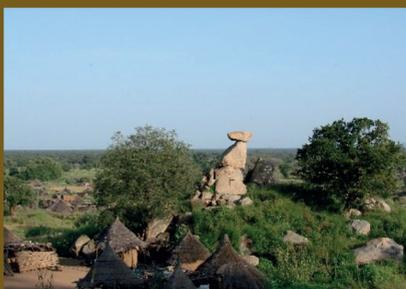


# Nuba Mountain Language Studies

## Contemporary Perspectives



edited by

HELENE FATIMA IDRIS

JAN JUNGLAS

GERTRUD SCHNEIDER-BLUM



# **Nuba Mountain Language Studies**

## **Contemporary Perspectives**

Edited by

Helene Fatima Idris, Jan Junglas &

Gertrud Schneider-Blum

**Bibliographic information published by the Deutsche Nationalbibliothek**

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <https://portal.dnb.de/>.

This work is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0, <https://creativecommons.org/licenses/by/4.0/legalcode.en>). Excluded from the above license are parts, images and other third-party material unless otherwise noted.

Published at USB Monographs, 2025

University of Cologne/University and City Library of Cologne

USB Monographs

Universitätsstr. 33, 50931 Cologne

<https://monographs.ub.uni-koeln.de>

The electronic version of this publication is freely available online on USB Monographs <https://monographs.ub.uni-koeln.de> (open access).  
<https://doi.org/10.18716/omp.38>

Text © 2025, Helene Fatima Idris (Orcid-ID 0009-0001-9284-5822)  
Jan Junglas (Orcid-ID 0009-0001-2542-3531)  
Gertrud Schneider-Blum (Orcid-ID 0000-0003-2559-3773)

Layout and typesetting:

Helene Fatima Idris, Jan Junglas & Gertrud Schneider-Blum

Cover design: Helene Fatima Idris, Jan Junglas & Gertrud Schneider-Blum  
Impressions from the Nuba Mountains, Sudan; photographs by  
Heleen Smits & Gertrud Schneider-Blum

ISBN 978-3-946275-24-4 (PDF)

## Preface

This collection of studies on the Nuba Mountain languages could not have been published if various institutions, as well as many individuals, had not supported the process from the early stages to the very end. Thus, we want to express our sincere thanks to all of them.

Thanks to the University of Khartoum, who hosted the Fourth Conference on Nuba Mountain languages in February 2023. A number of the contributions now published in this book were first presented and discussed during this conference.

Thanks also to the Université franco-allemande/Deutsch-Französische Hochschule, LLACAN, CEDEJ, SeDYL, Labex EFL, INALCO, CNRS, the Ambassade de France au Soudan and the University of Cologne, who all contributed to sponsoring the conference and later to publishing this volume.

Thanks to the internal and external reviewers who helped to improve the contributions with their constructive criticism.

Thanks to the cartographer of the Institute of African Studies and Egyptology at the University of Cologne, Monika Feinen, for designing the maps in the book.

Thanks to Mary Chambers for her various editorial and stylistic suggestions, as well as for her careful proofreading. All remaining mistakes in the book are our own.

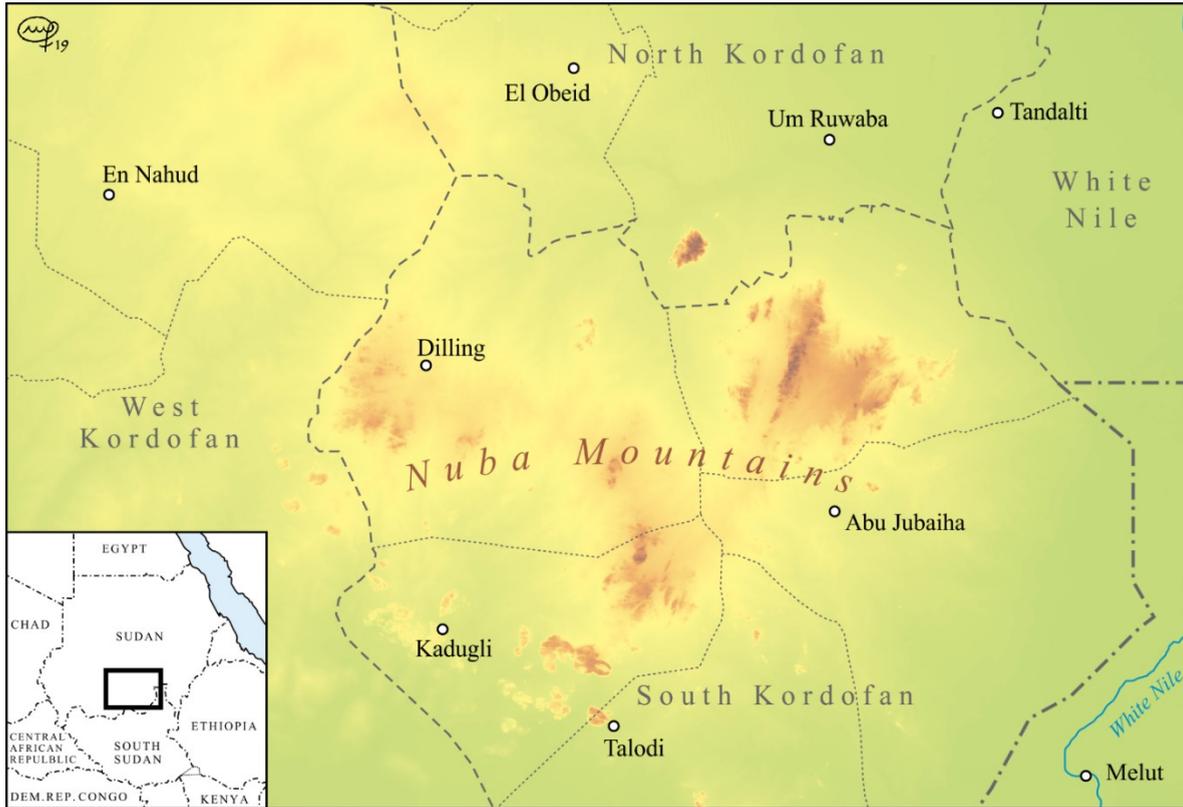
Most important: Thanks to all the dedicated people from the Nuba Mountains who contributed in one way or another to make this study on the Nuba Mountain languages possible.

The Editors

# Contents

Preface	III
Contents	IV-V
Maps	VI-VII
<i>Helene Fatima Idris, Jan Junglas and Gertrud Schneider-Blum</i>	
Introduction	1
<i>Sawsan Abdel Aziz Mohammed Nashid</i>	
Language and identity construction among the Tagoi of Sudan	21
<i>Abeer Bashir</i>	
Plural suffixes on Tagoi nouns	41
<i>Maha A. Aldawi</i>	
A first approach to Tagom verbal inflection and clausal negation strategies	71
<i>Nicolas Quint and Siddig Ali Karmal Koko</i>	
Verb extensions in Koalib: a first general overview followed by some brief comparative considerations	105
<i>Sharon Rose</i>	
Inalienable personal possessives in Moro and Tira	149
<i>Roger M. Blench</i>	
Comparative Heibanic	175

<i>Milo Reinmüller</i>	203
The endophoric demonstrative <i>weej</i> in Tima – A qualitative corpus analysis	
<i>Gertrud Schneider-Blum</i>	229
Biclausal or monoclausal? On focus constructions in Tima	
<i>Heleen Smits</i>	253
Insects, kitchen items, rituals and place names: Some results of a workshop to collect Lumun words	
<i>Russell Norton</i>	285
Changes to Talodi nouns in Lafofa	
<i>Pascal Boyeldieu</i>	309
The ‘absolute’ or <i>-ca/-sa</i> verb extension in two Daju languages: Shatt Damam (Sudan) and Daju Sila (Chad)	
<i>Colin Fauré</i>	335
Egyptian loanwords in the Nuba Mountain languages	
<i>Wafa Hussein and Ahmed Hamdan</i>	345
The manufacturing process of the Neolithic ceramic from Central Sudan and of the modern pottery tradition in the Nuba Mountains: A comparative study	
<i>Suzan Alamin</i>	363
A History of the Department of Linguistics, Faculty of Arts, University of Khartoum	
List of contributors	390



The Nuba Mountains, Sudan





## Introduction

*Helene Fatima Idris, Jan Junglas and Gertrud Schneider-Blum*

This book is the fourth collection of research papers on Nuba Mountain languages. The other three volumes are *Nuba Mountain Language Studies*, edited by Thilo C. Schadeberg and Roger M. Blench (published in 2013), *Nuba Mountain Language Studies – New Insights*, edited by Gertrud Schneider-Blum, Birgit Hellwig and Gerrit J. Dimmendaal (published in 2018), and *Langues des Monts Nouba / Languages of the Nuba Mountains*, edited by Nicolas Quint and Stefano Manfredi (published in 2020). If one looks at the table of contents in these volumes, a good number of authors are listed again and again. Thus, it does not come as a surprise that, over the years, colleagues from different countries have become familiar with each other and that their – our – relationships and interests go far beyond that of scientific work. We know each other, know each other's families and suffer with those who are in trouble. And those of us who are in a safe place now, in October 2024, suffer with those who have to bear the misery of the civil war in Sudan or who are homeless now because they have had to flee the country. Those who are safe wish they could help and are yet helpless.

This book is special, because it presents contributions on the Nuba Mountain languages and culture as if life continues as usual. But nothing is as usual in Sudan since the fighting started in April 2023, one and a half years ago. However, it was the expressed will of our friends within Sudan that this book should be made to happen and thus we all did our best, wherever we were at the time of organizing and writing.

A number of contributions found in this collection were first presented in February 2023, during the fourth international conference on Nuba Mountain languages and cultures, which took place in Khartoum, Sudan. The previous three conferences focusing on the Nuba Mountains were carried out in 2011 in Leiden (The Netherlands), in 2014 in Paris (France) and in 2017 in Cologne (Germany). Originally, the plan had been to have the conference in Khartoum in 2020, keeping the previous three-year rhythm, but the political situation in Sudan and then also the Covid-19 pandemic led the organizers to postpone the conference in the hope of quieter, safer times. Over almost three years, heated

debates over whether or not to conduct a conference under the given circumstances preceded the decision to finally have it, against all the odds.

This fourth conference differed from the previous ones in that, along with presenters and scholars, people whose cultures were in the limelight of the most recent studies on the diverse ethnic Nuba groups were also able to attend. The number of participants was overwhelming and way beyond expectation. Even the biggest hall of the University of Khartoum was not big enough to accommodate all who were interested. On behalf of the organizers we sincerely apologise to those who could not enter and whose needs could not be met.

The selected contributions, based on presentations delivered during the conference, are supplemented by studies from researchers who could not attend but who share our interest in the culture of the Nuba population. As was expressed by some of the authors, they would have loved to improve their contributions by taking on board valuable ideas that came up during the conference's discussions and/or by considering suggestions from reviewers. However, shortly after the conference, the violent conflict, which started in April 2023 between Sudan's state army and the Rapid Support Forces (RSF) in greater Khartoum and soon spread beyond this area, prevented any kind of further fieldwork, a situation which still continues.<sup>1</sup>

It is not the first time that research in Sudan (be it linguistic, anthropological, historical, archaeological or of any other kind) has been hindered or has come to a halt and that Sudanese scholars, as well as their guests from abroad, have been prevented from doing their work the way they had planned to do it. Schadeberg & Blench (2013: 11) alluded to this fact by saying: "The period between the 1st and the 2nd Civil War made it possible for foreign academics to conduct research in the Nuba Mountains."<sup>2</sup> We take this occasion to feature

---

<sup>1</sup> "Protagonists in the power struggle are General Abdel Fattah al-Burhan, head of the army and leader of Sudan's ruling council since 2019, and his former deputy on the council, RSF leader General Mohamed Hamdan Dagalo, known as Hemedti."

<https://www.reuters.com/world/africa/whats-behind-sudans-crisis-2023-04-17/>

"Together, they toppled a civilian government in an October 2021 coup but are now locked in a power struggle that has derailed an internationally backed transition to democracy and is threatening to destabilise a fragile region."

<https://www.france24.com/en/africa/20230428-sudan-army-and-rsf-say-they-agree-to-extend-truce-but-fighting-continues>

"Tensions had been building for months before fighting between Sudan's army and the paramilitary Rapid Support Forces (RSF) erupted in the capital Khartoum on April 15, 2023." <https://www.reuters.com/world/africa/whats-behind-sudans-crisis-2023-04-17/>

<sup>2</sup> The first civil war started, virtually simultaneously with the political independence of Sudan (January 1956), in 1955 between the southern regions and the northern government. It ended with the Addis Ababa Peace Agreement in 1972 (see, e.g., Dabitz 1985: 8). The second civil war started in 1983 (with a military coup in 1989 and the

two of the researchers who were able to go to the mountains in this period of relative peace, in order to present an intimate picture of their research situation in the 70s and 80s. That is, we are looking over the shoulders of the linguist Thilo Schadeberg and the ethnologist Günter Dabitz.

Thilo Schadeberg, the initiator of the first Nuba Mountain Languages Conference in Leiden (2011), travelled to the Nuba Mountains at the end of 1973 to make the necessary preparations for his later survey, and then again from October 1974 until January 1975 for systematic data collection.<sup>3</sup> Of course, and this has not changed over the years, one first had to get permission from the Sudanese authorities to travel by declaring one's reason for traveling. The preparations also include gaining separate permission for taking photos, although, as Schadeberg said, he did not even have a camera at that time. Once in the Nuba Mountains, he remembers vividly how he conducted interviews with representatives of different ethnic groups in the prison of Kadugli in 1973. This seems to have been a win-win situation: Schadeberg was able to collect data, while the prisoners had some welcome diversion from their monotonous daily routine.

In 1974/75, with a Land Rover at his disposal, Schadeberg travelled through the mountains for two months. All in all, as Schadeberg sums up, most of the people he encountered were in a relaxed mood. Certainly, one had to present the authorities' papers when asked to produce them, but a general tension between the Arabic population and locals was not observable. Quite the contrary, Arabic traders more often than not served as middlemen between him and local consultants from different ethnic groups. As Schadeberg explains: "The Nuba people distinguished 'Arabs' – traders, officials, policemen, teachers, etc. – from 'Baggara' living in tents and having cattle.<sup>4</sup> Some Arabs having family ties with the northern centres (El Obeid, Khartoum, etc.) thought of the Baggara as one of the local groups in the Nuba Mountains." However, Schadeberg adds that he, as "a transient visitor with just a rudimentary knowledge of Arabic", may of course not have noticed tensions between the different groups.

---

appointment of Omar al-Bashir as president in 1993) and ended after more than twenty years in 2005 (see Meerpohl 2012: 68; Bundeszentrale für politische Bildung, Tim Glawion: <https://www.bpb.de/themen/kriege-konflikte/dossier-kriege-konflikte/228561/suedsudan/>).

<sup>3</sup> Thilo Schadeberg kindly shared his memories and original documents with us during two interviews in 2024. See also Schadeberg (1981e: 117) on some general observations on the Nuba Mountains. A number of publications from his research period in the 70s are listed in the references (Schadeberg 1981a-d, 1989, 1994, 2013), among them an overview on the 'Linguistic Settlement of the Nuba Mountains' that he co-authored with Robin Thelwall (1983), whom he had met in Khartoum in 1973.

<sup>4</sup> With regard to the Baggara dialects of the so called Baggara belt, the interested reader is referred to Manfredi & Roset (2021).



In Kadugli, at that time, Thilo Schadeberg also met the controversial figure Leni Riefenstahl (1902-2003), who was known for her film work during the Nazi era in Germany and later for her biased and lopsided – though aesthetic – photos of Nuba people.<sup>6</sup> Schadeberg mainly recalled from their encounter her questioning about who is still running around – to her Eurocentric eyes – naked. Sometimes worlds simply collide.

Ten years later, determined to do research in the Nuba Mountains, Günter Dabitz contacted Ronald C. Stevenson (1915-1991), who between 1983 and 1988 was head of the Department of Sudanese and African Languages in the Institute of African and Asian Studies at the University of Khartoum. Dabitz was in search of a topic for his doctoral thesis.<sup>7</sup> From the selection of possible topics, Stevenson convinced Dabitz to study the Tima, with a focus on shamanism, as mentioned in Nadel (1946: 25). During his first journey to the Nuba Mountains, from November 1985 until September 1986, Dabitz spent several weeks in Kadugli and Lagawa, before he was finally able to visit the Tima in their home area, even if only for five days, because he had to go back to Khartoum for the renewal of his visa. With this in his hands, he went again to Tima and stayed there for three and a half months. As it turned out, and at first frustrating to him, he was unable to maintain his research with its intended focus on shamanism due to the people's denial of its existence, and thus he switched his research topic to the more general and open study of cultural change among the Tima.

Dabitz describes the atmosphere in the Nuba Mountains at the time of his first travels as enthusiastic, due to the fact that Nimeiri (1930-2009), the former president, had recently been ousted from power and that in the aftermath of Nimeiri's disposal many Nuba people had been freed from prison.<sup>8</sup> A new era seemed to have started.

---

<sup>6</sup> For a contemporary critical view on Riefenstahl's publications (1973, 1976) see Sontag (1981) and an article by Sontag translated in the German magazine *Zeit*: <https://www.zeit.de/1975/20/die-ekstase-der-gemeinschaft/komplettansicht>. See also Dabitz (1985: 149-154, especially pp. 151/152, indirectly confirming Schadeberg's memories; see also Schäffer (2016) and a review thereof by Anna Sophia Messner (2017). The documentary 'Riefenstahl' (2024) by Andreas Veiel gives insights into the work and attitudes of Leni Riefenstahl.

<sup>7</sup> Before his travels, Dabitz had compiled his comprehensive bibliography on the *Geschichte der Erforschung der Nuba-Berge* ('History of Exploration of the Nuba Mountains'), published in 1985.

The information on Dabitz' research situation for this introduction was provided by Günter Dabitz himself in 2024, having gone back to private documents from the 80s, by personal communication.

<sup>8</sup> For a chronology of key events in Sudan until September 2019 see <https://www.bbc.com/news/world-africa-14095300>; see also Abdelkarim et al. (1985); for more information on Nimeiri, see, e.g., his obituary in *The Guardian*: <https://www.theguardian.com/world/2009/jun/05/obituary-jaafar-nimeiri>.

Dabitz' second journey to Sudan took place between November 1988 and July 1989. By then, the situation had become tense again and the enthusiasm about Nimeiri's dismissal had vanished. Compared to his first stay in 1985/86, he felt that he was treated in a less friendly way by the Sudanese authorities and he feared he would not be able to obtain a travel permit. To make the best of it, Dabitz started his sojourn in Sudan working with Tima people living in El Droshab, a northern suburb of greater Khartoum. Among the Tima people living there, he mainly investigated the dynamicity of the migration process and also the socio-cultural organization and integration of the Tima people in their urban living environment. Despite the tension between 'northerners' and 'southerners', and thus somewhat unexpectedly, Dabitz all of a sudden received permission to travel to the mountains. As soon as possible, and together with his helper El-Eheimir, he then travelled to Tima again. His Tima friend Ismail not only provided Günter with a newly renovated house, but the Tima also held a feast with traditional dancing to honour their guest. On top of this, Ismail named his new-born son after Günter. Günter Dabitz had become a member of the family.<sup>9</sup>

The following is an excerpt from Dabitz' report on this second journey to the organization which funded his project:<sup>10</sup>

Neben der ethnographischen Aufzeichnung der Gegenwartskultur galt es aber auch verstärkt, die dem kulturellen Wandel zum Opfer gefallenen Rituale der traditionellen Religion zu dokumentieren und vor dem endgültigen Untergang zu bewahren. In diesem Zusammenhang hatte eine gefährliche politische Krise, die ursächlich unmittelbar mit dem Bürgerkrieg verknüpft war, den positiven Nebeneffekt, daß einige Rituale stattfanden, die in den letzten zehn bis fünfzehn Jahren unter dem starken islamischen Einfluß nicht mehr ausgeführt worden waren. Dies ergab eine wohl einzigartige Möglichkeit zur direkten teilnehmenden Beobachtung traditioneller Rituale zur Abwehr von bösen Kräften. Ein weiterer Schwerpunkt der Forschung war die Klärung der Bedeutung der Matrilinearität in der Sozialstruktur von Tima.

---

<sup>9</sup> Even more than 25 years later, when visiting the Tima area, one of the co-authors of this introduction, Gertrud Schneider-Blum, was frequently asked about the whereabouts and well-being of [kunta], as the Tima pronounced Günter's name.

<sup>10</sup> Translation from the original German version into English with DeepL Translator <https://www.linguee.com>, checked by the editors.

[In addition to the ethnographic documentation of contemporary culture, it was also increasingly important to document the rituals of traditional religion that had fallen victim to cultural change and to save them from their final demise. In this context, a dangerous political crisis, which was directly linked to the civil war, had the positive side effect that some rituals took place that had not been performed in the last ten to fifteen years under the strong Islamic influence. This provided a unique opportunity for direct participant observation of traditional rituals to ward off evil forces. Another focus of the research was to clarify the significance of matrilineality in the social structure of Tima.]

The following was not found in Dabitz' report:

After his return to Germany, the situation in the Nuba Mountains escalated. At the end of 1989, Tima, like other regions, also became the site of attacks and defensive battles, in which 30 Tima people and tens of Arabs died. Against this background, further trips to the Nuba Mountains were no longer an option for Dabitz. What remains are unforgettable, unique experiences and everlasting impressions of the Tima and their culture.

For many years, until the peace agreement in 2005, research in the Nuba Mountains was hardly possible and only in hazardous conditions. Of course, it was not only scholars from outside who were unable to travel to the mountains during these times of turmoil and fights, but also scholars from within Sudan who mostly stayed away. But time did not stand still. When travelling to the mountains was not possible, research, though more limited in its scope, was attempted in the diaspora, as the following paragraphs, concentrating on research within Sudan, illustrate.

Meanwhile, in Khartoum, the Institute of African and Asian Studies (IAAS) developed a strong profile in the study of Sudanese languages. It was the first address to contact when looking for information on minority languages and for making contact with speakers of indigenous languages. The IAAS was founded in 1972 – in the year of the Addis Ababa Peace Agreement – and consists of three departments, one of which was the Department of Sudanese and African Languages.<sup>11</sup> To many of us, the Department of Sudanese and African

---

<sup>11</sup> For a detailed description of the development of Sudanese linguistics in Khartoum, see Abdelhay et al. (2017: 269ff.).

Languages and the IAAS are closely linked with Al-Amin Abu-Manga, who was first assigned to the Department of Sudanese and African Languages in 1987, when Roland C. Stevenson was head of the department. Stevenson was succeeded by Ushari Ahmad Mahmud and Abu-Manga himself became head of it in 1992. He has now led the department for more than 20 years. In addition, Abu-Manga became the director of the IAAS in 2002, after the sudden death of the then director of the institute, Sharafeldin; he held this position until 2010, when he passed it on to Abdel Rahim Hamid Mugaddam. In 2016, when the latter left the country for Saudi Arabia, Mona Mahmoud succeeded him.

For many years, Al-Amin Abu-Manga was the person who provided foreign researchers with invitation letters, helped with their registration and travel permits, established contacts whenever possible, had an open ear for the researchers' problems and tried to solve them. Although the IAAS (including the Department of Sudanese and African Languages) and the Department of Linguistics at the University of Khartoum were independent bodies, Abu-Manga contributed to the supervision of five PhD candidates from the latter department, namely Abdel Rahim Hamid Mugaddam, Nasir A. O. Satti, Sawsan A. M. Nashid, Suzan Alamin and Abeer M. A. Bashir (all of them employed at it).<sup>12</sup> For many years, Abu-Manga was supported by the linguist Leoma Gilley, a member of the Summer Institute of Linguistics (SIL) and staff member at the Department of Sudanese and African Languages (IAAS) from 1996 to May 2004.<sup>13</sup> In these years, Leoma Gilley not only supervised a good number of students, but was also active in establishing workshops for language communities, in which speakers of particular languages were trained to analyse their own languages and also to translate the Bible into their own languages, among other things (see Abdelhay et al. 2017). In fact, Leoma Gilley was the linking element between SIL's activities and the University of Khartoum. Not only did some of those who had attended SIL workshops take courses in the IAAS, but linguists from within the country and abroad also worked with workshop attendants. As Abdelhay et al. (2017: 273) sum up this period of time: "Between 1994 and 2005, Khartoum became the meeting point for various individuals (Sudanese church staff, Western or Sudanese linguists, Sudanese intellectuals, social activists, individual members of communities, etc.) who, regardless of religious beliefs or political inclinations, shared a desire to codify and promote Sudanese languages."

