POSS into and so 3A-return.home-IPFV-PL
‘they lift camp and’

idanəra kehoč ta-(e)ti-mo=Vra=ro
all INTS 3R-house/clothing/party-PL=DAT-INTS
‘everybody returns home’

ilə idanəra kehoč t-aĩ-piguedu-mo pilə
it.REF all INTS 3R-arrive-when-PL after
‘after getting home’

kopaelgə-i pilə sábado oda-i
other.day-on after Saturday inside-LOC1
‘the following day, which is a Saturday’

pilə idanəra kehoč apaizazi i-da-li-mo
after all INTS place 3S-go-IPFV-PL
‘and then, everybody goes to their garden’
āzi ese t-amui-ze-i=ro uarə
corn fetch 3R-throw-ABTT-just-INTS and
‘and may throw the corn to fetch it later.’

ilə-pi-ri-ê pilə kogonekə ꧕di-e-pa iguā-tibi-ê ituo
it-PST-POSS-ATTR after afternoon something-NEG late-PTC-ATTR and so
‘After that is done, and so, when it has become late in the evening’

kado-ê Ø-ai-dili-mo até domingo eme-dili
Bakururu.festival-ATTR 3S-dance-IPFV-PL until Sunday rise-IPFV
‘they dance the bakururu until Sunday is dawning.’

ilə-pi-ri-ê pilə eme-tibi-ê atai
it-PST-POSS-ATTR after dawn-PTC-ATTR this way
‘After that is done like this, when it has dawned,’

idənəɾə keho ëkuro-domodo ꧕dauílo
all INTS person-PL anything
‘the people gather together’

məkə até āzi i-ta-bi-êli i-pimə-ri
AN.DIST until corn 3-mouth-leave-IPFV 3-chief-POSS
‘close to the chief of the corn ritual,’

eti-ã=ro
house/clothing/party-DAT-INTS
‘(throwing chewed corn) at his house.’

ilə-pi-ri-ê pilə idənəɾə tə-(e)tauí-pigeduo-mo idənəɾə
it-PST-POSS-ATTR after all 3R-greet-when-PL all
‘After that is done, everybody greets one another’

məɾə pini-modo-pe-ô t-idu-no
INAN.DIST cooked.food-PL-EXIST-NZR2 3R-forest-NZR2
‘looking for a partner (or a pair/ another) who has a lot of cooked food’

i-ui ŭ-li-mo məɾə pini-modo epa-ni-ro uarə
3-search-IPFV-PL INAN.DIST cooked.food-PL exchange-NZR4-INTS and
‘in order to exchange lots of food.’

ilema pilə idənəɾə auɾə-modo euanike-bigeduo
then after all INAN.MED-PL finish.when
‘Once everyone has finished them,’
makə pini-modo
AN.DIST cooked.food-PL
‘with the meals’

Ø-odo idu-no-modo məɾə ãzi azihu-ibi
3-owner forest-NZR2-PL INAN.DIST corn roast-PTC
‘the owner’s partners hand out the roasted corn’

Ø-ie Ŵpa-dili-mo idənəɾə kehoẽ kura-domodo=Ŵrə-ro
3A-exchange-IPFV-PL all INTS person-PL=DAT-INTS
‘to everybody.’

ilema idənəɾə kehoẽ məɾə ãzi Ø-epa-dili
after all INTS INAN.DIST corn 3A-exchange-IPFV
‘when everybody has finished exchanging the corn,’

cuanike-bigeduo, s-agu-ho-õ kuru sisi egase-ho=inina
finish-when 3O-begin-NZR3-ATTR INTS sun rise-NZR3=against
‘first towards where the sun is risen, the east’

tad-apaid-a-dili tasaɾa ezipia-aze
NPOS-align-IPFV central.house place-onto
‘everybody makes a line (looking) toward the place of the central house’

idənəɾə kehoẽ pekodo-modo uguõdo-modo uara
all INTS woman-PL man-PL and
‘Everybody, women and men’

ilema pilə tu-(i)go-ru-mo Ø-iŴ-dili-mo-ro ilə
then after 3R-flute-POSS-PL.3S-COP2-IPFV-PL-INTS it.REF
‘After that, they may play their flute.’

(i)goru i-dei-pi-ri-õ pilə idənəɾə kehoẽ məɾə
flute 3-blow-PST-POSS-ATTR after all INTS INAN.DIST
‘Right after playing the flute, everybody gets

ãzi azihu-ibi ãdi-õ-pa sagũ-pi-ri-õ te-(e)ma-asi
corn roast-PTC what-ATTR-NEG grind-PST-POSS-ATTR 3R-hand-inside
‘some roasted corn in their hand.

Ø-iŴ-dili-mo ilema pilə
3A-make-IPFV-PL then after
‘After they do that,
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i-amui-V-li-ro  azeki-ba  kehoэ-ro  uarэ
3-throw-IPFV-PL-INTS different-NEG INTS-INTS and
they may throw equally (equal amounts of corn).’

s-agu-ho-ə  kuru  s-amui-li  sisi  egase-ho=ininə
3O-begin-NZR3-ATTR INTS 3O-throw-IPFV sun rise-NZR3=against
‘Actually throwing first in the direction of the rising sun, the east’

ilə-pi-ri-ə  pilə  paru  ilə-pi-ri-ə  pilə  sisi
it-PST-POSS-ATTR after river it-PST-POSS-ATTR after sun
‘after that is done to the headwaters (the north), after that is done, in the direction’

eguə-to=ininə-ro
lie.down-NZR3=against-INTS
‘of the setting sun (the west)’

si-pi-ri-ə  pilə  əuərɨ  əe-to=ininə-ro  uarə.
last-PST-POSS-ATTR then cold/storm come-NZR3=against-INTS and
‘and, at last, towards the direction where cold fronts come (the south).’

ilə  əzi  s-amui-li  euanike-bigedo  pilə
it.REF corn 3O-throw-IPFV finish-when after
‘Once it is finished throwing the corn,’

idənəə  kehoэ  məə  pini-modo
all INTS INAN.DIST cooked.food-PL
‘everybody hands out their dishes’

Ø-odo  idu-no-modo
3-owner forest-NZR2-PL
‘to each other and their partners’

məə  pini-modo  i-eVpa-dili-mo-ro  uarə
INAN.DIST cooked.food-PL 3A-exchange-IPFV-PL-INTS and
‘exchanging cooked dishes.’

akaemo  məə  pini  modo  epa-da-i-modo
3PL INAN.DIST cooked.food PL exchange-PST-NZR4-PL
‘Those who have exchanged dishes’

azi-ge  t-atua-ge-mo  aləpilə  ilə-pi-ri-ə  idənəə
wildlife-INSTR 3R-split-REV-PL also it-PST-POSS-ATTR all
‘also exchange (meat) dishes. After that is done, everybody’
‘has eaten all their meals,’

‘they, the helpers of the owners’

‘of the food that was exchanged’

‘over and over, pay (thank) with small things such as matches’

‘and arrows.’

‘And when it is finished, it is over.’