A number of publications and unpublished studies are proof of these activities. Among those on Nuba Mountain languages are, e.g., Alamin (2002), Dafalla

---

<sup>12</sup> See the History of the Department of Linguistics by Suzan Alamin (this volume).

<sup>13</sup> <https://sil.academia.edu/LeomaGGilley/CurriculumVitae>; see also Gilley (2007: 269-380) and Abdelhay et al. (2017: 273).

(2006), Ibrahim & Huttenga (2007), Ismail (2000, 2007), Jabr El-Dar (2006), Jakobi (2000) and Norton (1995, 2000), to name but a few.

At the beginning of the new century, the overall situation relaxed somewhat (but see, e.g., Meerpohl 2009, Chapter 1.4, where she describes the problems she encountered when wanting to do fieldwork in the Sudanese/Chadic border area between 2003 and 2007). With regard to research in the Nuba Mountains, the Comprehensive Peace Agreement, signed on January 9, 2005, opened once more the doors for scholars.<sup>14</sup> In the following years, the Sudanese government provided numerous researchers with travel permits to the area so that they could study the language and life of diverse ethnic groups in situ. Thus, researchers from within Sudan and outside the country went to the Nuba Mountains in order to focus on languages such as Dagik, Lumun, Katla and Tima, Koalib, Tabaq and Uncunwee (Ghulfan).

Although research was possible again, life in Sudan was never boring. As Gerrit J. Dimmendaal, for example, reports when he was in Sudan in 2003, when the Americans and their allies started attacking Iraq in March 2003, Khartoum experienced anti-American riots.<sup>15</sup> Being from the Netherlands himself, Dimmendaal was asked to stay in the vicinity of the Dutch Embassy in case evacuation was necessary. However, after three days, as he remembers, the protests turned into anti-Bashir (the then president of Sudan) protests. Finally, the military intervened and the riots were stopped. Dimmendaal could stay in Sudan.

Then, in 2011, the internal situation became tense again. New fighting in Dilling (South Kordofan) made further travels to the Nuba Mountains once more impossible. Co-author Gertrud Schneider-Blum, who had planned to go to the Tima area in June 2011, but who only reached Dilling, remembers:

On our way to the Nuba Mountains, we had a scheduled stay of some days in Dilling. In the early evening of the first day, i.e. June 8, we heard that there was fighting in Kadugli, roughly 130 km to the south of Dilling. As we were told later on the same day, the road from Dilling to the Tima area (ca. 70 km south-west of Dilling) was blocked by the state army. Since, under these circumstances, it made no sense trying to travel to Tima, Hamid, the long-term Tima assistant,

---

<sup>14</sup> <https://unmis.unmissions.org/comprehensive-peace-agreement>

<sup>15</sup> For two retrospectives see <https://www.tagesschau.de/ausland/asien/20-jahre-irak-krieg-101.html> and <https://www.pewresearch.org/politics/2023/03/14/a-look-back-at-how-fear-and-false-beliefs-bolstered-u-s-public-support-for-war-in-iraq/>.

bought tickets for the first bus of the following morning, in order to return to Khartoum. While (ironically) being in the Peace and Development Center, we heard scattered shooting. As soon as possible, i.e. when there was no shooting for a while, we retreated to the compound of the university guesthouse in Dilling. Around midnight, we were woken up by crowing cocks, barking dogs and new shooting. The shooting got heavier, big guns in addition to rifle fire were heard. A swelling and subsiding battle. Sometimes it sounded further away, sometimes as if it was on the doorstep. Later we were told that SPLA (Sudan Peoples' Liberation Army) soldiers had attacked the state army's barracks in the village, which then led to an exchange of blows.<sup>16</sup> The shooting lasted about two hours. After these two frightening hours, it remained calm and we were later able to go for the bus we had booked back to Khartoum. With us was an unusual high number of women and children. Others, as we saw, left Dilling on donkey carts, on bicycle and on foot. A veritable exodus. Two convoys loaded with soldiers came the opposite way.

After 2011, travel permits to the Nuba Mountains were no longer issued. Once again, most research on Nuba Mountain languages was thus done in the wider area of Khartoum.

Nevertheless, by then, the Department of Linguistics had developed into a research institution (see also Suzan Alamin, this volume). Special merits relating thereto go to the IAAS scholars Al-Amin Abu-Manga and Leoma Gilley for encouraging students of the Department of Linguistics to work on local languages, and to Abdel Rahim Hamid Mugaddam for his later engagement. All in all, research on minority languages was promoted, as illustrated, for instance, in MA and PhD dissertations in which certain aspects of Nuba Mountain languages are examined. Waleed Mudathir Alshareef (2016), for instance, scrutinized *Major word categories in Abu Jinuk* and Adam Mohamed A. M. (2013) worked on *The Noun Phrase in the Miri Language*, while Nada Faisal Y. M. Sukkar (2009) presented an initial description of the Miri verb structure. Furthermore, three PhD dissertations focused on Tima and Tira. That is, Bashir (2010) presented a *Phonetic and phonological study of the Tima language*, while

---

<sup>16</sup> For more information on SPLA/SPLM, see, e.g., Scott (1985).

Alamin (2012) investigated the same language's nominal and verbal morphology. Only last year, 2023, Yahya B. Hammad completed his thesis on certain phonetic and phonological aspects of Tira. Then linguistic research in Sudan came to a complete halt with the fight for power between the two armies, i.e., between the (former) state army and the Rapid Support Forces, which started in April 2023 in Khartoum.

The violent confrontation between the armies marked the beginning of the third civil war in Sudan. One may wonder, though, what kind of fighting is covered by the term 'civil war'. According to the Merriam-Webster Dictionary, a 'civil war' is "a war between opposing groups of citizens of the same country".<sup>17</sup> But in Sudan, it is not citizens who are fighting, it is the two armies, at the expense of the civilians who had, in previous years, peacefully protested for democracy.

As one of the Sudanese scholars who have remained in the country, Sawsan Abdelaziz Mohammed Nashid wrote, in June 2023: "People keep dying all the time and by different means and still we have a belief in God's mercy. Khartoum is empty and destroyed." Seven months later, on January 5, 2024, she reported:

This endless war causes massive destruction of the infrastructure of Khartoum and beyond, countless killings and attacks on unpolitical, innocent people. The fighting of the two armies forces civilians to leave their homes to other places where they have to live in hardly to be endured circumstances, as reported by many. Because of the extension of the fighting to other Sudanese states, calls to arm civilians are raised by a number of activists to avoid oppression, e.g. Mohamed Jalal Hashim. The call to arms does not go unheard, though some states are opposed to it as it might lead to an ethnic war which will add insult to injury.

On January 7, 2024, Sawsan added: "We, the civilians, are the only ones who pay."

In sporadic spoken messages, Sawsan elaborated on the situation. Thus, she said in her message of April 7 that people in Khartoum have been suffering from a lack of electricity, lack of water and lack of means of communication for weeks. "We have nothing practically, nothing, practically." Also, "the way is closed [...] no-one can go out or come in. [...] But we are still alive [...], alhamdulillah,

---

<sup>17</sup> <https://www.merriam-webster.com>

alhamdulillah.” Half a year later (October 14), she explained that at that time, i.e., in April, she and her family were living in Sharq Alnil, an area controlled by the RSF. People there (and probably also in other regions) have generally been cut off from communication since February 2 and are still cut off now. They have suffered from lack of electricity and water since the 6<sup>th</sup> day of Ramadan.<sup>18</sup> Sawsan remembers this, since it was so difficult to fast in a time without electricity, water or ice. “We had nothing, and people start just falling down by malaria, and by other fevers.”

In addition, in areas which are controlled by the RSF, people live in fear, since the members of the paramilitary “kidnapped, they ... do everything ... you know. [...] People ..., they are afraid about their kids, their girls, their boys.” Members of the RSF come to the houses and take everything they want; sometimes they burn the houses. “For that, people start to run, when they hear that they are coming to any area, they leave eeeeeverything, and: they run, and they just run.”

Now (October 2024) Sawsan and her family live in Omdurman, where there is officially no RSF.

We are supposed to live in peace, secure, but what is really happening is that we receive attacks from these Rapid Support Forces. They sent eeeevery day, and, in some cases, it was twice per day, in the morning and in the evening, and some towns they just sent more than twenty *daana* at once. [...] I don't know what they are. It is called *daana*, it booms, okay, maybe bombs, and it destroys houses, it killed maaaany, maaaany, countless of people. In Omdurman. [...] It happens randomly, randomly, and they attack civilians. There is no any places for armies here; these are Al Sauwraat, and Manaara and all these areas, they just attack people randomly.

Until today (February 2025).

Three times, as Sawsan has told us, she has already survived such attacks, as she told us on October 14. The first time, two bombs exploded near her house, but – alhamdulillah – she and her kids were not physically harmed. Another time, she and her sister went to a new market, Suk Sabreen. “And it was full, full, full of people, full, really full of people. Just, we just arrived, then, we,

---

<sup>18</sup> In 2024, Ramadan started on March 10 and ended on April 9.

suddenly we hear a very, very ... high sound: boommMMM. And people just lay down.” Instead, Sawsan and her sister ran away to get out of the market. Three more *daana* hit the market. The next thing the sisters saw was that bodies were being carried out, as well as injured people with missing arms or legs ... The third time was only shortly after. Sawsan and her sister wanted to go to a health centre to get a malaria check, when they heard another “boom, this high sound”. They hid, together with others, in a nearby house. More bombing. The house was not hit, all who were inside were neither injured nor killed, but “we live in fear”.

- - -

18 months after the first fights broke out between the armies, the whole country is more or less afflicted. “This war reaches any part of the Sudan”, Sawsan wrote on July 4. Thousands of people are killed, abducted and missing, and countless people are displaced, since the armies’ fighting has led to a mass exodus from Khartoum.

Facing the facts:

Estimates of the number of fatalities range between 23,000 up to as many as 150,000.<sup>19</sup> One of them is the Lumun teacher Hassan El-Nour Osman Alope, who died in December 2023 (see Smits, this volume). We still have hope for the youngest son of Al-Amin Abu-Manga, who was arrested in October 2023 (Abu-Manga, p.c.). In September 2024, Abu-Manga wrote that it is “now exactly 10 months and since then we have never heard his voice nor known exactly where he is”.

Displaced persons number around 11 million (8.1 million internally, 2.9 million externally), i.e., more than one fifth of the total population.<sup>20</sup> A complete list of those of our relatives, friends and colleagues who have been displaced would be endless and the places they went to are numerous. Those who had, by chance, been outside the country when the civil war started, did not of course return. Among them are Abeer M. A. Bashir (and family), Suzan Alamin (and family), Maha A. Aldawi (and mother) and Wafa Hussein. At the beginning of this year, Al-Amin Abu-Manga (and his wife and daughter) were able to leave Sudan for Saudi Arabia, where one of their sons lives. Others left for Libya (the Tima assistant Hamid Kafi Daldum and family), South Sudan (Siddig Ali Karmal Koko, who was later able to go to Egypt) and Uganda (Khalifa Jabr El-Dar). Still others left for their home areas within Sudan, as did Waleed Mudathir

---

<sup>19</sup> See <https://reports.unocha.org/en/country/sudan/> vs. <https://www.bbc.com/news/articles/c748nk5pjdjo>.

<sup>20</sup> <https://reports.unocha.org/en/country/sudan/>

Alshareef, the current head of the Department of Linguistics at the University of Khartoum. He left the capital for Jabel Aulia, to the south of Khartoum. This area is under the tough regime of the RSF. As we heard at the end of September 2024, Waleed is safe.<sup>21</sup>

Since April 2023, between 700,000 and 1 million internally displaced people (IDP) from all over the country have come to the Nuba Mountains. Besides the large number of people arriving, a poor rainy season, a plague of locusts and the closure of trade routes to the north have exacerbated the situation here.<sup>22</sup> For instance, at the beginning of 2024, Ahmed Hamdan and his family managed to leave Khartoum in order to go back to his home area in the Nuba Mountains.

Malnutrition, food insecurity, inadequate shelter and poor water/sanitation/hygiene conditions are worsening the situation even more.<sup>23</sup> Accordingly, Ahmed Hamdan, in a message dated May 17, 2024, let us know that he and his family are safe in the Nuba Mountains, but that they are suffering from hunger, as do people in Sudan generally in these times.

On October 5, 2024, one could read in the German magazine *Zeit* that people from Omdurman have started going back to their neighbourhood, despite the town being reduced to ruins.<sup>24</sup> The town is no longer under the yoke of the paramilitary RSF; the former state army has control over it. Among those who went back is our friend and colleague Sawsan Abdelaziz Mohammed Nashid. She and her family were unable to return to their own house, though, because this was first robbed and then the bombing made it uninhabitable.

They took everything, eeverything, it is entirely empty, [...] We have nothing in our house. They took everything, the furniture, the refrigerator, everything, the oven, eevery-, every-, everything, our clothes, our gold, they took my gold, they took everything, simply, [...] so we have nothing; [...] The house is entirely empty, exactly. [...] And part of the house is destroyed by bombing. (message dated 2024-10-18)

---

<sup>21</sup> We would like to thank Elsadig Omda for providing us with a clear picture concerning the area in general and Waleed Mudathir Alshareef for more particular details.

<sup>22</sup> <https://www.refugeesinternational.org/reports-briefs/the-nuba-mountains-a-window-into-the-sudan-crisis/>

<sup>23</sup> <https://reliefweb.int/report/sudan/rapid-idp-assessment-report-kordofan-region-sudan-april-2024>

<sup>24</sup> <https://www.zeit.de/politik/ausland/2024-09/buergerkrieg-sudan-gefluechtete-ruueckkehr-fotografie>

As Sawsan reports, the whole neighbourhood was forced to leave their homes. She and her family are now staying with one of her husband's brothers. Sawsan wishes everything would just turn out to have been a nightmare.

Despite all these depressing news items, we all hope that the fighting and all the trouble that it brings with it will come to an end, the sooner the better. The restoration of peace in the country would not only improve the quality of everyday life for all those affected, but would also ultimately make scientific work possible again, building on the achievements of the past.

If it were not for hopes, the heart would break. (Thomas Fuller)

## References

- Abdelhay, Ashraf, Al-Amin Abu-Manga & Catherine Miller. 2017. Language policy and planning in Sudan from local vernaculars to national languages. In Barbara Casciarri, Munzoul A. M. Assal & François Ireton (eds.), *Multidimensional Change in Sudan (1989–2011) – Reshaping Livelihoods, Conflicts and Identities*, 263-280. New York & Oxford: Berghahn.
- Abdelkarim, Abbas, Abdalla El Hassan & David Seddon. 1985. From popular protest to military take-over: an analytical chronology of recent events in Sudan. *Review of African Political Economy* 12 (33). 82-89. <https://doi.org/10.1080/03056248508703636>
- Adam, Mohamed A. M. 2013. *The noun phrase in the Miri language, Nuba Mountains*. Khartoum: University of Khartoum MA dissertation.
- Alamin, Suzan. 2002. *Syntax of Asheron*. Khartoum: University of Khartoum MA dissertation.
- Alamin, Suzan. 2012. *The Nominal and Verbal Morphology of Tima – a Niger-Congo Language Spoken in the Nuba Mountains*. Cologne: Rüdiger Köppe.
- Alshareef, Waleed Mudathir. 2016. *Major word categories in Abu Jinuk*. Cologne: University of Cologne MA dissertation.
- Bashir, Abeer M. A. 2010. *Phonetic and phonological study of the Tima language*. Khartoum: University of Khartoum PhD dissertation.
- Dabitz, Günter. 1985. *Geschichte der Erforschung der Nuba-Berge*. Stuttgart: Franz Steiner.
- Dafalla, Rihab. 2006. A phonological comparison in the Katcha-Kadugli language group of the Nuba Mountains. In Al-Amin Abu-Manga, Leoma Gilley & Anne Storch (eds.), *Insights into Nilo-Saharan Language, History and Culture: Proceedings of the 9th Nilo-Saharan Linguistics Colloquium, Institute of African and Asian Studies, University of Khartoum, 16-19 February 2004*, 153-172. Cologne: Rüdiger Köppe.

- Gilley, Leoma. 2007. *Every Day But Not Some – Glimpses into the Everyday Lives of Sudanese*. Lightning Source UK.
- Hammad, Yahya Balal. 2023. *Tira language: A study on some aspects of phonetics and phonology*. University of Khartoum: PhD dissertation.
- Ibrahim, Gumma & Piet Huttenga. 2007. The phoneme system of Tagle, a Kordofanian Nubian language. In Mechthild Reh & Doris Payne (eds.), *Advances in Nilo-Saharan Linguistics: Proceedings of the 8th Nilo-Saharan Linguistics Colloquium, University of Hamburg, August 22–25, 2001*, 99-113. Cologne: Rüdiger Köppe.
- Ismail, Muhammad A. 2000. *Noun morphology in Daju Lagawa*. Khartoum: University of Khartoum MA dissertation.
- Ismail, Muhammad A. 2007. Noun classes in Daju Lagawa and the role of stress. In Mechthild Reh & Doris Payne (eds.), *Advances in Nilo-Saharan Linguistics: Proceedings of the 8th Nilo-Saharan Linguistics Colloquium, University of Hamburg, August 22–25, 2001*, 115-122. Cologne: Rüdiger Köppe.
- Jabr El-Dar, Khalifa. 2006. Towards a general orthography of Ajang languages. In Al-Amin Abu Manga, Leoma Gilley & Anne Storch (eds.), *Insights into Nilo-Saharan Language, History and Culture: Proceedings of the 9th Nilo-Saharan Linguistics Colloquium, Institute of African and Asian Studies, University of Khartoum, 16-19 February 2004*, 183-199. Cologne: Rüdiger Köppe.
- Jakobi, Angelika. 2000. Zur Rekonstruktion der proto-kordofannubischen Vokale. In Rainer Voßen, Angelika Mietzner & Antje Meißner (eds.), *„Mehr als nur Worte ...“ Afrikanistische Beiträge zum 65. Geburtstag von Franz Rottland*, 311-325. Cologne: Rüdiger Köppe.
- Manfredi, Stefano & Caroline Roset. 2021. Towards a dialect history of the Baggara Belt. *Languages* 6 (3). 146.  
<https://doi.org/10.3390/languages6030146>
- Meerpohl, Meike. 2009. *Kamele und Zucker – Transsahara-Handel zwischen Libyen und Tschad*. Cologne: University of Cologne PhD dissertation.
- Meerpohl, Meike. 2012. *The Tima of the Nuba Mountains (Sudan) – A Social Anthropological Study*. Cologne: Rüdiger Köppe.
- Messner, Anna Sophia. 2017. Gisela Schäffer: Der unschuldige Blick. Leni Riefenstahls Nuba-Fotografien (Rezension). *Kunstform* 18 (10).  
<https://www.arthistoricum.net/kunstform/rezension/ausgabe/2017/10/30/224>
- Nadel, Siegfried Frederick. 1946. A study of Shamanism in the Nuba Mountains. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 76 (1). 25-37.
- Norton, Russell J. 1995. *Variation and change in the phonology of Asheron*. Colchester: University of Essex MA dissertation.

- Norton, Russell J. 2000. The noun classes of Asheron. *Occasional Papers in the Study of Sudanese Languages* 8. 23-54.
- Riefenstahl, Leni. 1973. *Die Nuba*. Munich: Paul List.
- Riefenstahl, Leni. 1976. *Die Nuba von Kau*. Munich: Paul List.
- Quint, Nicolas & Stefano Manfredi (eds.). 2020. Langues des Monts Nouba / Languages of the Nuba Mountains. *Faits de Langues/Journal of Language Diversity* (special issue) 51 (1).
- Schadeberg, Thilo C. 1981a. *A Survey of Kordofanian. Volume 1: The Heiban Group*. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. 1981b. *A Survey of Kordofanian. Volume 2: The Talodi Group*. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. 1981c. The classification of the Kadugli language group. In Thilo C. Schadeberg & M. Lionel Bender (eds.), *Nilo-Saharan: Proceedings of the First Nilo-Saharan Linguistics Colloquium, Leiden, September 8-10, 1980*, 291-305. Dordrecht: Foris Publications. <https://hdl.handle.net/1887/8805>
- Schadeberg, Thilo C. 1981d. Die Geschichte der Nominalklassen des Laru (Kordofanisch). In Herrmann Jungraithmayr & Gudrun Mieke (eds.), *Berliner afrikanistische Vorträge (XXI. Deutscher Orientalistentag, Berlin 24. - 29.3.1980)*, 204-212. Berlin: Dietrich Reimer. <https://hdl.handle.net/1887/8804>
- Schadeberg, Thilo C. 1981e. Das Kordofanische. In Bernd Heine, Thilo C. Schadeberg & Ekkehard Wolff (eds.), *Die Sprachen Afrikas*, 117-128. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. 1989. Kordofanian. In John Bendor-Samuel & Rhonda L. Hartell (eds.), *The Niger-Congo Languages: A Classification and Description of Africa's Largest Language Family*, 66-80. Lanham: University Press of America. <https://hdl.handle.net/1887/8823>
- Schadeberg, Thilo C. 1994. Comparative Kadu wordlists. *Afrikanistische Arbeitspapiere* 40. 11-48. <https://hdl.handle.net/1887/8829>
- Schadeberg, Thilo C. 2013. Rashad survey data. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 325-345. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. & Roger M. Blench (eds.). 2013. *Nuba Mountain Language Studies*. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. & Roger M. Blench. 2013. The Nuba Mountain languages: an introduction. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 1-24. Cologne: Rüdiger Köppe.
- Schäffer, Gisela. 2016. *Der unschuldige Blick. Leni Riefenstahls Nuba-Fotografien*. Berlin: Deutscher Kunstverlag.

- Schneider-Blum, Gertrud, Birgit Hellwig & Gerrit J. Dimmendaal (eds.). 2018. *Nuba Mountain Language Studies – New Insights*. Cologne: Rüdiger Köppe.
- Scott, Philippa. 1985. The Sudan Peoples' Liberation movement (SPLM) and liberation army (SPLA). *Review of African Political Economy* 12(33). 69-82. <https://doi.org/10.1080/03056248508703635>
- Sontag, Susan. 1975. Die Ekstase der Gemeinschaft – Leni Riefenstahl oder die anhaltende Faszination faschistischer Kunst. *Zeit* 20/75. Online version: <https://www.zeit.de/1975/20/die-ekstase-der-gemeinschaft>
- Sontag, Susan. 1981. *Under the Sign of Saturn*. New York: Vintage Books. [https://monoskop.org/images/8/83/Susan\\_Sontag\\_Under\\_the\\_Sign\\_of\\_Saturn\\_1981.pdf](https://monoskop.org/images/8/83/Susan_Sontag_Under_the_Sign_of_Saturn_1981.pdf)
- Sukkar, Nada Faisal Y. M. 2013. *An initial description of Miri verb structure*. Khartoum: University of Khartoum MA dissertation.
- Swadesh, Morris. 1955. Towards greater accuracy in lexicostatistic dating. *International Journal of American Linguistics* 21 (2). 121-137. <https://www.jstor.org/stable/1263939>
- Thelwall, Robin & Thilo C. Schadeberg. 1983. The linguistic settlement of the Nuba Mountains. *Sprache und Geschichte in Afrika* 5. 219-231.

Websites visited (in order of mention):

<https://www.reuters.com/world/africa/whats-behind-sudans-crisis-2023-04-17/>  
(accessed 2024-11-09)

<https://www.france24.com/en/africa/20230428-sudan-army-and-rsf-say-they-agree-to-extend-truce-but-fighting-continues> (accessed 2024-10-11)

<https://www.bpb.de/themen/kriege-konflikte/dossier-kriege-konflikte/228561/suedsudan/> (accessed 2024-09-26)

<https://people.umass.edu/ellenw/Swedish%20List.pdf> (accessed 2024-10-14)

<https://www.bbc.com/news/world-africa-14095300> (accessed 2024-10-14)

<https://www.theguardian.com/world/2009/jun/05/obituary-jaafar-nimeiri>  
(accessed 2024-10-14)

<https://www.linguee.com> (accessed 2024-10-03)

<https://sil.academia.edu/LeomaGGilley/CurriculumVitae> (accessed 2024-03-13)

<https://www.tagesschau.de/ausland/asien/20-jahre-irak-krieg-101.html>  
(accessed 2024-10-14)

<https://www.pewresearch.org/politics/2023/03/14/a-look-back-at-how-fear-and-false-beliefs-bolstered-u-s-public-support-for-war-in-iraq/>  
(accessed 2024-10-14)

<https://unmis.unmissions.org/comprehensive-peace-agreement>  
(accessed 2024-10-14)

<https://www.merriam-webster.com> (accessed 2024-10-21)

<https://reports.unocha.org/en/country/sudan/> (accessed 2024-10-02)

<https://www.bbc.com/news/articles/c748nk5pjdjo> (accessed 2024-10-02)

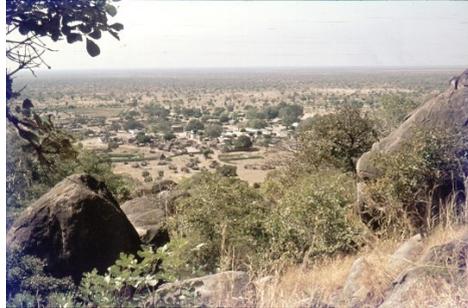
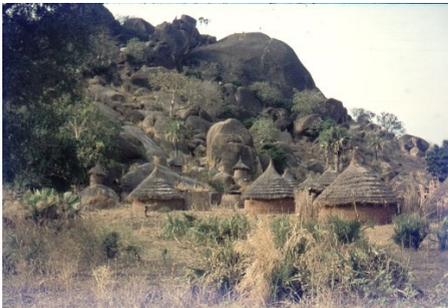
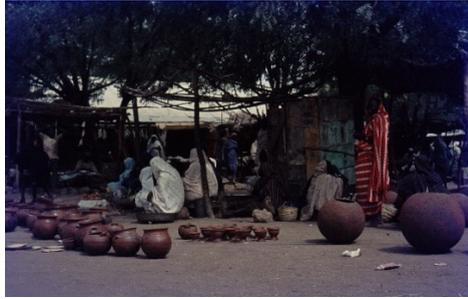
<https://www.refugeesinternational.org/reports-briefs/the-nuba-mountains-a-window-into-the-sudan-crisis/> (accessed 2024-10-02)

<https://reliefweb.int/report/sudan/rapid-idp-assessment-report-kordofan-region-sudan-april-2024> (accessed 2024-10-02)

<https://www.zeit.de/politik/ausland/2024-09/buergerkrieg-sudan-gefluechtete-rueckkehr-fotografie> (accessed 2024-10-07)

Documentary film:

Veiel, Andreas (director) / Sandra Maischberger (producer). 2024. *Riefenstahl*. Vincent Productions Berlin, in cooperation with WDR, SWR, NDR, BR und rbb.



Impressions from the Nuba Mountains in 1974 (photos: Thilo C. Schadeberg)

# Language and identity construction among the Tagoi of Sudan

*Sawsan Abdel Aziz Mohammed Nashid*

## 1 Introduction

Tagoi [tag] is a Niger-Congo language belonging to the Rashad language group (Greenberg 1963, Schadeberg 1981; see also Dimmendaal 2018). It is spoken west of Jabal Tagali and Jabal Rashad in the area of Rashad town by 27,000 people (SIL 2017, in Eberhard et al. 2024). It has several dialects: Goy (Tagoi), Umale (Tumale), Moreib and Orig (Turjuk) (Schadeberg 2013). The Tagoi language is not widely used and it lacks intergenerational transmission among Tagoi migrants and refugees who have settled in the Khartoum area. Thus, Tagoi is a severely endangered language that will probably become extinct, if no countervailing measures are taken. This is one of the results of the preliminary linguistic survey conducted by researchers at the Department of Linguistics, University of Khartoum during the period 9/2011-12/2013.

The present study is part of the Tagoi Orthography Development Project, conducted by the Department of Linguistics at the University of Khartoum.<sup>1</sup> This study aims at investigating Tagoi identity construction in relation to language, culture and ethnicity, in addition to exploring how the development of a Tagoi orthography could help in maintaining the Tagoi language, and therewith culture and ethnic identity. Our analysis shows that the Tagoi community is undergoing changes that can be understood within the historical context of the area and that negatively affect the situation of the Tagoi language as one of Sudan's endangered languages. This study highlights the necessity of starting revitalization steps for the Tagoi language and culture, and documenting and recording the oral history and heritage of the Tagoi.

How can Tagoi transmit their heritage and culture through generations? What would be the situation in the case of the loss of the Tagoi accumulation of

---

<sup>1</sup> The project was granted a Haycock Research Grant by BIEA (British Institute in Eastern Africa) in 2015 to develop a practical orthography for the Tagoi language.

knowledge, experiences, history, epics, songs, heritages, legacy, etc. that are passed from one generation to the next through the language? The fact that language is a central component of individuals' and groups' identity gives rise to the question of how the Tagoi people would be identified in the absence of their language.

Language is a central component of identity and helps determine how people see themselves as part of the national context. What would be the role of the Tagoi language in shaping Tagoi identity, culture and ethnicity? Why is the revitalizing of the Tagoi language extremely important for the Tagoi people? How could the development of the Tagoi orthography be the means of preserving Tagoi culture and identity? To answer these questions, a number of focus group discussions (FGDs) were conducted with Tagoi people in Khartoum. FGD is a valid tool that helps the researcher in understanding the nature and the underlying factors of the Tagoi language endangerment. It also provides a way of digging deep in order to figure out some generalizations on the present situation of the Tagoi language and appropriate means for its maintenance in the future. The FGD data have been utilized to provide vital feedback and comments, ideas and perceptions of individual participants in the discussion of the issues raised in this study.

### 1.1 Sociolinguistic profile of the Tagoi

Previous research on this language group dates back to Stevenson (1956/57), and Schadeberg & Elias (1979). There is also a preliminary linguistic survey conducted from September 2011 to December 2013 by a number of researchers at the Department of Linguistics, Faculty of Arts, University of Khartoum, with the aim of providing facts about the sociolinguistic situation and the degree of language endangerment, the phonology and the noun and verb morphology of the Tagoi language; this constitutes the basis for a more comprehensive data collection and for the building of local competence in language documentation (Alamin 2015). Then, in May 2015, the Department of Linguistics, University of Khartoum, was granted a Haycock Research Grant by BIEA in order to develop a practical orthography for the Tagoi language. This is the second phase, which was supposed to finish in June 2016 but the work continued until April 2018.

The main findings from the sociolinguistic survey in 2012 can be summarized as follows:

- 32% of the 551 respondents use Tagoi on a daily basis, 36% use it a few times a year and 52% never use it at home.
- 61% of the 277 respondents who have children never or rarely use Tagoi with their children at home.

- 65% of grandparents never or rarely use the Tagoi language with their grandchildren at home.
- 65% of children, 68% of youth and 50% of adults never or rarely use the Tagoi language at home.
- 68% of old people use the Tagoi language daily and 50% of adults use it daily or weekly.
- There is no significant different in the use of Tagoi between males and females.
- 81% (445/551) of respondents think that Tagoi will become extinct due to its restricted use, especially among the young generation.
- The Tagoi language is not widely used at home and there is no intergenerational transmission of the language. Besides this, respondents' opinions about its vitality are negative.

Taking these data together, Tagoi is a highly endangered language.

These findings were the basis for further discussions with some of the Tagoi people. Their viewpoints, observations and explanations were recorded and used for more understanding of the present situation of the Tagoi language.

## 1.2 Methodology

SECTION 1.3 presents a description of the main tool used in collecting the data, i.e., focus group discussions. It is worth mentioning that the other sources of information are the researcher's own observations as a member of the Tagoi Orthography Development Project, as well as the informal interviews and discussions with the Tagoi people throughout the project (May 2015 – April 2018).

### 1.3 Focus group discussion

Focus group discussion (FGD) is the main data collection tool for this contribution. According to Krueger & Casey (2000: 5):

A focus group study is a carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment. Each group is conducted with six to eight people by a skilled interviewer. The discussions are relaxed, and often participants enjoy sharing their ideas and perceptions. Group members influence each other by responding to ideas and comments of others.

Therefore, four FGDs were composed in two settings: formal (at the University of Khartoum's Department of Linguistics) and informal (in a private house in al-Fitehaab in Omdurman). The choice of participants in the FGDs was based on age and level of education. The first two group discussions were conducted

on Friday, 7 October 2016 in al-Fiteḥaab, Omdurman. They started at 9.30 am and took about six hours: three hours for each group. While the first group consisted of six participants, three males and three females, the second group consisted of seven participants, five males and two females. The participants' ages ranged between 27 and 65 years old. All of them were Muslims and bilingual in Tagoi and Arabic, except four males who were monolingual in Arabic. They were illiterate, except one male. They were born in different villages in the Rashad area, except one female, who had an Ethiopian mother and was born in Ethiopia. The five females were housewives, while the seven males had free jobs. They arrived in Khartoum at different times since the 1970s for different reasons: for jobs, education, or to escape the armed conflict in the Nuba Mountains. They all use Arabic with their children at home and with their relatives in their places of origin and in Khartoum. The reason, according to them, is that the Tagoi language is not known by a great number of the Tagoi people, so they have to use Arabic, which is the most widely spread and used language among the Tagoi people. Their viewpoints on the topics discussed will be presented in SECTION 2.

The third and fourth focus group discussions were conducted on Saturdays, 22 and 29 October 2016 at the University of Khartoum's Department of Linguistics. The first one started at 10.30 am and took about 3.30 hours. There were four participants, three females and one male. Their ages ranged between 25 and 35 years old. All had graduated from university and were born in Khartoum, except for the male participant, who was born in the Rashad area. The fourth group consisted of four male participants, members of the committee of the Tagoi Orthography Development Project. They are all Muslims, born in Rashad, and bilingual in Arabic and Tagoi, except one participant who is bilingual in Arabic and English. Their viewpoints on the topics discussed will be presented in SECTION 2.

The researcher and Dr. Helene Fatima Idris were leading the discussions in all groups. Ahmed Sosal, then a teaching assistant, also helped in recording the two groups in al-Fiteḥaab. Recordings were made, with the participants' permission, to make sure that people's ideas did not get lost. In addition, the researchers wrote down certain points. Arrangements for this had been made in advance. Then the recording was transcribed and interpreted in order to have a more complete, accurate and permanent record. The decisions about incentives, places, times, participants and group compositions were also made in advance. The topics to be discussed and the questions to be asked were also prepared. The groups chose the language to be used, which was Arabic. Thus, general questions were asked by the researchers in Arabic.

In conducting focus group discussions, the leader/researcher usually performs a common sequence of events, such as thanking the participants for coming,

reviewing the purpose of the group and the goals of the meeting, setting the stage and going over the flow of the meeting, i.e., how it will proceed and how the members can contribute. The ground rules are presented, encouraging open participation and setting the tone. This preparation is important, because usually the participants have never been in a focus group before, and they also tend to ask opening questions. Some common techniques are used by the researchers, like summarizing what they have heard, asking if the group agrees, phrasing the same question in different ways, asking if anyone else has any comments on that question, asking a follow-up question, and looking around the room and making brief eye contact, especially with those who may not have spoken. After the meeting, the researchers look at the data. If the discussion was recorded, the researchers make a transcript. If not, they make a written summary from their notes. Finally, the researchers share the results with the groups to give them some feedback at a second session, reviewing results, verifying their accuracy and/or exploring further themes.

At the beginning of each session, the researchers introduced themselves and provided a general explanation about the Tagoi Orthography Development Project, within which this study took place, in addition to a general idea of what the study is about, the main issues that will be discussed and how the group discussion will be conducted. Then the members of the groups were asked to introduce themselves: names, places of birth, ages, level of education, jobs, places and languages of education and the time of their arrival in Khartoum. The discussion was guided by four major topics with relevance to the Tagoi language: identity, culture, ethnicity and orthography development.

Since the participants were actively encouraged to not only express their own opinions, but also to respond to other members and to questions posed by the researcher, the focus groups offered a depth, nuance and variety to the discussion that would not be available through surveys. Additionally, because the focus groups were structured and directed, but also expressive, they yielded a lot of information in a relatively short time. In short, focus group discussions constituted a good way to gather in-depth information about the community's thoughts and opinions on many topics, such as language, culture, ethnicity, religion, migration/displacement, identity, the teaching/learning of the Tagoi language, the effect of the Nuba Mountains conflict on the Tagoi language and language attitudes.

#### 1.4 Data analysis and discussion

This section deals with the findings regarding Tagoi identity construction in relation to language, culture and ethnicity. The participants' views on how the development of Tagoi orthography will help in maintaining the Tagoi culture and ethnicity are also presented.

## 2 Language and identity construction among Tagoi of Sudan

### 2.1 The Tagoi language and the participants' identity construction

The term 'identity' is used to refer to an individual's or group's sense of who they are and who they belong to, as defined by them and/or others. Identity can be expressed in several ways, for example, in terms of nationality, geographical location, ethnicity, gender, social class and occupation (Swann et al. 2004: 140-141).

The participants were guided by nine main questions. The starting point was the names and their importance to individuals' personal identity. They argued that having a Tagoi name is not an important indicator of being Tagoi since they all have Arabic names due to Islam. It is important to mention that they changed their old naming system for a "day naming system", where they mostly choose the names of prophets and other important figures from Islam (Ali 2017: 82), as will be discussed later in SECTION 2.2.

The second issue discussed was about what language the participants felt defines them and whether speaking or not speaking Tagoi facilitates or hinders their communication with other members of the Tagoi community. Tagoi is the language that defines all the participants, as they say. As Şafaa expressed: "I'm Tagoi and would like to be identified by Tagoi language although I do not know or use it." For most participants, the knowledge of Tagoi language is not a key factor in communication among the Tagoi people since they are all fluent in Arabic. For those who are fluent speakers of the Tagoi language, they have to use Arabic most of the time, especially with youth, although they love to use Tagoi. Meanwhile, some of the youth expressed their discomfort about when there are some people who are speaking the Tagoi language and they do not understand or are unable to participate. Nusayba confirmed this: "On some occasions, I feel discomfort and exclusion when old people carry out a conversation in Tagoi." When the youth participants were asked about their illiteracy in the Tagoi language, their justification was the lack of communication, i.e., their parents have spoken Arabic with them all the time and have not motivated them to know or use the Tagoi language.

The subsequent questions followed: What other factors define them as Tagoi? Do they define themselves as Tagoi? How do they behave as Tagoi? Do they identify themselves as Sudanese? How? How do they perceive themselves in terms of mixed heritage, i.e., having two languages and cultures?

A lot of discussion topics were introduced to figure out the factors by which Tagoi can be identified. It was found that language is the only factor with which to identify Tagoi people; they tend to behave as Sudanese, as they said.

Therefore, all participants agreed on their identification by nationality as Sudanese and not by ethnicity as Tagoi/Nuba. Sudanese identity, as described by Omer (1998), fits them better. According to Omer (1998: 37-44), there are three concepts closely related to Sudanese identity: Arabism, Islamization and Africanism. Arabism means Arabic identity, which has two dimensions, racial and cultural. Islamization is the trend which aims to determine Sudanese identity based on Islam. For the focus group participants, the cultural dimension of Arabism is what identifies them because racially they are African. Sudanese culture is the dominant one among the Tagoi people; there is no so-called conflict between languages or cultures.

The concepts of identity and belonging are the driving forces of conflicts in southern Kordofan, as assumed by some researchers based on the claim of an autochthonous identity among the Nuba (Ali 2016: 122). Therefore, the claims over communal land on the grounds of autochthony become a source of identity politics and are the basis for the way the Nuba have constructed these policies (Komey 2008, 2009; Manger 2007; Suliman 2002, cited in Ali 2016: 122). The Tagoi also claim their status as ‘first comers’ to the area and are thus autochthonous there (Ali 2016:122). Thus, what are the sources of Tagoi identity politics? Are they the same sources as those of the Nuba? But as will be discussed later in SECTION 2.3, Tagoi participants emphasized their belonging to Sudan rather than to the Nuba. The participants talked about how other Nuba groups consider them as *not* being Nuba. Ahmed asserted this: “To the other groups in the Nuba Mountains, we are not Nuba.” There was no answer when they were asked about who are they in the eyes of the other Nuba groups.

## 2.2 Tagoi culture in relation to the Tagoi language

Before proceeding, the role of culture must be explained as related to language. Culture explains how people make sense of daily experiences. People take in experiences through the lens of culture. Both language and culture have the same goal of meaning making (Kövecses 2010). Culture expresses meaning in a variety of ways, such as through art, dance, music, ceremonies, names and narratives. Language expresses meaning through the words that give verbalization to the experiences that humans share. The importance of both aspects is undeniable; each component of the relationship is important and should be examined. Language is closely tied to culture; language is an instrument to express the culture and environment of the speaker (Yağiz & Izadpanah 2013). Without culture, language has fewer channels through which it can express meaning. While language needs culture, culture is also dependent upon language. According to Hans J. Vermeer, language is an intrinsic part of culture (Liu 2012). Language not only preserves and transmits culture, but it is also a vessel of cultural change (Liu et al. 2014). Language can communicate

political, social and cultural ideas within a community and provide a method for explaining the reasoning behind the ideas, leading to potential change. Without the use of language to convey meaning and transmit ideas, cultural changes would be limited to non-linguistic ideas. Because a culture without language is not true reality, cultural studies should be closely tied to language studies.

According to Ali (2016), there are a variety of cultures over the small area where the Tagoi live. This is due to the fact that many ethnic groups (“tribes”) have found refuge in the Nuba Mountains (Elles 1935: 4, cited in Ali 2016: 115). There are a number of historical circumstances that have led to the distinctiveness of the Tagoi culture, as assumed by Stevenson (1962: 122-125, cited in Ali 2016: 119). Therefore, we will try to gain insights into the different elements of the Tagoi distinctive culture, emphasizing the role of the Tagoi language in the cultural practices of this group. The historical circumstances related to the Nuba area that should be considered are the arrival of the Muslim *Juhayna* in the sixteenth century, followed by the Muslim *Ja'aliyyin* and *Ghudiyyat* and *Baggara* during the eighteenth century, and the marriage of Mohammed Al-Ja'ali to King Tagali's daughter and the role of his son Abu Juaridah and his descendants in expanding the kingdom and spreading Islam.<sup>2</sup> The arrival of a small Arabic-speaking group from the Muslim *Funj* Kingdom in the eighteenth century was the main turning point in the Tagoi history. This group “was exiled from Sinnar, the capital of the Funj Kingdom, to the north-eastern Nuba Mountains following a dispute over political authority” (Ali 2016: 119). According to Stevenson (1962: 122-125, cited in Ali 2016: 119), “intermarriages between the expatriate and host groups in the north-eastern Nuba Mountains resulted in socio-cultural cross-fertilization, giving the Tagoi their distinctive culture”, while their language was greatly affected by the Arabic language.

Between the Anglo-Egyptian Condominium period (1899-1956) and the present day, the Tagoi in the Nuba Mountains have undergone significant socioeconomic and political transformations during the Condominium due to the establishment of a strong administrative system in the Nuba Mountains, inter-tribal wars were brought under control, cultivation was extended outwards from around the foothills, and Nuba farmers began to rebuild their homesteads on the lower slopes and pediments fringing the massifs in areas exposed to government and commercial influences. (Ali 2016: 120).

The dispute over land (*garadid*) and political authority between the Tagoi and later arrivals (*Hawazma* and their allies) escalated to violence in the Tagoi area

---

<sup>2</sup> For more information on Tagoi history, see Ali (2016: 115-122).

(Ali 2016: 125, 129-130). Therefore, the Tagoi have fled their home to more secure areas. What is mentioned could explain many of the study's findings.

The participants were introduced to the concept of culture, which is used in this context to refer to experiences, heritage, customs, festivals, lifestyle, ways of thinking, values, ideas, traditions and knowledge. Then they were asked about their views on the assumed relationship between language and culture, the necessity of preserving Tagoi culture by preserving the Tagoi language, and their cultural activities, practices and organizations in Khartoum and in their place of origin.

Wardhaugh (2002: 219-220) reported that there appear to be three claims regarding the relationship between language and culture: The structure of a language determines the way in which speakers of that language view the world or, as a weaker view, the structure does not determine the worldview but is still extremely influential in predisposing speakers of a language toward adopting a particular worldview. The culture of a people finds reflection in the language they employ: because they value certain things and do them in a certain way, they come to use their language in ways that reflect what they value and what they do. Based on the above viewpoints on the relationship between language and culture, the discussions were directed. The aim was to know what Tagoi people do in their everyday life that culturally distinguishes them from others. Apart from the harvesting ceremonies, all the participants confirmed that there is nothing relating to lifestyle, traditions, customs, values or anything else that distinguishes Tagoi from others, except Dawuud, who emphasized the existence of certain social practices only for Tagoi: "We have a special dance using copper, a kind of music performance that cannot be found among others. In addition, there are certain traditions used by Tagoi on certain social occasions although they are restricted in use now." Hussein talked about certain ways of carrying religious rituals among Tagoi *Suufiyya* (an Islamic group), but this cannot be considered a distinguishing element since it is practiced by only a few and cannot be generalized to all Tagoi people.

Tagoi have been exposed to influences which have led to a loss of their social and cultural heritage. They also underwent a serious conversion to Islam, which led to other changes in their language and culture during the reign of Mek Jabouri (1828-1851). They had many cultural practices that were abandoned due to the influence of Islam (Ali 2017: 72). *Kujur* was important. It "may mean any of the following types of priest: shaman, medicine man or woman, grain priest, rainmaker or any other minor magic expert. In the Nuba languages, the same word is used for *kujur* and for the ancestral spirit" (Ali 2017: 72). *Kajara* (plural of *kujur*) were regarded as highly sacred having their own privacy. Besides this, the residents of the Mount of Jarad performed *asbar* rituals (rituals of sowing, harvests, weddings and circumcision), through which *kajara* were believed to

control the locusts and used them as weapons when there was a need to defend the self and property (Ali 2017: 73).

The number of Qur'anic schools, mosques and scholars of *fiqh* and *shari'a* grew rapidly and worked hard to change the people's perceptions in a coup against the traditional *asbar* beliefs and rituals, which in the past had been practiced in parallel with Islamic rituals. (Ali 2017: 77).

According to the participants, there are no organizations that currently exist for Tagoi, although there are some associations for the Tagoi university students in Khartoum. Their main activities are social. Şafaa explained: "I was a member of one of these associations. We used to help the students who were not able to pay the fees for their studies, prepare the reception parties for the new students and so on." Furthermore, the existence of such organizations helps in maintaining Tagoi heritage, culture and language, specifically in the urban areas.

"Islamisation of the Tagoi was accompanied by the Arabisation of the names of people and villages, and even the language itself" (Ali 2017: 81). The Tagoi had their own old naming system before the coming of Arabic names. The Arabization of names started in the first half of the nineteenth century. It was 'day name' based. The Tagoi now mostly choose the names of "[...] prophets and other important figures in Islam and were linked to the days of the week on which these prophets and figures were born" (Ali 2017: 82).

Generally speaking, one can emphasize the role of Islam in shaping Tagoi culture and identity. They abandoned their beliefs, customs, traditions and other practices when they adopted Islam a long time ago. In Ali's (2017: 77) words, "[t]his resurgence of Islam accelerated the disappearance of many *asbar* rituals and the emergence of a new understanding of religion". Besides this, their existence in an ethnically heterogeneous area had a great effect on the Tagoi culture. The long and close contact with these various groups resulted in shared cultural elements between these groups and could justify the absence of a distinctive culture of the Tagoi that was assumed by Stevenson (1962). This may also be due to the long time (more than fifty years) between Stevenson's study and the present one.

### 2.3 Language and ethnicity among the Tagoi

The term 'ethnicity' was explained to the participants by the researchers as defined by Swann et al. (2004: 100-101), Enninger (1991: 23) and Isajiw (1979: 24). Ethnicity is described by Swann et al. (2004: 100-101) as an aspect of an individual's social identity, which is closely associated with language and usually based on descent. In addition, the subjective experience of belonging to a culturally and historically distinct social group is often included in the

definition of ethnicity. Language forms a central aspect and symbol of ethnic identity. It is seen by Enninger (1991: 23) as “an open set of traits such as shared and distinctive values, common ancestry, a collective consciousness and self-perception as being different from others”. To Isajiw (1979: 24), “ethnicity refers to an involuntary group of people who share the same culture or to descendants of such people who identify themselves and/or are identified by others as belonging to the same involuntary group”. It can thus be understood as an awareness of membership in, and affiliation with an ethnos, the awareness of which is based on a sense of sharing those traits in and through which a given ethnos constructs its identity and its history (Isajiw 1979: 24).

The discussions with participants were then guided by a number of points: their understanding of ethnicity, ethnic belongingness, and the categories and criteria to be considered when accounting for their Tagoi ethnicity, their Tagoi, Nuba and Sudanese ethnic affiliations. The aim was to gain knowledge on the extent to which the Tagoi language forms a central aspect and symbol of the Tagoi ethnic identity, since ethnicity and linguistic affinity strengthens a group and consolidates their walls against invasion by outsiders, as explained by Obeng & Purvis (2010: 376). According to Obeng & Purvis, speakers of the same language who belong to the same ethnic group have a feeling of solidarity or “weness” (i.e., belonging) and therefore stick together in times of strife and happiness.

Many families were displaced during Adam Aljabouri’s period of rule (1910-1933). Adam Aljabouri was the brother and successor of Mek Gedayl (Ali 2017: 88). “In addition, the British government deported a large number of Tagoi cavalymen and their families to Darfur to weaken the military strength of the Tagoi tribe” (Ali 2017: 88). They started to resettle in the plains of Tagoi and on the Mount of Jarad between 1933 and the 1950s, and their settlement was completed by the 1960s. The majority of Tagoi people were forcibly displaced after the outbreak of the civil war.<sup>3</sup> They settled in many of the Sudanese cities, including Khartoum, Kosti and Al-Rahad, among others. Generally speaking, internal migration has an enormous impact on ethnicity, as sketched in the country study of Sudan (1991, edited by Helen Chapin Metz). “Although migrants tended to cluster with their kinsfolk in their new environments, the daily interaction with Sudanese from many other ethnic groups rapidly eroded traditional values learned in the villages. In the best of circumstances, this erosion might lead to a new sense of national identity as Sudanese [...]”<sup>4</sup> This may be a justification for the participants’ preference for being identified by nationality as Sudanese rather than by ethnicity. And this may be among the

---

<sup>3</sup> After the secession of southern Sudan in 2011; for more information see Ali (2016).

<sup>4</sup> Source: <http://countrystudies.us/sudan/40.htm>

reasons for Tagoi attitudes towards their native language and Arabic, i.e., it must be considered as a social indicator of changing beliefs, as assumed by Baker (1992: 9). It is clear that Arabic is highly valued as the language of Islam. Based on Holt's (1996: 11) argument that "[g]iven that language is probably the most powerful symbol of ethnicity, it therefore forms a basis of identity for millions who are politically separated", one can reinforce the importance of language for the Tagoi.

When they were asked to ethnically identify themselves within the general frame of Nuba, the participants expressed their preference *not* to be identified as 'Nuba'; instead they want to be identified as *Tagali*, which was lately ruled by Arab Muslims, as previously mentioned. They expressed their desire to be related to Islam, which Tagali represents. For them, their identification as Nuba is related to Christianity. In addition, they talked about the western hills of the Nuba Mountains, where people identify themselves as Nuba, in contrast to the people of the eastern hills, who used to belong to the Islamic Tagali kingdom. This supports the importance of religion in the formulation of Tagoi ethnic identity. This idea is confirmed by James (1979: 286): "In the Nuba hills, Taqali turned to an Islamic identity while other parts of the hills revitalized their beliefs in spirit mediumship."

Like many of the Sudanese groups who assume that they have an Arabic origin, based on the story of 'the stranger', people of the Tagali Islamic Kingdom also showed their Arabic lineage, as explained by James (1979: 287):

All of these frontier peoples had available a wealth of ideas and images from their own cultures as well as those to the north and south for interpreting their experiences. Taqali people and the elites of the upper Blue Nile shaykhdoms worked out similar accounts of their origins, not only because of similar conditions but also because of cross-fertilization during the Mahdiyya. Both groups adopted motifs, especially that of the Wise Stranger and pseudo-ethnic categories, from the Arabic-speaking Sudan.

Ethnicity is related to loyalty. As stated by Stevenson (1989: 196-207), there exists a conflict of loyalties: local and regional loyalties versus loyalty to the state as a unified whole. In the Nuba Mountains, there are mixed ingredients of loyalties: localness, Arabness and Nubanness. The degree to which each is felt may depend on the level of social cohesion involved and all these seem to be part of the ingredients of ethnicity. Strength of localness may vary with the degree of social cohesion in a particular group and with other factors. It is a localness of feelings, knit together by language, by certain cultural features marking that particular group, and by a feeling attached to loyalty; in other words, a particular kind of ethnicity. It is found among most local groups: Nyimang, Katla, Moro, Otoro and many others. Arabness is a wider circle of

belonging, which comprises a certain attitude to life, religion (Islam), language (Arabic) and pride of race. Arabness can be applied to many Nuba, who are of Nuba origin, but whose original culture (language and religion) has been diluted or influenced in varying degrees either by Arabization or by Arabicization, i.e., by actual Arab admixture and/or by the adoption of Arabic as their language. Groups and individuals of this kind can be found in many of the Nuba Mountains towns. Loyalty to Arabness could be a suitable loyalty for Tagoi, who situate themselves within the context of nationality, i.e., being Sudanese. Nubanness is bigger than Localness. For the Nuba groups, it is a regional feeling, an awareness of a common or similar environment, a similar economy and a broadly similar way of life, which many of the Tagoi participants prefer not to be attached to. Africanness is another factor in Nuba seeing themselves as having something in common with African nations and against the Arab World (see Nashid 2014: 204-205).

#### 2.4 Orthography development in the Tagoi language

The participants' viewpoints on the development of Tagoi orthography were the focus of the last part of the FGDs. The following issues were discussed:

- The importance of learning/teaching the Tagoi language.
- How will the Tagoi people benefit from orthography?
- How will orthography help in maintaining Tagoi identity and culture?
- Will Tagoi be used in writing letters, e-mails, SMS, articles, books, newspapers and songs?
- Would they like to read in Tagoi?
- How will the Tagoi alphabet be taught and spread among the community?
- How will Tagoi be used in writing?

All the participants agreed on the importance of learning/teaching Tagoi language for different reasons: maintaining culture, heritage and identity. The Nuba Mountain armed conflict that started in 2011 was a turning point for the Tagoi people. It helped in raising Tagoi awareness of the necessity of learning their language for security reasons. They talked about the grievous experiences they had come across during the Nuba Mountain armed conflict. Knowing the Tagoi language was a matter of safety then. They told many stories about girls who were kidnapped and raped by the militias because they did not understand the warning to hide before the arrival of the militias when it was said to them in the Tagoi language. They emphasized the role of this war in drawing Tagoi attention to the importance of knowing their language.

Education in Arabic was the main reason for language shift to Arabic among Tagoi, as assumed by the participants. As previously mentioned, language is a central component of identity and helps determine how people see themselves

as a part of the national context. The language of instruction in schools is one of the vehicles through which these identities are established. Is the situation not only a language shift, but instead an indicator of an identity change or shift?

Speaking Tagoi was a stigma and not stylish, as was explained by the participants, but now the majority of them show their pride in being Tagoi and have expressed their need to know and speak the Tagoi language. This view indicates a change in belief for the sake of the promotion of the Tagoi language and culture.

The Tagoi language will be used for writing Tagoi oral history, oral traditions, songs, folktales, etc. when it is learned, and the language will be used in day-to-day communication among Tagoi, collecting traditional songs and stories, spreading information among the Tagoi community and creating literature and a website. Therefore, it could become their way of reconstructing their ethnic identity and collecting their fragmented cultural elements.

The Tagoi alphabet could be the first step in a long journey, as stated by Mohammed Ahmed Eisa in the presentation he made on 29 October 2016 at the University of Khartoum's Department of Linguistics. The Tagoi alphabet might be used and spread among Tagoi people through different channels: establishing schools for Tagoi to teach the language, summer courses, evening lessons, etc. He expressed Tagoi people's need for two further projects: one for syllabus development guided by certain plans and another for learning and teaching of the Tagoi language. The main objective of these projects is to develop an integrated syllabus for the teaching and learning of the Tagoi language, in an easy way that can be managed by the target groups (Tagoi people, researchers and other interested groups). The expected outcomes of this project, as stated by Mohammed Ahmed Eisa, are: a complete package of Tagoi language documentation, teaching and learning of the Tagoi language, facilitating communications (in Tagoi) between the community members, using the Tagoi language to express Tagoi culture, preserving the Tagoi identity, maintaining the community's privacy and preparing Tagoi people for managing their cultural diversity. Then a detailed description of the integrated Tagoi syllabus was given; its components, main guidelines, design, logic, means of teaching, resources, and the learning committee and its roles. This presentation is a reflection of Tagoi perspectives and gives a summary of their future expectations. It shows their readiness for starting to take serious steps towards language and culture revitalization. The question posed here is: Will the formal learning of the Tagoi language help in reviving the Tagoi ethnic identity, which could lead to the retrieval of spoken language?

## 2.5 Summary of the main findings

This section presents a summary of the findings reached and their implications, as well as some recommendations.

- The Tagoi community is undergoing serious changes that can be understood within the historical context of the area and that negatively affect the situation of the Tagoi language as one of the Sudanese endangered languages.
- Among the factors affecting the situation of the Tagoi language are: migration, religion, education and the attitudes that accompany them, the Nuba Mountains armed conflict, and the impact of living in an ethnically heterogeneous area.
- The Tagoi language is the basic marker of the Tagoi ethnicity and identity. Its being the basic means of preserving Tagoi culture, heritage and identity increases the importance of revitalizing of the Tagoi language.
- The participants' preference to be identified as Tagali or Sudanese rather than Nuba supports the importance of Islam to the Tagoi people. Religion in the form of Islam is one of the most important factors in the transformation of the Tagoi community and their adoption of Islamic traditions and practices.
- The distinctive Tagoi culture does not appear clearly; instead, Tagoi people emphasized their adoption of the 'national' Sudanese culture, which is influenced by the economically, politically and socially dominant riverain Arabic-speaking ethnic groups. The reasons behind this may be the historical circumstances of the area, which have led to socioeconomic and political transformations among the Tagoi. Their close contact with other groups has created shared cultural elements among them all; besides this, their migration to more secure areas, due to the armed conflict, has led to their integration within the national Sudanese frame.
- The Nuba Mountains armed conflict (which started after the independence of South Sudan in July 2011) has helped in creating new awareness of the importance of the Tagoi language for the Tagoi people and their safety.
- Developing an orthography for the Tagoi language could be the first step in preserving Tagoi heritage, culture and identity. In addition, they show their readiness to begin taking serious steps towards language and culture revitalization.

## 3 Conclusion and recommendations

The information on the project considering the learning and teaching of Tagoi has been updated by asking Mohammed Ahmed Eisa, a member of the Tagoi

community, what has happened since the time of the focus group discussions (4 years ago). Did they teach the Tagoi language? How?

He said:

Following the publication of the alphabet book, we developed an application in relation to this book. The application depicted the contents of the book in a sort of an attractive (click and get a response) format, so that when a letter is clicked, you can hear its sound and when you click the picture, the application pronounces the name of that picture or the action represented by it. Along with that, we also developed an electronic dictionary showing the meaning of Tagoi words in both English and Arabic languages.

We subscribed for one year to Google store (GS) and uploaded the application in (GS) so that it can be available for the Tagoi community. Unfortunately, the year time of subscription lapsed 3 years ago and as we cannot renew it (because payment in the hard currency), then the access to the application was denied by Google store (blocked).

This study recommends the necessity of:

- Activating and developing the application of the alphabet book.
- Encouraging the two-phase project proposed by the Tagoi community.
- Starting revitalization steps for the Tagoi language and culture, which could begin with the alphabet book.
- Raising Tagoi awareness of the importance of knowing and using the Tagoi language and culturally behaving as a distinctive group.
- Documenting and recording of the oral history and heritage of the Tagoi.
- Establishing associations and organizations that will help in maintaining the Tagoi language and culture.

## References

- Alamin, Suzan. 2015. The Tagoi pronominal system. *Occasional Papers in the Study of Sudanese Languages* 11. 17-30.
- Ali, Osman Mohamed Osman. 2016. Conflict with others at a bleeding frontier: The case of Tagoi in the northeastern Nuba Mountains – Sudan. *Égypte monde arabe* 14. 113-136. <https://doi.org/10.4000/ema.3634>
- Ali, Osman Mohamed Osman. 2017. An Islamised, Arabised alterity: A story of social change among the Tagoi in the north-eastern Nuba Mountains, Sudan. In Leif Manger (ed.), *On War and Insecurity, Survival and Development in South Kordofan: Contributions from regional Universities*, 67-101. Bergen: Chr. Michelsen Institute.
- Baker, Colin. 1992. *Attitudes and Language* (Multilingual Matters 83). Cleveland, Philadelphia & Adelaide: Multilingual Matters.

- Dimmendaal, Gerrit. 2018. Reconstructing Katloid and deconstructing Kordofanian. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Languages Studies – New Insights*, 383-415. Cologne: Rüdiger Köppe.
- Eberhard, David M., Gary F. Simons & Charles D. Fennig (eds.). 2024. *Ethnologue: Languages of the World*. Twenty-seventh edition. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>
- Elles, R. J. 1935. The Kingdom of Tagali. *Sudan Notes and Records* 18 (1). 1-35.
- Enninger, Werner. 1991. Linguistic markers of Anabaptist ethnicity through four centuries. In James R. Dow (ed.), *Language and Ethnicity*, 23-60. Amsterdam & Philadelphia: John Benjamins.  
<https://doi.org/10.1075/z.fishfest2>
- Greenberg, Joseph. 1963. *The Languages of Africa*. The Hague: Mouton.
- Holt, Mike. 1996. Divided loyalties: Language and ethnic identity in the Arab world. In Yasir Suleiman (ed.), *Language and Identity in the Middle East and North Africa*, 11–24. London & New York: Routledge.
- Isajiw, Wsevolod. 1979. *Definitions of Ethnicity*. Toronto, ON: Multicultural History Society of Ontario.
- James, Wendy. 1979. 'Kwanim Pa.' *The Making of the Uduk People: The Ethnographic Study of Survival in the Sudan-Ethiopian Borderlands*. Oxford: Clarendon.
- Komey, Guma Kunda. 2008. The autochthonous claim of land rights by the sedentary Nuba and its persistent contest by the nomadic Baggāra of South Kordofan. In Richard Rottenburg (ed.), *Nomadic-Sedentary Relations and Failing State Institutions in Darfur and Kordofan (Sudan)*. *Orientwissenschaftliche Hefte* 26. 103-129.
- Komey, Guma Kunda. 2009. Autochthonous identity: Its territorial attachment and political expression in claiming communal land in the Nuba Mountains region, Sudan. In Roxana Kath & Anna-Katharina Rieger (eds.), *Raum – Landschaft – Teritorium, Zur Konstruktion physischer Räume als nomadischer und sesshafter Lebensraum*, 205-228. Wiesbaden: Reichert.
- Kövecses, Zoltan. 2010. Metaphor, language, and culture. *D.E.L.T.A.* 26. 739-757. <https://doi.org/10.1590/S0102-44502010000300017>
- Krueger, Richard A. & Mary Anne Casey. 2000. *Focus Groups: A Practical Guide for Applied Research*. 3<sup>rd</sup> ed. Thousand Oaks, CA: Sage Publications.
- Liu, Dayan. 2012. Translation and culture: Translating idioms between English and Chinese from a cultural perspective. *Theory and Practice in Language Studies* 2 (11). 2357-2362.

- Liu, Yu, Mei Zhang & Qian Yin. 2014. Challenges in intercultural language education in China. *Canadian Social Science* 10 (6). 38-46.
- Obeng, Samuel Gyasi & Tristan Purvis. 2010. Sub Saharan Africa. In Joshua A. Fishman & Ofelia Garcia (eds.), *Handbook of Language and Ethnic Identity: Disciplinary and Regional Perspectives*, 374-393. Oxford: Oxford University Press.
- Omer, Alhaj Bilāl. 1998. al-Hawiyya al-Sūdāniyya bayn al-CAurubiyya wa al-Islāmawiyya wa al-Afrigāniyya (Sudanese Identity between Arabism, Islamization and Africanism), in al-Hawiyya al-Sūdāniyya: al-Muḥadiddāt, al-Ishkōlāt, Miqawwimāt al-Wiḥda, in: Silsilat Awrāq Istirātījiyya (Strategic Papers series), Markaz al-Dirasāt al-Istirātījiyya (Centre of Strategic Studies), Khartoum.
- Manger, Leif O. 2007. Ethnicity and post-conflict reconstruction in the Nuba Mountains of the Sudan: Processes of group-making, meaning production, and metaphorization. *Ethnoculture* 1.72-84.
- Metz, Helen Chapin (ed.). 1991. *Sudan: A Country Study*. Washington: GPO for the Library of Congress.
- Nashid, Sawsan Abdel Aziz Mohammed. 2014. *The sociolinguistic situation in Northern Bahr el Ghazal State (South Sudan): A case study of Aweil Town*. Khartoum: University of Khartoum dissertation.
- Schadeberg, Thilo C. 1981. *A Survey of Kordofanian. Volume 2: The Talodi Group*. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. 2013. Rashad survey data. In Roger M. Blench and Thilo C. Schadeberg (eds.), *Nuba Mountain Language Studies*, 325-345. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. & Philip Elias. 1979. *A description of the Orig language (Southern Kordofan) based on the notes of Fr. Carlo Muratori*. Tervuren: Musée Royal De L'Afrique Centrale.
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimaḡ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Stevenson, Roland C. 1962. Linguistic research in the Nuba Mountains – I. *Sudan Notes and Records* 43: 118-130.
- Stevenson, Roland C. 1989. Ethnicity, diversity and conflict – some factors in the Nuba Mountains. In Sayed Hamid Hurreiz & Elfatih Abdullahi Abdelsalam (eds.), *Ethnicity, Conflict and National Integration in the Sudan*, 186-207. University of Khartoum: I.A.A.S.
- Suliman, Mohamed. 2002. Resources access, identity and armed conflict in the Nuba Mountains, Southern Sudan. In Günther Baechler, Kurt R. Spillmann & Mohamed Suliman (eds.), *Transformation of Resource Conflicts: Approach and Instruments*, 163-183. Bern: Peter Lang.

- Swann, Joan, Rajend Mesthrie, Ana Deumert & Theresa M. Lillis. 2004. *A Dictionary of Sociolinguistics*. Edinburgh: Edinburgh University Press.
- Wardhaugh, Ronald. 2002. *An Introduction to Sociolinguistics* (Fourth Ed.). Malden, MA: Blackwell.
- Yağiz, Oktay & Siros Izadpanah. 2013. Language, culture, idioms, and their relationship with the foreign language. *Journal of Language Teaching and Research* 4 (5). 953-957.



At the Omdurman market (photos: Gertrud Schneider-Blum, February 2019)

# Plural suffixes on Tagoi nouns

*Abeer Bashir*

## 1 Introduction

The Rashad language Tagoi exhibits a complex system of nominal plural suffixes. There are basically three suffixes,  $-(V)t$ ,  $-(V)n$  and  $-tVn$ , which show up in fifteen allomorphs:  $-t$ ,  $-at$ ,  $-ɔt$ ,  $-it$ ,  $-et$ ,  $-ɔt$ ;  $-n$ ,  $-an$ ,  $-en$ ,  $-ɔn$ ,  $-in$ ;  $-tan$ ,  $-tin$ ,  $-ten$  and  $-tɔn$ . A number of phonological environments interact and affect the alternation and selection of these suffixes. The first is vowel harmony, in which the vowel of the suffix is either controlled by the stem's low/non-low vowel or we find a dominant vowel suffix which raises the preceding stem vowels. Second, the noun stem selects suffixes due to the size of the stem, whether mono-, di- or polysyllabic, and due to the shape of the final syllable, i.e., its weight (open or closed), vowel length (short or long), vowel quality (low or non-low) and tone (H or L). The present contribution identifies the nominal plural suffixes and tries to determine the patterns for their environments. Thus, in Pattern I we find  $-(V)t$ , used for nouns with a stem-final syllable with a high-toned vowel. Pattern II, characterized by the morpheme  $-(V)n$ , includes nouns with a low-toned stem final syllable. While the former two can thus easily be distinguished, Pattern III, with the suffix  $-tVn$ , occurs with nouns whose singular form ends with a high- or low-toned syllable. The decisive distinguishing factor is the shape of the final syllable, which must be closed when it has a long vowel. Variation within the three patterns will be explained more broadly by further conditioning features.

The present analysis elaborates on noun morphophonology, and specifically on nominal suffix allomorphy. Obviously, the plural suffixes  $-(V)t$ ,  $-(V)n$ ,  $-tVn$  and their allomorphs have independent phonological forms, but the selection and alternation of the suffix and its vowel is more often than not conditioned by several phonological attributes interacting in the singular noun stem.

The contribution consists of six sections. The remainder of the introduction gives some background information on the language (SECTION 1.1), as well as a review of the existing literature concerning Tagoi (SECTION 1.2). In SECTION 2 I give a brief account of Tagoi vowels, their distribution in nouns and vowel length. An

account on the syllable structure and the syllable weight of Tagoi nouns is presented in SECTION 3. Tone and its distribution on nouns is dealt with in SECTION 4. A detailed discussion of suffix alternation is given in SECTION 5, with three subsections going into detail regarding the main patterns analysed. A summary and conclusion are given in SECTION 6.

### 1.1 Background information

Tagoi is a Niger-Congo language of the Nuba Mountains of Sudan, spoken to the west of Rashad town. It has a noun class system that constitutes seven noun class pairings (13 single classes), including six noun class pairings plus a single class for liquids and abstract nouns. Most nouns have number-paired prefixes, singular and plural, replacing each other in the noun root. The assignment of nouns to the class is based on the prefix agreement evidence and semantics (Stevenson 1956/57, Corbett 1991, Bashir 2018). For example, when an adjective, e.g., *-òtró* ‘big’, modifies the noun *k-ùh/h-ùh* ‘bone/s’, the adjective takes an agreement prefix that belongs to the same noun class: *k-ùh k-òtró* ‘big bone’ for singular and *h-ùh/h-òtró* ‘big bones’ for plural. Further, nouns share some semantic features according to which they are classified into the semantic classes: animates, unit/collective and roundish things, common objects, long things, pointed and outstanding things, and diminutive, liquid and abstract nouns (Bashir 2018: 5). The noun prefixes thus signify number and determine the noun class membership.

In addition to prefixes, most Tagoi nouns mark plural with suffixes. The suffix marks countable nouns and is added to plural nouns with a plural prefix, as a general tendency of Tagoi speakers to ensure and enforce plurality and distinguish countable nouns from mass/collective nouns. Regarding countability, Tagoi nouns are classified into countable nouns and mass/collective nouns. Countable nouns have either double marking for plural, i.e., they are marked with a prefix and a suffix, e.g., *k-áy/h-áy-at* ‘head/s’, or are prefixless, i.e., they are only marked by a suffix, for instance, *màfót/màfót-tàn* ‘cat/s’ (see also Bashir 2018). Mass nouns/collectives are marked with a prefix only, for example, *k-àm/h-àm* ‘hair’ (Bashir, in preparation). The present contribution concerns the suffixation of countable nouns.

### 1.2 Literature review

The use of suffixes in plural formation is widespread throughout the group of Rashad languages, including Tagoi. Stevenson assumed that suffixes, not prefixes, were the fundamental method of plural formation (1964: 86) and that prefixation is a later acquisition in the Tagoi language. He mentioned that there are many plural suffixes in Tagoi and reported among them *-in*, *-at* and *-ot* (1964: 85). The present description also identifies these three suffixes, but with more

vowel variants. In addition, one more suffix, *-tVn*, not reported by Stevenson, is identified. The various types of Tagoi plural suffixes pointed out by Stevenson, and noticed later by the present author, are the focus of the present contribution.

Earlier work and materials on the Rashad (Tegali-Tagoi) languages are still scanty and many points await further investigation. In his comprehensive survey of the phonetics and grammatical structure of the Nuba Mountain languages (1956/57), Stevenson pointed out general linguistic characteristics of the Rashad language group, including Tagoi. I review here only those of relevance to our topic, i.e., vowels (SECTION 2), syllable structure (SECTION 3) and tone (SECTION 4).

Concerning vowels, Stevenson (1956/57: 46f.) reported five vowel qualities: *a*, *e*, *i*, *o*, *u*, and the neutral vowel *ə*. Most vowels, as he says, are also attested “with lax or short varieties [...], particularly in unstressed syllables where they are also often lost or represented by some kind of neutral vowel whose quality is not always easily determined. The neutral vowel (*ə*) also occurs in stressed positions.” The present contribution attests ten vowels, including the neutral vowel. The vowels are distinguished, however, as low vs. non-low vowels (see SECTION 2). Stevenson mentioned that vowels may be short or long but no data supporting the existence of length contrast is recorded. The present analysis provides evidence for vowel length contrast (see SECTION 2.2). Most roots are monosyllabic or disyllabic, as also reported by Stevenson (1956/57: 47). For more details see SECTION 3.

Concerning tone, as cited by Stevenson (1956/57: 47), Mr. and Mrs. MacDiarmid (1931) recorded tone in Moreb, but Meinhof (1916) found no trace of tone in Tagoi. Stevenson (1956/57: 47) himself doubted whether tone exists or, “apart from stress, plays an important role” in Rashad languages. However, data in the present contribution show evidence in favour of tone rather than stress, as will be discussed in SECTION 4.

The present contribution is part of ongoing research on the Tagoi language that started in 2012.<sup>1</sup> Data are obtained from a database containing more than 800 nouns and a number of sentences collected during several periods between 2012

---

<sup>1</sup> The research on the phonology and the morphology of the Tagoi language was conducted in 2011-2012 by the present researcher and Suzan Alamin. In addition, a sociolinguistic survey conducted by Helene Fatima Idris provided facts about the sociolinguistic situation and the degree of language endangerment among the Tagoi people. The research was part of a program funded by ELDP. The outputs are sociolinguistic data, a wordlist file containing more than 200 nouns, and audio files documenting numerals, adjectives and the paradigms of some verbs. In addition, a Toolbox file (224 records) of one of the stories was produced. All these files are archived in the Endangered Language Archive, ELAR (see information on the project at <https://www.elararchive.org/dk0126>).

and 2022. Data were elicited and recorded directly from four adult male language consultants.<sup>2</sup> This research aims to fill certain gaps in the systematic description of the Tagoi language. So far, a description of the pronominal system (Alamin 2015), the noun classes (Bashir 2018), word order and agreement (Alamin 2020) and a study on birth names (from a linguistic and socio-historical perspective) (Bashir & Ali 2024) have been published. In addition, an initial description of Tagoi vowel harmony by Bashir & Rose (2024) has been published. Other work regarding nominal and verbal aspects of the language is still in preparation.<sup>3</sup>

## 2 Tagoi vowels

The inventory of Tagoi vowels (TABLE 1) shows eight vowels with four height levels whose phonemic status is undoubted: high /i, u/, mid-high /e, ʌ, o/, mid-low /ɛ, ɔ/ and low /a/. There are three positions: front /i, e, ɛ/, central /ʌ, a/ and back /u, o, ɔ/. In addition, all vowels are distinguished in terms of the feature [round]. As discussed below, on a systematic level, low vs. non-low vowels are distinguished, which shows in the formation of affixes.

		FRONT UNROUNDED	CENTRAL UNROUNDED	BACK ROUNDED
non-low	high	i	[i]	u
	mid-high	e	[ə] ʌ	o
low	mid-low	ɛ		ɔ
	low		a	

TABLE 1: Tagoi vowel inventory

In addition to the eight vowels, there is a weak vowel [ə] that appears as a reduced version of a short vowel of a light open syllable, e.g., /cárám/ [cərá:m] ‘single twin’, /fálhánét/ [fəhánét] ‘elephants’. Another central vowel is [i], whose phonemic status is not clear. It never occurs with other vowels in the same root, nor does it appear as an affix vowel. It is attested in a few nouns, e.g., *yáír* ‘back’, *wígír* ‘waist’. With some lexemes, it is in variation with /ʌ/; for example, /táf/ ‘roots of Daleeb tree’ and /hár/ ‘oil’ are pronounced by some speakers as

<sup>2</sup> I express my sincere gratitude to the Tagoi language community and language committee, led by Mohamed Ahmed Adam and Hassan Hussein. My special thanks go to the principal speakers who contributed to the present research: Al-Gideel Yasin Bushara, Ahmed Boch and Abdelgadir Osman Ibrahim. I also pray for Daood Amaara, who passed away in 2017. He gave most of the data for this contribution. May Allah rest him in peace.

<sup>3</sup> Papers currently in preparation are: ‘Arabic loan words in Tagoi’ (Abeer Bashir & Helene Fatima Idris), ‘Countable and mass/collective nouns of Tagoi’ (Abeer Bashir) and ‘Tagoi verb structure’ (Abeer Bashir).

[tíf] and [ɲír], respectively. It might be too early yet in this initial description to judge whether [i] is a phoneme with restricted distribution or an allophone of /ʌ/. Due to its unclear status, it is presented in phonetic brackets in the vowel inventory. However, with the lexemes used in the remainder of the contribution, it is treated as a phoneme. Data in the present contribution will be presented in phonemic transcription; bracketing notations, i.e., square brackets or slashes, are only used where necessary. Evidence for the phonemic status of the eight vowels presented in TABLE 1 is shown in TABLE 2.

	TAGOI	ENGLISH GLOSS
i, ʌ, a	<i>tíf</i>	‘remains of honey after filtering’
	<i>táf</i>	‘roots of Daleeb tree’
	<i>táf</i>	‘remains of sesame oil after filtering’
e, u, i	<i>ɲéer</i>	‘animal sp.’
	<i>ɲúur</i>	‘heart’
	<i>kùt</i>	‘animal sp.’
	<i>wít</i>	‘guinea fowl’
o, ɔ	<i>wór</i>	‘kadat tree’
	<i>wòr</i>	‘baobab tree’
e, ε	<i>téetʌn</i>	‘grinder’
	<i>téekán</i>	‘leg’

TABLE 2: Evidence for the phonemic status of vowels

### 2.1 Distribution of vowels in a noun stem

In a noun (also verb and adjective) stem, Tagoi vowels are distributed in two distinct sets. Only vowels of the set /i, e, ʌ, o, u/ or the set /ε, a, ɔ/ are allowed to group in a stem. This distribution into two sets suggests a distinction based on either ATR or height features. One could say that this might be a mid-height (incomplete) ATR vowel harmony system in which the vowel inventory lacks the vowels *ɪ*, *ʊ* and mid vowels of different heights do not co-occur (Rolle & Orié 2024). However, mid vowels that are described as mid-high co-occur with high vowels, e.g., *yibó* ‘knee’ and *kɪtrú* ‘pig’. In addition, the vowels of affixes alternate in terms of the [height] rather than [ATR] feature. Consider, for instance, *wòr* ‘baobab’ vs. *yùr-in* ‘baobabs’, where the high vowel of the suffix /i/ raises the mid-low vowel /ɔ/ to the high vowel /u/. Affix vowels may also alternate to match the height feature low /ε, a, ɔ/ vs. non-low /i, e, ʌ, o, u/ of the stem vowels (see also Bashir & Rose 2024 for verbal affixes). Compare the examples in TABLE 3.

	TAGOI	ENGLISH GLOSS
low vowels	<i>yáŋglák-ɔt</i>	‘tongues’
high vowels	<i>ŋùur-ét</i>	‘hearts’

TABLE 3: Height variation of affix vowels

In the examples presented in TABLE 3, the vowel of the plural suffixes *-ɔt* and *-et* are not high counterparts of their stem vowels, /a/ and /u/ respectively. Nevertheless, they are selected to match the general height of the stem vowel, i.e., low /ɔ/ with low /a/ and non-low /e/ with non-low /u/. The Tagoi vowel inventory thus shows a distinction between low vs. non-low vowels in terms of their distribution.

The distribution of vowels into two sets is further illustrated in TABLE 4 and TABLE 5. In the former, non-low vowels, including high /i, u/ and /í/ and mid-high /e, o/, pattern together, whereas low vowels, including mid-low /ɛ, ɔ/ and low /a/, occur in the same stem, as shown in TABLE 5. In either group, a stem may also have vowels of the same quality.

	TAGOI	ENGLISH GLOSS
i, o	<i>yìbó</i>	‘knee’
i, u	<i>kìirú</i>	‘ostrich’
i, e	<i>kìbé</i>	‘fire’
	<i>tíinǰén</i>	‘tooth’
e, o	<i>kòomé</i>	‘bee’
ʌ, o	<i>yʌmʌrgó</i>	‘kidney’
	<i>cʌllʌróh</i>	‘bride’
	<i>kʌtóɹ</i>	‘tooth gum’
ʌ, u	<i>kʌʌrú</i>	‘wild buffalo’
	<i>kʌtúm</i>	‘corner stone’
	<i>kʌʌbú</i>	‘beard’
same	<i>kíppíɿ</i>	‘plant sp.’
vowel	<i>kíríɿ</i>	‘strength, power’
	<i>fííɿ</i>	‘aroma’
	<i>yìmri</i>	‘navels’
	<i>kèɹèè</i>	‘belly’
	<i>cóorón</i>	‘polecat sp.’
	<i>tʌmʌŋ</i>	‘breast’
	<i>ŋùurù</i>	‘small black ants’

TABLE 4: Noun stems with non-low vowels

	TAGOI	ENGLISH GLOSS
ɔ, a	<i>pɔ̀nàan</i>	‘Aradeeb tree’
a, ε	<i>kárbéet</i>	‘fox’
ɔ, ε	<i>kɔ̀wéer</i>	‘animal sp.’
same	<i>kèjèt</i>	‘man’
vowel	<i>fàràan</i>	‘cow’
	<i>kàfɔ̀</i>	‘tree’

TABLE 5: Noun stems with low vowels

## 2.2 Vowel length

Tagoi has short and long vowels. A short vowel constitutes one vowel/mora while the long vowel is two vowels/moras. A contrast between short and long vowels is attested, as shown in the monosyllabic and disyllabic lexemes in TABLE 6. The first pair, *yéw* ‘place’ vs. *yéew* ‘insect sp.’ deserves special attention, since, here, even the tone does not differ, which is proof that the length of a vowel does not correlate with the tonal pattern. The contrast between short and long vowels is more than just a lexical distinction, since it plays, in addition, a significant role in distinguishing (together with tone) the formal prosodic structure of the Tagoi noun. That is, the distinction between short vs. long vowels functions effectively in the morphophonemic processes of plural formation and plural suffix alternation, as discussed in SECTION 5. It is convenient, thus, to talk about short vs. long syllables rather than short vs. long vowels in Tagoi.

TAGOI	ENGLISH GLOSS	TAGOI	ENGLISH GLOSS
short V		long V	
<i>yéw</i>	‘place’	<i>yéew</i>	‘insect sp.’
<i>níŋ</i>	‘children’	<i>niiŋ</i>	‘charcoal’
<i>wábán</i>	‘cedar tree’	<i>wáabàl</i>	‘Kikir tree’

TABLE 6: Contrastive vowel length

## 3 The syllable structure and syllable weight of nouns

A Tagoi syllable may consist of a vowel only, and may also have one of the following structures: VV, VC, CV, CVV, CVC, CVVC, CCV and CCVC. Examples of syllable types are shown in TABLE 7. The structure given in the second column of TABLE 7 refers to the first syllable of the words presented.

SYLLABLE WEIGHT	SYLLABLE STRUCTURE (FIRST SYLLABLE)	TAGOI	ENGLISH GLOSS
light	V	<i>à.rám</i>	‘five’
	VC	<i>èn</i>	‘is’
	CV	<i>nì.kán</i>	‘we’
heavy	VV	<i>àa.rám</i>	‘four’
	CVV	<i>jàe.réy</i>	‘six’
	CVC	<i>kón</i>	‘house’
	CVVC	<i>kòor</i>	‘Daleeb tree’
	CCV	<i>ndè</i>	‘go’
	CCVC	<i>mbàt</i>	‘goat’

TABLE 7: Tagoi syllable types

Syllables with the onset cluster CCV(C) are attested in a few monosyllabic words, as listed in TABLE 8. The cluster consists of a nasal and a plosive. Further research may reveal whether we are indeed dealing with prenasalized consonants.

TAGOI	ENGLISH GLOSS
<i>mbàt</i>	‘goat’
<i>ndàŋ</i>	‘in’
<i>ndè</i>	‘go’

TABLE 8: Monosyllables with an onset cluster

In terms of syllable number, inflected nouns may have up to four syllables. A singular noun stem may have one, two or three syllables; it may have four syllables if a suffix is added, e.g., the plural marker. See the examples in TABLE 9.

	TAGOI	ENGLISH GLOSS
monosyllabic	<i>wàr</i>	‘baobab tree’
disyllabic	<i>kì.bé</i>	‘fire’
trisyllabic	<i>kà.bà.làŋ</i>	‘leopard’
four syllables	<i>hù.bù.lù.ŋìn</i>	‘leopards’

TABLE 9: Number of syllables exemplified with nouns

#### 4 Tone on Tagoi nouns

The issue of prosodic pitch, whether tone or stress, in Tagoi (or in other Rashad languages) has been the subject of different opinions. As reported by Stevenson (1956/57: 47), Mr. and Mrs. MacDiarmid reported tone in Moreb, but Meinhof

(1916) and Stevenson denied the existence and the significant role of tone in Tagoi. Stevenson instead claims that stress plays a marked role and may be responsible for grammatical and lexical contrast in Tagoi (Stevenson 1956/1957: 47; 1964: 86). The present contribution, however, attests evidence of a two-tone pitch contrast between high (H) and low (L) in monosyllabic and disyllabic nouns. Thus, it might be that Stevenson noticed the pitch distinction but he attributed it to stress. Evidence of the contrast between the two tone pitches is in TABLE 10.

	TAGOI	ENGLISH GLOSS	TAGOI	ENGLISH GLOSS
monosyllabic	<i>wər</i>	‘baobab tree’	<i>wór</i>	‘Kadat tree’
	<i>cór</i>	‘orphan’	<i>còr</i>	‘moon’
	<i>ɲór</i>	‘basin’	<i>ɲòr</i>	‘baobab fruits’
disyllabic	<i>ɲámλn</i>	‘local herbs’	<i>ɲímín</i>	‘sorghum’
	<i>yátár</i>	‘back’	<i>yátλár</i>	‘nose’
	<i>kòɔ́ɔ̀m</i>	‘flea’	<i>kátóm</i>	‘tooth gum’

TABLE 10: Tonal contrast with mono- and disyllabic lexemes

A few singular nouns seem to mark their plural mainly with tone, i.e., LL > LH, as shown in TABLE 11. However, whether these nouns present evidence for grammatical tone remains doubtful, since, first, in most cases we also find number marking prefixation and, second, the length of the final vowel also alters. That is, instead of tone marking, the length of the vowel may be responsible for number marking, as may the prefix. All the nouns in TABLE 11 have a final long vowel carrying a low tone in the singular, while the vowel is short and high-toned in the plural.

TAGOI SG	TAGOI PL	ENGLISH GLOSS
<i>kɔ́fɔ̀</i>	<i>hɔ́fɔ́</i>	‘tree/s’
<i>kibii</i>	<i>hibí</i>	‘prayer mat/s’
<i>kimèè</i>	<i>himé</i>	‘stomach/s’
<i>yátλár</i>	<i>ɲátár</i>	‘nose/s’
<i>kλhλλɲ</i>	<i>ɲλhλɲ</i>	‘elbow/s’

TABLE 11: Tonal contrast used with singular vs. plural marking

Recall that Tagoi has short and long vowels; both vowel/mora types bear tone. In a long syllable, the two vowels bear the same tone, either HH or LL, i.e., contour tones are phonemically non-existent; see the examples presented in TABLE 12 (but see TABLE 13 for phonetically falling tones).

TAGOI (SHORT V)	ENGLISH GLOSS	TAGOI (LONG V)	ENGLISH GLOSS
<i>cíŋ</i>	‘child’	<i>cín</i>	‘rabbit’
<i>yán</i>	‘sun/day’	<i>tàwáan</i>	‘rope’
<i>cór</i>	‘orphan’	<i>córàt</i>	‘hartebeest’
<i>còr</i>	‘moon’	<i>kàtòràk</i>	‘hen’
<i>kàmlàa</i>	‘camel’	<i>hàmlàan</i>	‘camels’
<i>wìt</i>	‘guinea fowl’	<i>ŋìjŋ</i>	‘charcoal’

TABLE 12: Tonal marking on short vs. long vowels

Phonetically, we find the falling tone HL on long syllables word finally, never with monosyllables. The falling HL tone is interpreted as a realization of level tones in the word-final position, but is not considered to have phonemic status. The rising tone on long vowels is not attested at all. Examine the following examples in TABLE 13.

PHONEMIC TRANSCRIPTION	PHONETIC TRANSCRIPTION	ENGLISH GLOSS
<i>tíwéer</i>	[tíwéèr]	‘butterfly’
<i>kàbàaŋ</i>	[kàbáaŋ]	‘side’
<i>kùtòor</i>	[kùtòòr]	‘shield’

TABLE 13: Phonemic vs. phonetic transcription

As we will see in SECTION 5, vowel length, syllable structure and tone, among other things, may play a role in the formation of plural marking.

## 5 Alternation and selection of nominal plural suffixes

Several factors, though in principle independent, all interact in a complex plural allomorphy process. For instance, vowel harmony with the stem vowels influences the choice of the suffix vowel. In other cases, though, the suffix vowel is dominant and alters the stem vowel. The size of the singular stem (mono-, di- or polysyllabic), the shape of the final syllable of the singular noun, i.e., its weight (open or closed), its vowel length (short/long), vowel quality (low/non-low), and tone (H or L) also matter regarding plural allomorphy.

Recall that there are basically three noun plural suffixes in Tagoi:  $-(V)t$ ,  $-(V)n$  and  $-tVn$ . These suffixes show up in 15 variants, as shown in TABLE 14.

LOW VS. NON-LOW	SUFFIX TYPE	SINGULAR	PLURAL	GLOSS	VARIANT
root-controlled suffixes					
low	-(V)t	<i>káy</i>	<i>káy-àt</i>	‘head/s’	<i>-at</i>
low		<i>kájár</i>	<i>hájár-ót</i>	‘mouth/s’	<i>-ot</i>
non-low		<i>kút</i>	<i>hút-àt</i>	‘animal sp. (SG/PL)’	<i>-At</i>
non-low		<i>wíin</i>	<i>yíin-ét</i>	‘snake/s’	<i>-et</i>
n/a		<i>ηέτέε</i>	<i>ηέτέε-t</i>	‘brother/s’	<i>-t</i>
low	-(V)n	<i>kàakòy</i>	<i>hàkòy-àn</i>	‘female sheep (SG/PL)’	<i>-an</i>
non-low		<i>wòoh</i>	<i>yòoh-àn</i>	‘monkey/s’	<i>-An</i>
non-low		<i>wùut</i>	<i>yùut-én</i>	‘bird/s’	<i>-en</i>
n/a		<i>yéηηórèe</i>	<i>ηéηηórèe-n</i>	‘walking stick/s’	<i>-n</i>
low	-tVn	<i>wòròoy</i>	<i>yòròoy-tàn</i>	‘person/s from Toroy area’	<i>-tan</i>
non-low		<i>kójóor</i>	<i>hójóor-tàn</i>	‘shield/s’	<i>-tAn</i>
non-low		<i>tíwéer</i>	<i>yíwér-tèn</i>	‘butterfly/ies’	<i>-ten</i>
dominant suffixes					
n/a	-Vt	<i>kón</i>	<i>hún-ìt</i>	‘house/s’	<i>-it</i>
n/a	-Vn	<i>wòy</i>	<i>yùwùy-in</i>	‘male goat/s’	-in
n/a		<i>wìt</i>	<i>yìt-in</i>	‘guinea fowl/s’	
n/a	-tVn	<i>tàwàan</i>	<i>yèwè-tìn</i>	‘rope/s’	<i>-tìn</i>

TABLE 14: Variants of noun plural suffixes

In terms of their vowels, the suffixes are divided into root-controlled suffixes, i.e., *-(V)t*, *-(V)n* and *-tVn* (other than *-it*, *-in* and *-tìn*). Here, the vowel of the suffix matches with the root vowel in terms of height feature and is realized either as a low or non-low allomorph. If the root ends in a long vowel, as with *yéηηórèe* ‘walking stick’ or *ηέτέε* ‘brother’, we may not find a suffix vowel, as illustrated by their plural forms *ηéηηórèe-n* and *ηέτέε-t*. Other lexemes with a long final vowel behave differently, though, e.g., *yèrìi/ηìrìyèn* ‘coffee pot base’ or *pìkii/fèkìyèn* ‘eyebrow/s’ (see SECTION 5.2.2). Here, the quality of the vowel may play a role in a different kind of suffixing. The remaining three suffixes *-it*, *-in* and *-tìn* are dominant suffixes that raise the height of the preceding vowels.

There are some stem modifications such as vowel deletion and insertion, consonant insertion, metathesis and tonal change to be observed which are not pointed out here, since a detailed discussion of these modifications is beyond the scope of the present contribution and will be dealt with in a different paper.

In SECTION 5.1., I will go into more detail regarding vowel harmony with its two types of suffixes, the root-controlled plural markers and the dominant plural suffixes. In SECTION 5.2, I will consider other factors playing a role regarding the choice of the suffix.

### 5.1 Root-controlled vs. dominant height harmony

Two types of vowel harmony are at work concerning the vowel alternation of the plural suffix and the stem vowels: a root-controlled harmony and a dominant height harmony. In a root-controlled harmony, the vowel of the suffix correlates with the height of the vowels in the stem. If this stem vowel is non-low (/i, ʌ, u, e, o/), the vowel of the suffix is the non-low /i, e/ or /ʌ/ (see TABLE 15). When the stem vowels are low (/a, ε, ɔ/), the vowel of the suffix is the low /a/ or /ɔ/ (see TABLE 16). Exceptions to this rule are the dominant suffixes (*-it*, *-in* and *-iin*), which are all characterized by the vowel /i/ that causes raising of the vowels of the singular noun. Of course, the allomorphs *-t* and *-n*, which only – but not always, as will be shown – occur when the root ends in a vowel, are also not listed here. That is, all in all, ten of the 15 suffixes are affected by root-controlled vowel harmony.

FINAL ROOT VOWEL	TAGOI	ENGLISH GLOSS	REALIZED SUFFIX	ABSTRACT SUFFIX
<i>i</i>	<i>yìn-ét</i>	‘snakes’	<i>-et</i>	
<i>i</i>	<i>yílh-ét</i>	‘animal sp. (PL)’		<i>-Vt</i>
<i>u</i>	<i>hút-àt</i>	‘wild buffalos’	<i>-At</i>	
<i>o</i>	<i>ɲifrótók-àt</i>	‘leopard sp. (PL)’		
<i>e</i>	<i>fěy-èn</i>	‘animals’	<i>-en</i>	
<i>u</i>	<i>yùut-én</i>	‘birds’		<i>-Vn</i>
<i>o</i>	<i>yóor-àn</i>	‘porcupines’	<i>-An</i>	
<i>o</i>	<i>hòor-àn</i>	‘Daleeb trees’		
<i>e</i>	<i>yíwér-tèn</i>	‘butterflies’		
<i>ʌ</i>	<i>yúmʌʌn-tèn</i>	‘lizards’	<i>-ten</i>	
<i>u</i>	<i>ɲúwúy-tèn</i>	‘animal sp. (PL)’		<i>-tVn</i>
<i>o</i>	<i>hùʔòr-tàn</i>	‘shield’		
<i>e</i>	<i>yéyèŋ-tàn</i>	‘wild pig/s’	<i>-tAn</i>	
<i>o</i>	<i>ɲóoc-tàn</i>	‘bladders’		

TABLE 15: Vowel harmony with plurals: non-low allomorphs

FINAL ROOT VOWEL	TAGOI	ENGLISH GLOSS	REALIZED SUFFIX	ABSTRACT SUFFIX
<i>a</i>	<i>háý-àt</i>	‘heads’		
<i>a</i>	<i>hòtáj-àt</i>	‘skulls’		
<i>ε</i>	<i>háréh-át</i>	‘animal sp. (PL)’	<i>-at</i>	
<i>ɔ</i>	<i>ɲèttsók-àt</i>	‘small pots’		
<i>a</i>	<i>pálák-ót</i>	‘big rocks’		<i>-Vt</i>
<i>a</i>	<i>yárát-ót</i>	‘wild cat sp. (PL)’		
<i>ɔ</i>	<i>yólóŋ-ót</i>	‘eagle sp. (PL)’	<i>-ot</i>	
<i>ε</i>	<i>ɲámjén-ót</i>	‘polecats’		
<i>a</i>	<i>hàkòy-àn</i>	‘female sheep (PL)’		
<i>a</i>	<i>ɲàmàn-àn</i>	‘lambs’	<i>-an</i>	<i>-Vn</i>
<i>a</i>	<i>hàmlà-an</i>	‘camels’		
<i>ɔ</i>	<i>màfót-tàn</i>	‘cats’		
<i>ε</i>	<i>hárbét-tàn</i>	‘leopard sp. (PL)’	<i>-tan</i>	<i>-tVn</i>
<i>a</i>	<i>kóhác-tàn</i>	‘old people’		

TABLE 16: Vowel harmony with plurals: low allomorphs

In the dominant height harmony system, the vowel of the suffix raises the preceding low stem vowels (see the examples in TABLE 17). If the root vowel is already high, there is no change. The dominant suffixes are *-it*, *-in* and *-tin*. The selection between them is made based on other conditioning factors (see SECTION 5.2).

TAGOI (NOUN SG)	TAGOI (NOUN PL)	SUFFIX	ENGLISH GLOSS
<i>kón</i>	<i>hún-ìt</i>		‘house/s’
<i>kàaláj</i>	<i>hèlétj-it</i>	<i>-it</i>	‘door/s’
<i>wàan</i>	<i>yèen-ín</i>		‘friend/s’
<i>yàf</i>	<i>ɲèf-in/ɲáf-in</i>		‘concrete stone/s’
<i>wàam</i>	<i>yèem-ín</i>	<i>-in</i>	‘python/s’
<i>wòr</i>	<i>yùr-in</i>		‘baobab tree/s’
<i>wìt</i>	<i>yíd-in</i>		‘Guinea fowl/s’
<i>kàràaŋ</i>	<i>hàrλŋ-tìn</i>		‘deer/s sp. (SG/PL)’
<i>kàbàaŋ</i>	<i>hàbλŋ-tìn</i>		‘side/s’
<i>pójáan</i>	<i>fúján-tìn</i>	<i>-tìn</i>	‘Aradeeb tree/s’
<i>kàmréen</i>	<i>hámrij-tìn</i>		‘hyena/s’

TABLE 17: Height harmony with dominant suffixes

TABLE 18 summarizes the 13 plural suffixes, including both the root-controlled and dominant allomorphs, considering the information presented so far. In SECTION 5.2, more features relevant for the choice of the allomorph will be presented.

SUFFIX	LOW ROOT VOWELS (SG)	ALLOMORPHS	NON-LOW ROOT VOWEL (SG)	ALLOMORPHS
<i>-Vt</i>	/a, ε, ɔ/	<i>-at, -ɔt</i>	/i, ʌ, u, e, o/	<i>-et, -ʌt, -it</i>
<i>-Vn</i>	/a, ε, ɔ/	<i>-an</i>	/i, ʌ, u, e, o/	<i>-en, ʌn, -in</i>
<i>-tVn</i>	/a, ε, ɔ/	<i>-tan</i>	/i, ʌ, u, e, o/	<i>-ten, -ʌn, -tin</i>

TABLE 18: Distribution of allomorphs according to vowel harmony

## 5.2 Selection of noun plural suffixes

Beyond vowel harmony, the shape of the singular noun stem plays a role in the selection of the plural suffixes. Here, we consider the complete noun stem as well as the shape of the stem-final syllable. That is, the size of the noun stem, i.e., whether it is monosyllabic or di-/polysyllabic, controls the selection of some suffixes. Most of the suffixes, however, are selected due to the stem final syllable of the noun denoting singularity. Its weight, and whether it is open or closed, its vowel length, i.e., whether it is short or long, its vowel quality, i.e., whether it has a low or a non-low vowel, and finally its tone, i.e., whether the syllable is high-toned or low-toned, all have their role in suffix selection. We cannot refer to only one or two phonological conditions to predict the selection of a suffix, since several factors interact in the singular noun stem and affect the selection of the plural suffix. That is, the singular stem-final open or closed syllable with a high-toned short or long vowel selects the suffix *-(V)t*, while the open or closed low-toned syllable with a short or long vowel selects the suffix *-(V)n*. The decisive criterion for *-tVn* seems to be that the final vowel in the closed final syllable of di- or polysyllabic stems must be long. For the correlation of tone and suffix marking see TABLE 19.

TONE OF FINAL SYLLABLE (SG)	PATTERN I	PATTERN II	PATTERN III
H	<i>-(V)t</i>		
L		<i>-(V)n</i>	
H/L			<i>-tVn</i>

TABLE 19: Correlation of suffixes according to tone

The remaining factors, i.e., the size of the stem (mono-/polysyllabic), the weight of the stem and the quality of the stem vowels (low/non-low) are responsible for the selection of the vowel of each suffix that shows up in different allomorphs.

For a better understanding of the complexity of the plural suffix selection, we aim in this section to organize and state, in detail, the patterns recognized for each suffix. The basic selection of plural suffixes is stated in the three patterns distinguished and described in TABLE 19; in the following, we will go into further detail.

To describe the plural formation process in each of the three patterns by considering all allomorphs, we use tables showing five columns. In the first two columns, the singular noun stem and its syllable structure are listed. Next comes the tonal pattern of the singular noun. The fourth column shows the plural noun stem. Throughout, the syllable boundaries are marked. The final column contains the English gloss.

#### 5.2.1 Pattern I: $-(V)t$ ( $-t$ , $-at$ , $-ɔt$ , $-it$ , $-et$ , $-ɔt$ )

Singular noun stems with a high-toned final syllable select the suffix  $-(V)t$ . This final syllable may be open or closed, short or long. The suffix is realized as  $-t$  when occurring after an open long syllable, or  $-Vt$ , i.e., low  $-at$ ,  $-ɔt$  or non-low  $-it$ ,  $-et$ ,  $-ɔt$ , elsewhere. The allomorphy of  $-Vt$  depends partly on the height of the root vowel. That is  $-at$  and  $-ɔt$  are attached to singular nouns with low vowels, while  $-et$  and  $-ɔt$  are attached to singular nouns with non-low vowels. The allomorph  $-it$  is special in that it has the high front vowel /i/ and is thus one of the dominant suffixes which raises the low vowels occurring in the singular noun. Though the correlation between singular and plural forms seems clear, we still need to establish in which cases the dominant suffix is chosen, as the environments in some cases seem not to differ; compare, e.g.,  $kɔn/hɔn-ət$  ‘house/s’ with  $kɔn/hún-it$  ‘houses’.

The choice between the suffixes  $-at$  and  $-ɔt$  is made in terms of the size of the stem and the quality of the stem’s vowels. Thus,  $-at$  is attested with monosyllabic and disyllabic singular nouns, while  $-ɔt$  only occurs with disyllabic nouns under the condition that the vowels of both syllables are of the same quality. The choice between  $-et$  and  $-ɔt$  depends on the quality of the preceding stem. Each allomorph and its corresponding factors are explained in the following.

The suffix  $-t$

The allomorph  $-t$  is attached to singular noun stems with an open final syllable with a long vowel. The only nouns attested are disyllabic and the vowels in the syllables of the singular form share their quality, i.e., either /a/, /ɔ/ or /e/ (see

the examples in TABLE 20). That is, the vowels may be either low or non-low. Note, though, that this is not an exclusive criterion for the selection of *-t*, since this is also true of some nouns which have *-n* as the plural suffix, e.g., *màaràa* ‘road’ with its plural form *màaràa-n* (see TABLE 26). However, *-t* only occurs with high-toned lexemes, while *-n* occurs with low-toned ones.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>már.dáa</i>	CVC.CVV	HH	<i>már.dáat</i>	‘horse/s’
<i>ǎ.tóó</i>	V.CVV	HH	<i>ǎ.tóót</i>	‘father-in-law/s’
<i>ǎé.tée</i>	CV.CVV	HH	<i>ǎé.téet</i>	‘brother/s’

TABLE 20: The suffix *-t*

#### The suffix *-Vt* with low vowels

The allomorphs *-at* and *-ot* are attested after singular stems that have low vowels. The number of syllables and the quality of the vowels are decisive for the choice between these two suffixes. In addition, we find the allomorph *-it*, which raises the preceding vowel from low to non-low.

#### The suffix *-at*

The suffix *-at* is attached to mono- or disyllabic singular stems with high-toned low vowels. The low vowels in these stems have different qualities, as shown in TABLE 21. The final or only syllable of the singular noun is closed and short.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>káy</i>	CVC	H	<i>há.yàt</i>	‘head/s’
<i>kón</i>	CVC	H	<i>hó.nàt</i>	‘house/s’
<i>cór</i>	CVC	H	<i>có.ràt</i>	‘orphan/s’
<i>ká.réh</i>	CV.CVC	HH	<i>há.ré.hàt</i>	‘animal sp. (SG/PL)’

TABLE 21: The suffix *-at*

#### The suffix *-ot*

Unlike *-at*, the suffix *-ot* only attaches to disyllabic stems. Its attachment to the stem requires that all preceding vowels of the singular stem should be low vowels of the same quality carrying a H tone. The final syllable of the singular noun is open or closed and has a short vowel (see the examples in TABLE 22).

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>pɔ̌.rɔ̌</i>	CV.CV	HH	<i>fɔ̌.rɔ̌t</i>	‘chest/s’
<i>tá.gál</i>	CV.CVC	HH	<i>yá.lá.gót</i>	‘back/s of neck’
<i>pá.lát</i>	CV.CVC	HH	<i>pá.lá.tót</i>	‘rock/s’
<i>ká.yár</i>	CV.CVC	HH	<i>há.yá.rót</i>	‘mouth/s’
<i>tá.kám</i>	CV.CVC	HH	<i>yá.ká.mót</i>	‘neck/s’
<i>téé.kén</i>	CVV.CVC	HH	<i>ηέέ.ké.nót</i>	‘leg/s’
<i>wɔ̌.lɔ̌ŋ</i>	CVV.CVC	HH	<i>yɔ̌.lɔ̌ŋ-ót</i>	‘eagle/s sp.’
<i>cám.táj</i>	CVC.CVC	HH	<i>ɲám.tá.ɲót</i>	‘polecat/s’

TABLE 22: The suffix *-ot*The suffix *-it*

A less common suffix *-it* appears with a few nouns with a stem-final high-toned low vowel in the singular. These nouns, as shown in TABLE 23, may additionally form their plurals with the more common suffix *-at*, together with vowel shortening.

The vowel of the suffix *-it* is a dominant vowel and the suffix behaves similarly to the suffixes *-in* and *-tin* (to be discussed in SECTIONS 5.2.2 and 5.2.3 respectively). They cause the height of the preceding low singular stem vowels to be raised to non-low vowels. The status of the suffix *-it* as rare drives the assumption that it might have been used as part of the plural formation system and then became less productive due to an optimization process.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>tɔ̌m</i>	CVVC	H	<i>yòo.mít/yɔ̌.màt</i>	‘face/s’
<i>kón</i>	CVC	H	<i>hú.nít/hó.nàt</i>	‘house/s’
<i>kàa.láŋ</i>	CVV.CVC	LH	<i>hè.lé.ŋít/hà.lá.ŋàt</i>	‘door/s’
<i>kél.táj</i>	CVC.CVC	HH	<i>hé.l.té.ŋít/hél.tá.ŋát</i>	‘drum/s’

TABLE 23: The suffix *-it*The suffix *-Vt* with non-low vowels

Having dealt with the morpheme *-Vt* (*-at*, *-ot*, *-it*) occurring with lexemes which have low vowels in the singular stem, we now look at the morpheme *-Vt* (*-et*, *-át*) when the singular stem has non-low vowels.

The quality of the preceding stem vowel is the basic criterion for the choice between the *-et* and *-At* suffixes. The stem vowels /i, e, i, u/ select the suffix *-et* and the stem vowel /o/ and, under more restricting conditions, also /u/, select the suffix *-At*. The size of the stem, the length of the stem vowel and the absence or presence of the stem-final coda are additional indicators for this selection. That is, we may generalize that high-toned monosyllabic short stems select *-At*, while high-toned monosyllabic long stems select the suffix *-et*. In the following, the patterns of the *-et* and *-At* suffixes are presented in more detail.

#### The suffix *-et*

The suffix *-et* is, on the one hand, attached to disyllabic singular noun stems whose final vowels /i, i, u/ belong to an open or closed short syllable. In addition, the suffix *-et* is selected when the singular noun is monosyllabic with long non-low vowels other than /o/ (see SECTION 5.2.3, suffix *-tAn*) in a closed syllable, i.e. /i, e, u/. Regarding monosyllables, the tone of the stem vowel changes from H to L. This change is correlated with the length of the stem vowel, since the tone does not change when the stem vowel is short (as will be exemplified below where *-At* is discussed). See the examples in TABLE 24.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>kí.bí</i>	CV.CV	HH	<i>hí.bí.yèt</i>	‘animal skin’s mat/s’
<i>yí.tír</i>	CV.CVC	HH	<i>ŋí.tí.rèt</i>	‘back/s’
<i>wí.gír</i>	CV.CVC	HH	<i>yíg.í.rèt</i>	‘waist/s’
<i>kii.rú</i>	CVV.CV	LH	<i>hì.rú.wèt</i>	‘ostrich/s’
<i>í.ńín</i>	CV.CVVC	HH	<i>í.ńí.nèt</i>	‘ear/s’
<i>céer</i>	CVVC	H	<i>ɲèe.rét</i>	‘animal sp. (SG/PL)’
<i>cíín</i>	CVVC	H	<i>cìi.nét</i>	‘rabbit/s’
<i>yúur</i>	CVVC	H	<i>ɲùu.rét</i>	‘heart/s’
<i>wíín</i>	CVVC	H	<i>yìi.nét</i>	‘snake/s’

TABLE 24: The suffix *-et*

#### The suffix *-At*

The final stem vowel /o/ of di- or polysyllabic singular nouns co-occurs with the suffix *-At*. This suffix also attaches to short closed monosyllabic singular stems, attested with the vowels /o/ and /u/; see TABLE 25. Note that in this case, the tone remains high in both the singular and the first syllable of the plural. The final syllables are always closed.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>wór</i>	CVC	H	<i>wó.ràt</i>	‘Kadat tree/s’
<i>kút</i>	CVC	H	<i>hú.tàt</i>	‘animal sp. (SG/PL)’
<i>cóo.rón</i>	CVV.CVVC	HH	<i>jó.ró.ɾàt</i>	‘polecat sp. (SG/PL)’
<i>yìb.ró.róŋ</i>	CVC.CV.CVC	LHH	<i>ŋìb.ró.róŋ.àt</i>	‘hyena/s’
<i>cìf.rót.tók</i>	CVC.CVC.CVC	LHH	<i>ɲìf.rót.tó.kàt</i>	‘leopard sp. (SG/PL)’

TABLE 25: The suffix *-At*5.2.2 Pattern II:  $-(V)n$  (*-n*, *-an*, *-en*, *-An*, *-in*)

Singular noun stems of Pattern II are distinguished from those of Pattern I by their low-toned final vowels. The abstract plural marker is  $-(V)n$ , with the allomorphs *-n*, *-an*, *-en*, *-An* and *-in* attested. The allomorph *-n* occurs with final long vowels in an open syllable. While *-an* is only attested with a single noun stem that has a low short vowel in a closed final syllable, *-en* and *-An* attach to nominal stems with non-low vowels. The choice between the non-low suffixes *-en* and *-An* is determined by the quality of the final vowel in the singular. The last allomorph in this group is *-in*. It occurs with nouns that have a closed final or only one syllable. The attested allomorphs are again discussed one after the other.

The suffix *-n*

The consonantal nasal allomorph *-n* occurs when the singular di- or polysyllabic noun stem has a final open syllable with a long vowel carrying low tone, as shown in TABLE 26.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>màa.ràa</i>	CVC.CVV	LL	<i>màa.ràan</i>	‘road/s’
<i>èm.mèe</i>	CV.CVV	LL	<i>èm.mèen</i>	‘grandfather/s’
<i>cè.fè.nèe</i>	CV.CV.CVV	LLL	<i>cè.fè.nèen</i>	‘small turtle/s’
<i>à.mìt.tii</i>	V.CVC.CVV	LLL	<i>à.mìt.tiin</i>	‘my aunt/s (Ar.)’
<i>àm.bàg.làa</i>	VC.CVC.CVV	LLL	<i>àm.bàg.làan</i>	‘mule/s’

TABLE 26: The suffix *-n*

As discussed above, the same criteria are true for the suffix *-t* (see TABLE 20), but the latter allomorph occurs with high-toned lexemes. However, consider also forms like *kìmèe* ‘stomach’, which mark the plural through a change of vowel length accompanied by tonal change, here *hìmé* (see SECTION 4). Furthermore, as we will see below, the suffix may be *-en* (see TABLE 28) when the final long

vowel is /i/ (as is also the case with *λmitti* ‘my aunt’ and its plural form *λmittiin* in TABLE 26). Thus, the conditions for a noun stem choosing *-n*, or *-en* or even staying suffixless remain to some extent obscure.

#### The suffix *-an*

The suffix *-an* is attested only once. Here, the stem-final vowel is short in a closed final syllable of a disyllabic lexeme, as illustrated in TABLE 27.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>kàa.kày</i>	CVV.CVC	LL	<i>hà.kà.yàn</i>	‘female sheep/s’

TABLE 27: The suffix *-an*

#### The suffix *-en*

The suffix *-en* is attached to a singular noun stem of an open or closed final syllable with a short or long low-toned high vowel; see the examples in TABLE 28. However, consider that some nouns, e.g., *kibii* ‘prayer mat’, have no plural suffix but mark the plural form with vowel length alternation and tone, here *hibí* (see SECTION 4).

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>wùut</i>	CVVC	L	<i>yùu.tén</i>	‘bird/s’
<i>tù.rùk</i>	CV.CVC	LL	<i>yù.rù.kèn</i>	‘government/s’
<i>yì.rìi</i>	CV.CVV	LL	<i>ḡì.rì.yèn</i>	‘coffee pot base/s’
<i>pì.kii</i>	CV.CVV	LL	<i>fè.kì.yèn</i>	‘eyebrow/s’

TABLE 28: The suffix *-en*

#### The suffix *-An*

The suffix *-An* is so far attested only with monosyllabic stems with the long vowel /o/, as shown in TABLE 29.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>wòor</i>	CVVC	L	<i>yòo.ràn</i>	‘porcupine’
<i>kòor</i>	CVVC	L	<i>hòo.ràn</i>	‘Daleeb tree’
<i>wòoh</i>	CVVC	L	<i>yòo.hàn</i>	‘monkey/s’

TABLE 29: The suffix *-An*

The suffix *-in*

As was the case with the suffix *-it*, *-in* also contains the dominant vowel /i/. Consequently, all vowels which occur in the singular stem are raised when the plural suffix attaches. If these vowels are already high, no change occurs, i.e., the vowel quality remains high (see TABLE 30). The suffix *-in* occurs with singular nouns with closed final or only syllables. The vowel of monosyllabic nouns may be short or long; the vowel of the final syllable with di- or polysyllabic nouns is always short.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>yâf</i>	CVC	L	<i>ɲè.fìn</i>	‘concrete stone/s’
<i>wâr</i>	CVC	L	<i>yù.rìn</i>	‘baobab tree/s’
<i>wît</i>	CVC	L	<i>yît.in</i>	‘guinea fowl/s’
<i>mòɔŋ</i>	CVVC	L	<i>mù.ɲìn</i>	‘red monkey/s’
<i>wòoy</i>	CVVC	L	<i>yù.wù.yìn</i>	‘male goat/s’
<i>yóɔ.tàŋ</i>	CVV.CVC	HL	<i>ɲú.tá.ɲìn</i>	‘skull/s’
<i>kám.bàŋ</i>	CVC.CVC	HL	<i>háɱ.bà.ɲìn</i>	‘side/s’
<i>mà.ràh</i>	CV.CVC	LL	<i>mìr.hìn/mèr.hìn</i>	‘spear/s’
<i>kà.tòɔ.ràk</i>	CV.CVV.CVC	LLL	<i>hù.tùr.kìn</i>	‘hen/chicken’
<i>kù.lùk.kùr</i>	CV.CVC.CVC	LLL	<i>kù.lùk.kù.rìn</i>	‘turtle dove/s’

TABLE 30: The suffix *-in*5.2.3 Pattern III: *-tVn* (*-tan*, *-tin*, *-ten*, *-tɔn*)

The environment of the suffix *-tVn* is characterized by a high-toned long final closed syllable that commonly belongs to di- or polysyllabic singular noun stems. There is, so far, only one monosyllabic noun, i.e., *yóoc/ɲóoc.tɔn* ‘bladder’, which is similar to long monosyllables with a high tone of Pattern I (cf. *ɲúur/ɲùurét* ‘heart/s’). We may assume that the vowel quality /o/ vs. other non-low vowels is decisive for the choice of the suffix *-tVn*, or, to be more specific, the suffix *-tɔn*.

The suffix *-tVn* is realized in four allomorphs, *-tan*, *-tin*, *-ten* and *-tɔn*. They are selected in terms of the stem-final consonant (nasal vs. non-nasal) and the quality of the stem vowel (low/non-low (other than /o/)). While both allomorphs *-tan* and *-tin* correlate with low stem vowels, only *-tan* follows a non-nasal stem-final consonant (see TABLE 31), while *-tin* comes after a nasal consonant. Again *-tin* has the dominant vowel /i/, which causes raising of the preceding singular stem vowels (see TABLE 32). The other two allomorphs, *-ten* and *-tɔn*, are selected by non-low stem vowels, *-ten* occurring with lexemes whose vowels are /i/, /ɛ/, /ɛ/,

/e/ or /u/ (see TABLE 33), while *-tʌn* is attested with a singular stem lexeme whose final vowel is /o/ (see TABLE 34).

#### The suffix *-tan*

Disyllabic noun stems with a long high-toned final syllable with a low vowel and closed by a non-nasal consonant select the suffix *-tan*, as shown in TABLE 31.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>kó.wéer</i>	CV.CVVC	HH	<i>hó.wéer.tàn</i>	‘animal sp. (SG/PL)’
<i>wò.róoy</i>	CV.CVVC	LH	<i>yò.róoy.tàn</i>	‘person/s from Toroy area’
<i>mà.fóot</i>	CV.CVVC	LH	<i>màfót.tàn</i>	‘cat/s’
<i>kàr.béet</i>	CVC.CVVC	LH	<i>hár.bét.tàn</i>	‘leopard sp. (SG/PL)’

TABLE 31: The suffix *-tan*

#### The suffix *-tin*

The suffix *-tin* occurs with di- or polysyllabic nouns under the condition that the stem’s final long and high-toned low vowel of the last syllable of the singular noun is followed by a nasal. Like the suffixes *-it* and *-in*, *-tin* is a dominant suffix that raises the stem’s low vowels, as shown in TABLE 32.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>kà.báan</i>	CV.CVVC	LH	<i>hà.báɲ.tìn</i>	‘side/s’
<i>kà.ràan</i>	CV.CVVC	LL	<i>hà.ràɲ.tìn</i>	‘deer/s sp. (SG/PL)’
<i>kám.réɛɲ</i>	CVC.CVVC	HH	<i>hám.ríɲ.tín</i>	‘hyena/s’
<i>póɔ.ɲáan</i>	CVV.CVVC	HH	<i>fú.ɲán.tìn</i>	‘Aradeeb tree/s’
<i>wè.héɛ.réen</i>	CV.CV.CVVC	LHH	<i>yè.hé.ré.né.tín</i>	‘big deer/s’
<i>wè.rèɛ.máan</i>	CV.CVV.CVVC	LLH	<i>yì.rì.mé.tín</i>	‘lion/s’

TABLE 32: The suffix *-tin*

#### The suffix *-ten*

The stem-final high-toned syllable of disyllabic singular nouns with (in contrast to *-tin* and *-tan*) non-low long vowels other than /o/ selects *-ten*, as shown in TABLE 33.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>tú.máʎn</i>	CV.CVVC	HH	<i>yú.máʎn.tèn</i>	‘lizard/s’
<i>tíi.wéer</i>	CVV.CVVC	HH	<i>yí.wér.tèn</i>	‘butterfly/ies’

TABLE 33: The suffix *-ten*

### The suffix *-tan*

Three examples of a mono- or disyllabic noun with a stem-final syllable containing the long non-low high-toned vowel /o/ are attested; they are suffixed by *-tan* (cf. the occurrence of *-an* after the long vowel /o/, illustrated in TABLE 29), as shown in TABLE 34.

TAGOI (NOUN SG)	SYLLABLE STRUCTURE (SG)	TONE (SG)	TAGOI (NOUN PL)	ENGLISH GLOSS
<i>kλ.dλ.lóoŋ</i>	CV.CV.CVVC	LLH	<i>hλ.dλ.lóŋ.tλn</i>	‘fox/es’
<i>kó.ʃóor</i>	CV.CVVC	HH	<i>hó.ʃór.tλn</i>	‘shield/s’
<i>yóoc</i>	CVVC	H	<i>ŋóoc.tλn</i>	‘bladder’

TABLE 34: The suffix *-tan*

## 6 Summary and conclusion

In this study, plural suffixation as part of the number marking system of Tagoi was centred upon. The complex system, containing 15 allomorphs, can be divided into three basic patterns. The alternation and selection of the allomorphs are summarized in TABLE 35. TABLES 36-38 in the appendix are more detailed and were used to identify correlations. The main findings will be outlined in the following.

In general, the suffixes are divided into root-controlled allomorphs and dominant suffixes. The latter are invariable and raise the preceding vowels (if not already high). However, in some cases, the question of when an allomorph of the first group over that of the second group or vice versa is chosen could not be satisfactorily solved. For instance, *cór* ‘orphan’ has the suffix *-át*, while *kón* ‘house’ has the suffix *-ít*. It may thus not come as a surprise that the plural of ‘house’ has the alternative realizations *húnìt* and *hónàt*. The majority of plural forms, however, seem to be predictable when considering a number of features associated with the shape of the singular noun. These include, first of all, the size of the noun itself, i.e., whether it is mono-, di- or polysyllabic. Second, the shape of the final syllable influences the choice of allomorph, that is, whether the syllable is closed or open and whether it is long or short. Tone is also a decisive feature and vowel quality plays a role as well.

Patterns I and II (with their abstract morphemes  $-(V)t$  and  $-(V)n$ ) can be differentiated by the tone of the final syllable: for I, it is high-toned, for II, it is low-toned. The nouns assigned to Pattern III, with its abstract morpheme  $-tVn$ , are mostly di- or polysyllabic (with one attested exception), and have a final closed long syllable (a combination which is not attested with the other two patterns).

The allomorphs  $-t$  of Pattern I and  $-n$  of Pattern II occur with both low and non-low vowels (see TABLE 20 and TABLE 26). Both suffixes also occur with final open syllables of disyllabic stems. The allomorph  $-n$  is also attested for polysyllabic stems. However, the tone seems decisive for the choice of  $-t$  vs.  $-n$ : That is, if the singular forms are high-toned,  $-t$  is chosen, if they are low-toned,  $-n$  is chosen. Elsewhere, vowel harmony plays a role in choosing vowels within each pattern.

Thus, with Pattern I, suffixing  $-Vt$ , we have on the one hand the allomorphs  $-at$  and  $-ɔt$ , which occur with low vowels in the singular noun, and on the other hand we have the allomorphs  $-et$  and  $-ɛt$ , which are chosen when the stem vowels belong to the non-low set. The allomorph  $-it$  is not predictable, since it occurs with low vowels as well. It is distinguished from the other  $-Vt$  suffixes in that it causes raising of the singular stem vowels.

With Pattern II, suffixing  $-Vn$ , the same allomorphy regarding the suffix vowel is attested. The allomorph  $-an$  occurs when the vowels of the singular noun belong to the set of low vowels, while the allomorphs  $-en$  and  $-ɛn$  occur when the relevant vowels are non-low, with  $-ɛn$  only attested after /o/,  $-en$  elsewhere. The allomorph  $-in$  is again not always predictable. It occurs, for instance, with  $w\grave{o}y/y\grave{u}w\grave{u}y\grave{i}n$  ‘male goat/s’, while other lexemes with long /o/ take the suffix  $-ɛn$ , like  $y\grave{o}h/y\grave{o}h\lambda n$  ‘monkey/s’ (see TABLE 29). In general  $-in$  occurs with low and non-low vowels and causes raising of the stem vowels if they are not already high.

Pattern III, characterized by the suffix  $-tVn$ , cannot easily be distinguished from the other two. The suffix only occurs with long final closed syllables when its vowel carries a high tone, while the long monosyllables of Pattern II are low-toned. In order to be able to differentiate monosyllables with long vowels of Pattern III from those of Pattern I, the vowel quality seems decisive. Note, though, that there is only one high-toned monosyllable in our database, which has the vowel /o/ in its stem:  $y\acute{o}c/\eta\acute{o}c\lambda n$  ‘bladder’. Thus, the whole structure needs to be considered. We have mostly di- or polysyllabic singular nouns which take the suffix  $-tVn$ , while di- or polysyllabic singular nouns with an open final syllable do not take the suffix  $-tVn$ . This leaves us with final closed syllables with a long vowel.

Within Pattern III, the allomorphs are again distributed according to the height of the singular nouns' stem vowels, i.e., *-tan* occurs with low vowels, while *-ten* and *-tan* are attested with non-low vowels, the latter again after /o/, the former elsewhere. The allomorph *-tin* is attested when the final syllable of the singular stem has a low-toned low vowel.

The aim of the present contribution was to find out the conditioning factors of noun suffix allomorphy in Tagoi. Though I was able to describe a number of environments that made one or the other allomorph more likely, there is still some way to go before we will be able to safely predict the allomorph, if it is possible at all. Not only is Tagoi an endangered language, we, i.e. the Tagoi team, were also working with members from the Tagoi community living in Khartoum. Thus, we were confronted with a variety of data. According to the speaker, the singular form was sometimes pronounced differently. However, as I have hopefully been able to describe, the plural form depends on several features of the singular form. Thus, different plural forms were presented as well. In this paper, I considered the forms that most Tagoi speakers agreed upon, while neglecting the other forms. In a planned paper, I will come back to this issue and try to describe the close connection between singular and plural forms including all the collected varieties. Thus, future research with more data will show whether this first classification can be maintained or whether other factors also need to be considered.

SIZE AND SHAPE OF THE SG NOUN STEM'S FINAL SYLLABLE	H TONE		L TONE	
	low vowel	non-low vowel	low vowel	non-low vowel
disyllabic stem with final open long syllable		<i>-t</i>		
mono-/di-/polysyllabic stem with closed final short syllable (exception with long syllable: <i>tɔ̃m</i> 'face' /)	<i>-at / -it</i>	<i>-At</i>		
monosyllabic stem with closed long syllable; disyllabic stem with open/closed final short syllable		<i>-et</i>		
disyllabic stem with closed/open short syllable (within one word, vowels must share the same quality)	<i>-ɔt</i>			
di-/polysyllabic stem with final open long syllable			<i>-n</i>	
disyllabic stem with closed final short syllable			<i>-an</i>	
monosyllabic stem with closed long syllable				<i>-An</i> (after /o/)
disyllabic stem with open long or closed short final syllable monosyllabic stem with closed final long syllable (problem: consider <i>yiri/ɣiryèn</i> 'coffee pot base/s' compared with <i>èmmè/èmmèn</i> 'grandfather/s'; <i>kimèe/himé</i> 'stomach/s'; <i>kibi/hibi</i> 'prayer mat')				<i>-en</i>
monosyllabic stem with closed final short/long syllable; di-/polysyllabic stem with closed final short syllable (problem: consider <i>wòoy/yùwùyin</i> 'male goat/s' compared with <i>yòoh/yòohAn</i> 'monkey/s')				<i>-in</i>
	H TONE			H/L TONE
(mono-,) di- and polysyllabic stem with closed final long syllable	<i>-tan</i>	<i>-ten</i>	<i>-tAn</i> (after /o/)	<i>-tin</i>

TABLE 35: The distribution of allomorphs

## References

- Alamin, Suzan. 2015. The Tagoi pronominal system. *Occasional Papers in the Study of Sudanese Languages* 11. 17-30.
- Alamin, Suzan. 2020. Word order and agreement in Tagoi. *Faits de Langues* 51(1). 161-174.
- Bashir, Abeer. 2018. Noun class genders in Tagoi. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 153-173. Cologne: Rüdiger Köppe.
- Bashir, Abeer. In preparation. Vowels and vowel harmony of Tagoi.
- Bashir, Abeer. In preparation. Tagoi verb structure.
- Bashir, Abeer. In preparation. Countable and mass/collective nouns of Tagoi.
- Bashir, Abeer M.A. & Osman M.O. Ali. 2024. Tagoi birth names: A historical change from African to Islamic/Arabic names. In Andrea Hollington, Alice Mitchell & Nico Nassenstein (eds.), *Anthropological Linguistics: Perspectives from Africa*, 253-276. Amsterdam/Philadelphia: John Benjamins.
- Bashir, Abeer & Helene Fatima Idris. In preparation. Arabic loan words in Tagoi.
- Bashir, Abeer M.A. & Sharon Rose. 2024. Vowel harmony in Niger-Congo languages of the Nuba Mountains. In Nancy A. Ritter & Harry van der Hulst (eds.), *The Oxford Handbook of Vowel Harmony*. Oxford: Oxford University Press.
- Corbett, Greville G. 1991. *Gender*. Cambridge: Cambridge University Press.
- MacDiarmid, P.A. & D.N. MacDiarmid. 1931. The languages of the Nuba Mountains. *Sudan Notes and Records* 14 (2). 149-162.
- Meinhof, Carl. 1916. *Eine Studienfahrt nach Kordofan*. Hamburg: Friederichsen & Co.
- Rolle, Nicholas & Olanike Ola Orie. 2024. Vowel harmony in non-Bantu Niger-Congo languages. In Nancy A. Ritter & Harry van der Hulst (eds.), *The Oxford Handbook of Vowel Harmony*. Oxford: Oxford University Press.
- Stevenson, Roland C. 1956/1957. A survey of the phonetics and grammatical structure of the Nuba Mountain Languages, with particular reference to Otoro, Katcha and Nyimaṅ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Stevenson, Roland C. 1964. Linguistic research in the Nuba Mountains II. *Sudan Notes and Records* 45. 79-102.

## Appendix

	root-controlled suffix vowel						dominant suffixes		
	low vowels ( <i>a / ε / ə</i> ) NOUN SG		non-low vowel ( <i>i / e / (i / ə) ʌ / o / u</i> ) NOUN SG				low vowels ( <i>a / ε / ə</i> ) NOUN SG		
Pattern I (-V <i>i</i> ) high-toned stem final syllable	<b>-at</b> (3:1)*		<b>-ot</b> (8)		<b>-et</b> (4:5)		<b>-it</b> (2:2)		
	mono-syllabic	di-syllabic	di-syllabic	mono-syllabic	di-syllabic	mono-syllabic	di-/poly-syllabic	mono-syllabic	di-syllabic
	H	HH	HH	H	HH/LH	H	(L)HH	H	LH/HH
	after <i>a / ə</i>	after <i>ε</i>	after <i>a / ə / ε</i> (vowels with same quality)	after <i>i / e / u</i>	after <i>i / i / u</i>	after <i>o / u</i>	after <i>o</i>	after <i>ə</i>	after <i>a</i> (vowels may have same quality)
	closed syllable		open/closed syllable	closed syllable	open/closed syllable	closed syllable	closed syllable	closed syllable	
	short final V		short final V	long final V (final sonorant)	short final V	short final V	short final V	short/long final V (final nasal)	short final V (final nasal)

TABLE 36: Pattern I

\* The numbers in brackets indicate the frequency of occurrence in this article, e.g., “**-at** (3:1)” means that **-at** occurs three times when the singular form is a monosyllable and once when it is disyllabic.

	root-controlled suffix vowel					dominant suffixes	
	low vowels ( <i>a / ε / ɔ</i> ) NOUN SG		non-low vowel ( <i>i / e / (i / ə) ʌ / o / u</i> ) NOUN SG			low/non-low vowels ( <i>a / ɔ / o / i / u</i> ) NOUN SG	
Pattern II (- <i>Vn</i> ) low-toned stem final syllable		<b>-an</b> (1)	<b>-en</b> (1:3)		<b>-ʌn</b> (3)	<b>-in</b> (5:5)	
	monosyllabic	disyllabic	monosyllabic	disyllabic	monosyllabic	monosyllabic	di-/polysyllabic
		LL	L	LL	L	L	HL/(L)LL
		after <i>ɔ</i>	after <i>u</i>	after <i>i / u</i>	after <i>o</i>	after <i>a / ɔ / o / i</i>	after <i>a / u</i>
		closed syllable	closed syllable	closed/open syllable	closed syllable	closed syllable	
	short final V	long final V	short/long final V	long final V	short/long final V	short final V	

TABLE 37: Pattern II

	root-controlled suffix vowel					dominant suffixes	
	low vowels ( <i>a / ε / ɔ</i> ) NOUN SG		non-low vowel ( <i>i / e / (i / ə) ʌ / o / u</i> ) NOUN SG			low vowels ( <i>a / ɔ / ε</i> ) NOUN SG	
Pattern III (- <i>tVn</i> ) long high- toned stem final closed syllable		<b>-tan</b> (4)	<b>-ten</b> (2)		<b>-tʌn</b> (3)	<b>-tin</b> (4:2)	
	mono- syllabic	disyllabic	mono- syllabic	disyllabic	mono- (1) / di- (1) / poly-syllabic (1)	mono- syllabic	di-/polysyllabic
		HH / LH		HH	H / HH / LLH		LL / (L)LH / (L)HH
		after <i>ε / ɔ</i>		after <i>e / ʌ</i>	after <i>o</i>		after <i>a / ε</i>
		closed syllable		closed syllable	closed syllable		closed syllable
	long final vowel (final non-nasal)		long final vowel (final sonorant)	long final vowel		long final vowel (final nasal)	

TABLE 38: Pattern III



Wall painting on a kindergarten in Khartoum  
(photo: Gertrud Schneider-Blum, February 2019)

# A first approach to Tagom verbal inflection and clausal negation strategies

*Maha A. Aldawi*

## 1 Introduction

Tagom [tágóm], also known as Togom [tógóm], is one of the varieties of the Tegali language cluster, which forms, together with the Tagoi cluster, the Rashad group that belongs to the Niger-Congo phylum (Greenberg 1963, Schadeberg 1981, Williamson & Blench 2000, Quint 2009, Blench 2013, Dimmendaal 2018). Consider FIGURE 1 below. The language is spoken in South Kordofan state in the Tegali Hills and the Rashad area.

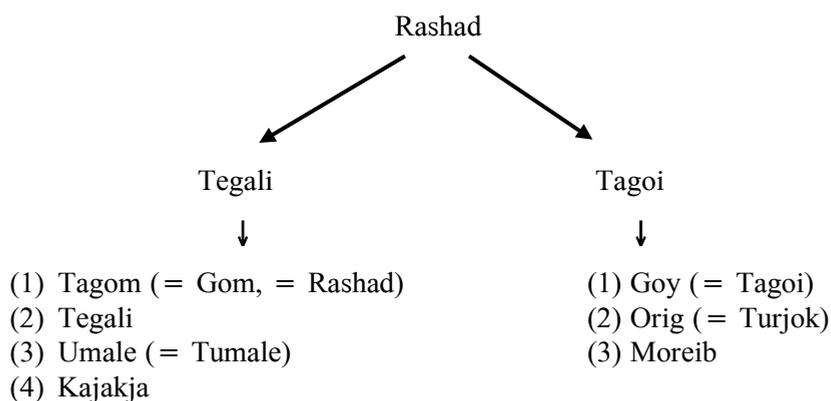


FIGURE 1: The Rashad languages (Aldawi & Nashid 2018: 129, based on Blench 2013: 574)

Fieldwork was carried out with native speakers of Tagom living in Khartoum. The primary data of this work were collected during fieldwork sessions held by the author in Khartoum between January 2017 and January 2023, including a mix of structured interviews and elicitation.

Two main consultants were involved: Ibrahim Adam Yousif (born in 1973), and Adil Abdalla Ibrahim Mohamed (born in 1963).

As for the writing of my data, I use a practical orthography that closely follows the IPA system and that was developed during a workshop on Tagom segmental phonology held in 2016 in Khartoum. Tone marking was not dealt with in this workshop, but tone is marked on words throughout this paper.

The current study focuses on the category of verbs and aims at giving a first overview of the typological characteristics of the Tagom verb. Furthermore, the study provides a description of the negation strategies that are used in Tagom.

This study is structured as follows. After the introduction, which explains briefly where the language is located in the Nuba Mountains, its speakers and its classification, SECTION 2 presents background information on some features of the phonology and morphology of the language. SECTION 3 gives detailed information on the verb, the copula and all the verbal operations associated with them. SECTION 4 gives a comprehensive presentation of the negation strategies in Tagom, addressed from a typological perspective, based on Miestamo's classification of negation (2013, 2017). SECTION 5 is a conclusion and summary of findings.

## 2 Background information

Tagom vowels can be categorized as the front vowels *i*, *ɪ*, *e*, *ɛ*; the central vowels *ɨ*, *ə*, *ʌ*, *ɤ*; and the back vowels *u*, *ʊ*, *o*, *ɔ*. The vowels we analyzed from the wordlists and sentences in our database differ to some extent from those found by Stevenson (1956-57), Tucker & Bryan (1966) and Schadeberg (2013: 328), who all list eight vowels, namely *i*, *e*, *ɛ*, *ə*, *a*, *u*, *o*, and *ɔ*. Thus, the phonemic status of some of the vowels we identified is still questionable. The relevant vowels are bracketed in FIGURE 2. Ongoing research might show that they are indeed allophones of the eight vowels listed by Schadeberg and others.

i [ɪ]	[ɨ]	u [ʊ]
e	ə	o
ɛ	[ʌ]	ɔ
	a	

FIGURE 2: Tagom vowels

Vowel alternation is common in the phonology of Tagom; it is observed with TAM verbal conjugation, e.g., *wɔ-frɔk* ‘you (SG) went/got out’/ *wə-frək* ‘you (SG) go/get out’, with *wɔ/wə* being the prefix for 2SG attached to the TAM-marked root *frɔk/frək* ‘get out’ and the tone being responsible for TAM marking, as will be discussed in detail later. Vowel alternation is also connected to TAM marking, but further research is required to determine the exact conditions of its existence.

Tagom exhibits two register tones, a high tone and a low tone, which have a major role in its grammar marking (compare, e.g., *ŋú-lám* ‘you (PL) saw’ with *ŋù-lám* ‘you (PL) see’). The existence of lexical tone still needs to be checked.

According to our data and the analysis thereof, Tagom has 22 consonants. TABLE 1 shows their place and manner of articulation:

	BI-LABIAL	LABIO-DENTAL	ALVEOLAR	RETRO-FLEX	PALATAL	VELAR
PLOSIVES	p b		t d	ɖ	c ɟ	k g
PRE-NASALIZED	<sup>m</sup> b <mb>		<sup>n</sup> d <nd>			<sup>ŋ</sup> g <ŋg>
FRICATIVES		f	s			
NASAL	m		n		ɲ	ŋ
LATERAL			l			
TRILL			r			
APPROXIMANT	w				j <y>	

TABLE 1: Tagom consonantal system

The consonantal system differs from the one presented by Schadeberg (2013: 328f.), who lists 19 consonants, the retroflex /ɖ/ being missing. To provide evidence for /ɖ/, consider TABLE 2 (in word-initial position neither consonant is attested).

INTERVOCALIC		WORD-FINAL		AFTER CONSONANTS	
/d/	/ɖ/	/d/	/ɖ/	/d/	/ɖ/
<i>kádé</i>	<i>àɖàm</i>	<i>éd</i>	<i>lɔɖ</i>	<i>y-éd-án-í</i>	<i>kòlɖókólɖò</i>
‘fifth born’	‘name’	‘man’	‘big/large’	‘I coughed’	‘calabash’

TABLE 2: The phonemes /d/ and /ɖ/

Schadeberg (2013: 328f.) considers /mb/, /nd/, /ŋg/ as sequences of consonants (instead of our analysis of these as prenasalized consonants). Tagom lacks the

/h/ phoneme. Schadeberg (2013: 239) claims that “Tagoi *h* generally corresponds to *s* in Turjok and Tagom, and *vice versa*; the correspondences are more complex in word-final position”. The /s/ in Tagom has full distribution; it can be found word-initially (*sèrè* ‘lie down’), intervocalically (*fànàssán* ‘nine’), word-finally (*mλs* ‘stomach’) and after consonants (*àbsún* ‘clean’). The [ʃ] only appears in words borrowed from Arabic like *afa* ‘name’ and *ʃay* ‘tea’.

Verbal roots in Tagom are bound roots. The simplest form of the verb is the singular imperative. There are two types of roots:

- Roots beginning with a vowel are attached with the imperative prefix *k-*.
- The *k-* prefix does not occur with a verb root that begins with a consonant, e.g., *frək* ‘get out 2SG.IMP’.

The inflected verb needs not only to be marked for TAM (see SECTIONS 3.1 and 3.2) but also for person. Thus, in addition to a series of independent personal pronouns (first presented in Aldawi & Nashid 2018: 138), Tagom has pronominal indexes which attach to the verb to inflect for person. Two series of personal prefixes, subject indexes and object indexes have been distinguished, with the structure CV- for verb roots beginning with a consonant and C- for verb roots beginning with a vowel.

PERSON	INDEPENDENT PRONOUNS (SUBJECT, OBJECT AND INDIRECT OBJECT)	SUBJECT INDEXES	(DIRECT AND INDIRECT) OBJECT INDEXES
1SG	<i>ŋì</i>	<i>y-/y(V)-</i>	<i>t(V)-</i>
2SG	<i>ŋḍ</i>	<i>w-/w(V)-</i>	<i>n<sup>w</sup>-</i>
3SG	<i>ŋḡ</i>	<i>V-/Ø-</i>	<i>Ø-/n(V)-</i>
1PL (EXCL)	<i>ŋìndé</i>	<i>n-/n(V)-</i>	<i>Ø-/t(V)ŋḡ-</i>
1PL (INCL)	<i>ŋìndé</i>	<i>t(V)-</i>	<i>Ø-/t(V)ŋḡ-</i>
2PL	<i>ŋḍndá</i>	<i>ŋ(V)-</i>	<i>n(V)ŋḡ-</i>
3PL	<i>ŋèndá</i>	<i>k-/k(V)-</i>	<i>Ø-/n(V)ŋḡ-</i>

TABLE 3: Tagom personal pronouns and subject and object person indexes

Recent data has revealed variations regarding third and first person (INCL) object morphemes (see TABLE 3). The first person plural may be marked by Ø or *t(V)ŋḡ-*, as presented in example (6), the third person singular object may be marked by Ø or *n-* (30), and the third person plural may be marked by Ø or *n(V)ŋḡ-* (1). As the examples show, Tagom marks the plural object of second and third person in many examples with the morpheme *n(V)ŋḡ-* (compare, e.g.,

(1) and (2)). The conditions of the variations are unclear. Tonal marking probably plays a role, but further research is needed.

(1) *kíà*      *ɲèndá*   *nùŋg-iyín*  
 child    O3PL   O3PL-have  
 ‘They have a child’

(2) *ɲì*      *ɲàndá*   *núŋg-úŋú*  
 S1SG    O2PL   O2PL-saw  
 ‘I hit you (PL)’

Tagom follows a person hierarchy for pronominal indexes marked on the verb; this becomes obvious in transitive sentences in which the subject and object are occupied by different persons. In intransitive sentences the subject is always marked on the verb. In transitive sentences, either the subject or the object is marked on the verb but not both.

This person hierarchy may be summarized in the following rules, first sketched and formulated in Aldawi (2022: 8). The examples relating to these rules are listed in TABLE 4.

- 1) First and second persons take precedence over the third person (1, 2 > 3) independently of their argument role.
- 2) When a first or second person is the object argument of the verb, the object prefix takes precedence over the first/second person subject prefix (O > S).
- 3) When the subject and object are both third persons (whether singular or plural), it is the subject which is marked on the verb.

RULE	SUBJECT	OBJECT	PERSON INDEX ON THE VERB	HIERARCHY	EXAMPLE
1	1 or 2	3	Subject	1, 2 > 3	(3)
1	3	1 or 2	Object	3 < 1, 2	(4)
2	1	2	Object	S < O	(5)
2	2	1	Object	S < O	(6)
3	3	3	Subject	S > O	(7)

TABLE 4: Person hierarchy for person indexes in Tagom transitive verbs

When all the arguments are overt, the word order is SOV. In addition, we find the arguments indexed on the verb according to the formulated rules.

With regard to the word order for non-overt arguments, e.g., focus marking, relevant data still need to be gathered.



- (10) *fâtànà tà-súkú à-ndè*  
 Fatima LOC-market S3SG-go:PRS  
 ‘Fatima is going to the market’

As mentioned before in Aldawi (2022: 4-5), the few available studies on the Rashad languages are presented in the following references:

- 1) Stevenson (1956-1957) was the first linguistic scholar to deal with south Kordofanian languages. In his PhD thesis he lists a considerable amount of Rashad data.
- 2) At the third Nuba Mountain Languages conference, held in Cologne Sept. 27-29, 2017, Aldawi & Nashid presented an initial study on the noun phrase of Tagom, which was later published in the volume *Nuba Mountain Languages Studies: New Insights* (Schneider-Blum et al. 2018). The study mainly focuses on describing and analyzing the structure of the noun, including the language’s number marking system. Furthermore, the morphosyntactic structure of the noun phrase with all its constituents (personal and possessive pronouns, demonstratives, adjectives, quantifiers and numerals) is discussed.
- 3) Bashir (2018), using an alternative recent approach suggested by Corbett (1991: 45), reclassified the Tagoi nouns as investigated by Stevenson (1956/57), Schadeberg (2013) and Alamin (2015). The approach Bashir used is based on agreement evidence and follows both semantic and morphological assignment rules.
- 4) The paper ‘Verbal number in Tagom’ (Aldawi 2022) is on pluractional marking as part of the derivational morphology of the language. The study was an attempt to answer all the questions associated with verbal number; its types, the strategies used to encode verbal number and the correlation between transitivity and verbal number in the language. In addition, it sheds light on the semantic connotations of verbal number in Tagom.

### 3 The verb

The current study is the second of its type (following Aldawi 2022) to focus on the category of verb in Tagom. A number of compulsory and optional affixes (i.e., inflectional and derivational) attach to the verbal root (which is a bound morpheme) and may adjust its meaning. Person indexes are compulsorily marked (complying with the rules of the person hierarchy) on the bound root, whereas other affixes, i.e., derivation, negation and interrogation, are optional. The linear order of verbal morphemes is presented in the

following sketch; there is no slot for TAM since it is marked suprasegmentally by tone.

1	2	3	4	5
NEG	PERSON	ROOT	DERIVATIONAL EXTENSIONS	QUES

Derivational extensions other than pluractional marking (for which see Aldawi 2022) will be presented in a separate study (Aldawi, in preparation).

Verb roots in Tagom have either a monosyllabic, disyllabic or polysyllabic structure, all of which are exemplified in TABLE 5. The examples in TABLE 5 were first presented in Aldawi (2022: 7).

	SYLLABLE STRUCTURE	ROOT	GLOSS
monosyllabic	CV	<i>yɔ</i>	‘drink’
	CV	<i>ɪŋɔ</i>	‘3SG’ (independent pronoun)
	CVC	<i>rɪŋ</i>	‘slaughter’
	CVCC	<i>gork</i>	‘tie’
	CCVC	<i>frək</i>	‘get out’
disyllabic	V.CV	<i>ɛna</i>	‘stab’
	CV.CV	<i>sɛɛ</i>	‘lie down’
	V.CVC	<i>asud</i>	‘cut’
	VC.CVC	<i>undɛn</i>	‘sleep’
	CV.CVC	<i>təwək</i>	‘grind’
	CVC.CVC	<i>gʊlmək</i>	‘hide’
	V.CV.CV	<i>amada</i>	‘shave’
polysyllabic	VC.CV.CV	<i>imridi</i>	‘wash’
	V.CV.CV.CV	<i>udobidi</i>	‘cultivate’
	VC.CV.CV.CV	<i>ʊŋfʊyanɪ</i>	‘whistle’

TABLE 5: Canonical structure of Tagom verb roots

### 3.1 TA in Tagom

Stevenson (1956-57: 49) argues that

[t]he main tense forms appear to be: indefinite (present or future time) and past (two forms, one of which may be a perfect). In the main past tense, a vowel i-, e-, u-, is prefixed to the root, while the other (for which evidence exists only in

Tumale and Tegali) is formed from the first by suffixing -e, -ε, or -i. Stress and vowel change also play a part in tense-formation, and sometimes the past is based on quite a different root from the present.

The vowel alternations of the verb root mentioned may occur in the different tenses. The rules that govern these alternations are still unclear and need further investigation.

The tense/aspect forms identified in this study correspond to the ones named by Stevenson. That is, different paradigms show that Tagom has a present opposing a past and a perfect. We regard future as a mood category rather than as tense/aspect (see SECTION 3.2.1). Consider the examples in TABLE 6.

PRESENT	PAST	PERFECT	GLOSS
<i>yà-yḍ</i>	<i>yḍ-yḍ</i>	<i>yḍ-yḍ</i>	‘1SG smoke’
<i>y-àbḍ</i>	<i>y-úbḗ</i>	<i>y-úbè</i>	‘1SG plant’
<i>y-ḍndì</i>	<i>y-úndí</i>	<i>y-úndì</i>	‘1SG sleep’
<i>kà-ndè</i>	<i>ká-ndé</i>	<i>ká-ndè</i>	‘3PL walk’
<i>Ø-rḗḡḗk</i>	<i>Ø-érḡḗk</i>	<i>Ø-érḡḗk-è</i>	‘3SG eat’
<i>Ø-rànà</i>	<i>Ø-úrná</i>	<i>Ø-úrnà</i>	‘3SG stand up’
<i>Ø-inì</i>	<i>Ø-íní</i>	<i>Ø-ínì</i>	‘3SG kill’

TABLE 6: Some 1SG and 3SG forms of verbs in the attested tense/aspect forms

Tone marking is the most reliable marker to differentiate present from past and perfect in Tagom. Thus, the present is generally marked by low tones, past by high tones and perfect by high-low tones. Considering present and past/perfect, neither the vowel alternation observed with the pronominal prefixes (compare *yà-yḍ* with *yḍ-yḍ*/*yḍ-yḍ*) nor with the root (compare *y-àbḍ* with *y-úbḗ*/*y-úbè*) can currently be explained; such alternations do not occur with all verbs (compare *kà-ndè* with *ká-ndé* and *ká-ndè*). Furthermore, Stevenson (1956-57: 49) noticed that “[...] sometimes the past is based on quite a different root from the present”. In addition, as Stevenson (1956-57: 49) reports for Tumale and Tegali, “the perfect is formed from the first [i.e. the past; M.A.] by suffixing -e, -ε, or -i”. This vowel shows in Tagom only with a sub-group of verbs (see TABLE 6) and, as will be explained in SECTION 3.1.3 on the perfect, is morpho-phonologically conditioned.

Another marking option is consonant/vowel metathesis of the first syllable of the stem; consider, e.g., *rḗḡḗk* ‘he kills’ vs. *érḡḗk* ‘he killed’. Both morpho-phonemic alterations may be witnessed in the same verb (compare *rànà* with *úrná*/*úrnà*). When neglecting tone, past and perfect generally share the same form, but the past is marked by high tones, the perfect by a (H)HL sequence.

These three tense/aspect forms will be discussed in SECTIONS 3.1.1 - 3.1.3.

### 3.1.1 The present

Roughly speaking, present tense/aspect is marked by low tone across the verb on all syllables, as the paradigm in TABLE 7 shows. The vowel alternation of the prefix remains to be explained.

PERSON	PRESENT TENSE/ASPECT
1SG	<i>yì-wən</i>
2SG	<i>wì-wən</i>
3SG	<i>Ø-wən</i>
1PL (EXCL)	<i>nò-wən</i>
1PL (INCL)	<i>tò-wən</i>
2PL	<i>ŋò-wən</i>
3PL	<i>kò-wən</i>

TABLE 7: The verb *wən* ‘cook’ in the present tense/aspect

The present tense/aspect in Tagom expresses the notion of currently exerting a continuous action at the time of speaking, as exemplified in (11a). The habitual aspect on the verb is not differentiated, but the notion of habituality may be transmitted by an adverb, as in (11b).

- (11) a. *yánè kîà Ø-ùbìyà*  
 woman baby S3SG-breast\_feed:PRS  
 ‘The woman is breastfeeding the baby [now]’
- b. *yánè ànèkúl kîà Ø-ùbìyà*  
 woman everyday baby S3SG-breast\_feed:PRS  
 ‘The woman breastfeeds the baby every day’
- (12) *ŋì tàbùn y-àbò*  
 S1SG field S1SG-plant:PRS  
 ‘I am planting the field’
- (13) *yánè à-rà Ø-rədèk*  
 woman PL-cow S3SG-milk:PRS  
 ‘The woman is milking the cows [now]’
- (14) *ŋó Ø-rànà*  
 S3SG S3SG-stand\_up:PRS  
 ‘He is standing up’

For the Tegali and Tumale languages, Stevenson (1956-57: 49) differentiated morphologically between a present and a future tense (two categories within indefinite). Our data show that the present tense/aspect in Tagom may also be used to refer to future actions, as in example (15), where the verb *yàndè* ‘I go’ is inflected for the present with reference to a future action. The adverbial phrase *úràgòtòm* ‘next month’ is facultative. Morphologically marked future tense will be discussed in SECTION 3.2.4.

- (15) *ɲì tà-uŋŋa-gò (úràgòtòm) yà-ndè*  
 S1SG LOC-mountains-LOC moon:next S1SG-go  
 ‘I go/will go to the mountains (next month)’

### 3.1.2 The past

Roughly speaking, the past is marked with high tones on the whole verb, including the person-marking prefix. The prefix vowel is either *i*, *e* or *u/ɔ*. The past tense is illustrated by the verb *-frək* ‘go/get out’ for all persons in TABLE 8 and by examples (16), (17) and (18).

PERSON	PAST TENSE
1SG	<i>yú-frək</i>
2SG	<i>wɔ-frək</i>
3SG	<i>ú-frək</i>
1PL (EXCL)	<i>nú-frək</i>
1PL (INCL)	<i>tɔ-frək</i>
2PL	<i>ɲú-frək</i>
3PL	<i>kú-frək</i>

TABLE 8: The verb *-frək* ‘get out’ in the past tense

- (16) *ɲì tàŋ-gò yú-frək*  
 S1SG village-DEM S1SG-get\_out:PST  
 ‘I got out of the village’
- (17) *ɲì tàbòn y-úbé*  
 S1SG field S1SG-plant:PST  
 ‘I planted the field’
- (18) *ɲèndá ɲìndé tíŋg-íám*  
 S3PL O1PL O1PL-see:PST  
 ‘They saw us’



illustrating vowel change between the present and the past/perfect forms, as well as a change in tone marking between all three forms.

- (21) *ŋì tàbòn y-úbè*  
 S1SG field S1SG-plant:PERF  
 ‘I have planted the field’

In examples (22) and (23), past and perfect forms are opposed. Note that the durative reading in example (22b) is due to the pluractional marker.

- (22) a. *ŋì křà y-ímřídí*  
 S1SG child S1SG-wash:PST  
 ‘I washed the child’  
 b. *ŋì áqřà y-ímřídánì*  
 S1SG PL:child S1SG-wash:PLUR:PERF  
 ‘I have been washing the children’
- (23) a. *ŋì y-úndí*  
 S3SG S3SG-sleep:PST  
 ‘I slept’  
 b. *ŋgó ítè Ø-úndénì*  
 S3SG small/little S3SG-sleep:PLUR:PERF  
 ‘He has been sleeping (for a while)’  
 c. *ŋgó Ø-úndénénì*  
 S3SG S3SG-sleep:PLUR:PLUR:PERF  
 ‘He has been sleeping (for a long time) / he is a sleepy head’

### 3.2 Mood

This section distinguishes and discusses three mood types of the Tagom verb: the future, the imperative and the hortative. All three mood types have tonal present tense/aspect marking as a base.

#### 3.2.1 The future

Stevenson (1956-57: 49) mentions that “Tumale has a future tense with the suffix *-řuŋen*, based on the present [...]”. Tagom uses a cognate suffix to mark the future, i.e., invariably *-ùŋé*. The first vowel of the suffix *-ùŋé* triggers alternation of the prefix and the root vowels. As an example, consider the verbal root *-řřàk* ‘get out’, marked for present. When inflected for the future, the verbal root changes to *-řřòk* ‘get out’; see example (24). This is also

illustrated in TABLE 10 with different verbs inflected for present and future. The exact process, with its conditioning factors, still has to be investigated.

- (24) *ŋì tà-rè-gò yù-fròk-ùŋé*  
 S1SG LOC-outside-DEM S1SG-get\_out-FUT  
 ‘I want to get out / I will get out’

PERSON	PRESENT	FUTURE	GLOSS (INFINITIVE)
1SG	<i>yà-ndè</i>	<i>yù-ndù-ùŋé</i>	‘walk’
2PL	<i>ŋà-ndò</i>	<i>ŋò-ndù-ùŋé</i>	‘walk’
3PL	<i>kà-ndè</i>	<i>kò-ndò-ùŋé</i>	‘walk’
1SG	<i>yà-yò</i>	<i>yò-yò-ùŋé</i>	‘smoke’
1SG	<i>y-àbò</i>	<i>y-ùbè-ùŋé</i>	‘plant’
1SG	<i>y-òndì</i>	<i>y-òndò-ùŋé</i>	‘sleep’
3SG	<i>Ø-ròŋòk</i>	<i>Ø-èrŋòk-ùŋé</i>	‘eat’
3SG	<i>Ø-rànà</i>	<i>Ø-ùrnà-ùŋé</i>	‘stand up’
3SG	<i>Ø-ìní</i>	<i>Ø-ànàn-ùŋé</i>	‘kill’

TABLE 10: Present and future for different persons with different verbs

Unlike the examples presented in SECTION 3.1.1 where the present bears a future meaning, the verbs in (24) and (25) are marked for future. According to our consultant, these examples may have a volitive connotation, expressing the meaning of intention or the desire to do something.

- (25) *ŋòndá tà-uhŋa-gò ŋò-ndù-ùŋé-(n) = é?*  
 S2PL LOC-mountains-DEM 2S:PL-go-FUT-EP = QUES  
 ‘Do you want to travel/go to the mountains?’  
 Will you travel/go to the mountains?’

### 3.2.2 The imperative

“The imperative mood is a verb form used to issue direct commands and orders which are restricted to second person subject. Therefore, in many languages it only has two forms; one for the singular and one for the plural” (Bybee 1985: 171). This is also true for Tagom, where only these two forms of the imperative are used to issue direct commands.

Stevenson (1956-57: 49) mentions that “[i]n all the languages of this group the imperative is formed mostly by prefix (**k-**) and vowel suffix together”. With “this group”, Stevenson refers to the Tegali-Tagoi language group, also mentioned on p. 46 in Stevenson (1956-57).

Indeed, a considerable number of imperative verbs in Tagom start with the prefix *k-* (see TABLE 11). It attaches to verb roots that begin with an initial vowel. While there is no further marking of the second person singular imperative, the second person plural is marked by the syllabic suffix *-dλn*. Tagom shows no reflexes of the vowel suffix Stevenson (1956-57: 49) mentions and exemplifies.

2SG	2PL	GLOSS
<i>k-ànà</i>	<i>k-ànà-dλn</i>	‘Kill!’
<i>k-àmà</i>	<i>k-àmà-dλn</i>	‘Catch!’
<i>k-ùndònò</i>	<i>k-ùndònò-dλn</i>	‘Sleep!’
<i>k-ùrnà</i>	<i>k-ùrnà-dλn</i>	‘Sit down!’

TABLE 11: Imperatives for 2SG and 2PL with the prefix *k-*

The initial *k-* prefix does not occur with a verb root that begins with a consonant, as the examples in TABLE 12 show.

2SG	2PL	GLOSS
<i>wès</i>	<i>ηòs</i>	‘Drink!’
<i>mìndà</i>	<i>mìndà-dλn</i>	‘Sit down!’
<i>yò</i>	<i>yò-dλn</i>	‘Smoke!’
<i>kà</i>	<i>kà-dλn</i>	‘Take!’
<i>kèdà</i>	<i>kèdà-dλn</i>	‘Bring!’
<i>ndò / ndè</i>	<i>ndò-dλn</i>	‘Go!’
<i>frák</i>	<i>frák-dλn</i>	‘Get out!’
<i>kèlmi</i>	<i>kèlmi-dλn</i>	‘Hide!’

TABLE 12: Imperatives in 2SG and 2PL without the prefix *k-*

### 3.2.3 The hortative

Hortatives are verbal expressions used by the speaker to encourage an action. They occur in Tagom with 1PL (prefix *t(V)-*), 3SG (prefix *(V)-/Ø-*; zero marking occurs with verbs that have a vowel as the initial root sound) and 3PL (prefix *k(V)-*). The hortative indexes are the same indexes used in assertive sentences; see TABLE 8. This pronominal prefix attaches to the verb root with present tense/aspect tone marking, as illustrated in TABLE 13.

	HORTATIVE	GLOSS
1PL (INCL)	<i>tù-ndù</i>	‘Let us go!’
	<i>tà-mìn</i>	‘Let us sit down!’
	<i>tò-yù</i>	‘Let us smoke!’
	<i>t-è:s</i>	‘Let us drink!’
3SG	<i>ù-ndù</i>	‘Let him go!’
	<i>à-mìn</i>	‘Let him sit down!’
	<i>ò-yù</i>	‘Let him smoke!’
	<i>Ø-è:s</i>	‘Let him drink!’
3PL	<i>kù-ndù</i>	‘Let them go!’
	<i>kà-mìn</i>	‘Let them sit down!’
	<i>kò-yù</i>	‘Let them smoke!’
	<i>k-è:s</i>	‘Let them drink!’

TABLE 13: The hortative

### 3.3 The verb *-eyε* ‘exist’ vs. ‘have’

The verbal root *-eyε* is considered a special verb form that can be used either transitively or intransitively, depending on its meaning and context.

It is used intransitively when it means ‘exist’ in existential and locative constructions (see SECTION 3.3.1).

The verb *-eyε* meaning ‘have’ is a fully inflected transitive verb (i.e., person, number and tense) used in possessive and experiencer constructions. The structure of the verb *-eyε* ‘have’ varies in possessive and experiencer constructions due to TAM marking (see SECTION 3.3.2).

#### 3.3.1 The verb *-eyε* meaning ‘exist’

Existential clauses in Tagom make use of the intransitive inflected verb *-èyè* meaning ‘exist’ to express the existence of an item, as exemplified in (26). They may have a locational adjunct, e.g., *súdàn-dà* ‘in Sudan’, as presented in example (27), with *-da* being the locative marker. The verb *-èyè* ‘exist’ is overtly inflected for number when it is used with plural nouns; consider example (26).

- (26) *àlgirif-è*      *k-èyè*  
 money-PL      S3PL-exist  
 ‘There is money’

- (27) *súdàn-dà*      *tòròk*      *Ø-èyè*  
 Sudan-LOC      government      S3SG-exist  
 ‘There is a government in Sudan’

Often, locative constructions in Tagom require a relational expression. The language uses different relational adverbials to refer to the specific location of an item (i.e., under, on, above, etc.). These words are used together with the locational object, which is marked by the locative suffix *-da*. The intransitive verb *-èyè* ‘exist’ inflected for person, number and tense follows the locative expression, so the structure is as follows:

Locative in Tagom:

SUBJECT + LOCOBJECT-*da* + LOCATIVE WORD + *-èyè*

TABLE 14 presents some of the relational words in Tagom that are used in locative constructions.

RELATIONAL ADVERBS	GLOSS
<i>tèrèṅ</i>	‘on’
<i>tùgròm</i>	‘under’
<i>kíṅkè</i>	‘towards’
<i>táryàw</i>	‘behind’
<i>tààs</i>	‘in front of’

TABLE 14: Relationals

Consider examples (28) and (29) below.

- (28) *kitáb*      *tàrbisà-dà*      *tèrèṅ*      *Ø-èyè*  
 book      table-LOC      on      S3SG-exist  
 ‘The book is on the table’

- (29) *bis*      *ùṅgrán-dà*      *tùgròm*      *Ø-èyè*  
 cat      bed-LOC      under      S3SG-exist  
 ‘The cat is under the bed’

### 3.3.2 The verb *-eyè* meaning ‘have’ in possessive and experiencer constructions

Possessive and experiencer constructions, though considered transitive, differ from other transitive constructions in that word order is OSV rather than SOV. The possessor is sentence-initial, while the possessee occurs between the possessor and the verb. Cross-referencing on the verb is with the possessor and, as we can see, it is the object index that is used. Recall that, in other

transitive sentences, we would expect the subject index, as presented in TABLE 4.

The full paradigm of *-eyɛ* is presented in TABLE 15 for present, past and perfect. Vowel alternations occur due to TAM variations.

PERSON	OBJ	PRESENT	PAST	PERFECT
1SG	<i>t(V)-</i>	<i>t-ɛyɛ</i>	<i>t-íyín</i>	<i>t-ìyín</i>
2SG	<i>n<sup>w</sup>-</i>	<i>n-ɔ̀yɔ̀</i>	<i>n-íyín</i>	<i>n-ìyín</i>
3SG	<i>Ø-/n-</i>	<i>n-ɛyɛ</i>	<i>n-íyín</i>	<i>n-ìyín</i>
1PL INCL	<i>t(V)ŋg-</i>	<i>tèŋg-ɛyɛ</i>	<i>tìŋg-íyín</i>	<i>tìŋg-ìyín</i>
1PL EXCL	<i>Ø-/t(V)ŋg-</i>	<i>tèŋg-ɛyɛ</i>	<i>tìŋg-íyín</i>	<i>tìŋg-ìyín</i>
2PL	<i>n(V)ŋg-</i>	<i>nɔ̀ŋg-ɔ̀yɔ̀</i>	<i>nóŋg-íyín</i>	<i>nóŋg-ìyín</i>
3PL	<i>Ø-/nìŋg-</i>	<i>nìŋg-ɛyɛ</i>	<i>nìŋg-íyín</i>	<i>nìŋg-ìyín</i>

TABLE 15: The verb *-eyɛ* ‘have’ in the present, past and perfect

Consider the following examples of the possessive construction:

- (30) *ŋgɔ̀      àlgìrìf-è      n-ìyín*  
 O3SG    money-PL    O3SG-exist:PERF  
 ‘He has money’
- (31) *ŋgɔ̀      á-fâr-nè      n-ìyín*  
 O3SG    PL-house-PL<sup>1</sup>    O3SG-exist:PERF  
 ‘He has houses’
- (32) *ŋèndá    kîâ      nùŋg-ìyín*  
 O3PL    child    O3PL-exist:PERF  
 ‘They have a child’

Experiencer constructions are a kind of possessive construction known as abstract possession. Heine (1997: 88) states: “In this kind of possession, the possessee is a concept that is not visible or tangible, like a disease, a feeling, or some other psychological state.” The structure of the experiencer construction in Tagom is thus comparable to the possessive construction. The experiencer is the object of the sentence, as is the possessor in the possessive construction; what is being experienced is the subject, like the possessee in the possessive construction, and the marking on the verb *-ɛyɛ* ‘have’ cross-references the experiencer. Consider examples (33), (34) and (35) below.

<sup>1</sup> Several nouns are marked for the plural with the prefix *a-* and a suffix. For more information on nominal number marking see Aldawi & Nashid (2018: 135).

- (33) *ŋð rà n-ðyð*  
 O2SG fear O2SG-exist  
 ‘You are afraid’
- (34) *ŋì àŋàn t-èyè*  
 O1SG happiness O1SG-exist  
 ‘I am happy’
- (35) *ŋèndá àlám nìŋg-èyè*  
 O3PL hunger O3PL-exist  
 ‘They are hungry/lit. Hunger is on/with them’

### 3.4 The copula verb -*Vn*

The copula verb in Tagom is a monosyllabic auxiliary verb with the root -*Vn*. “Auxiliaries are verbs in that they satisfy the morphosyntactic definition of verbs [...], e.g., they occur in the position of a verb, and they carry at least some of the inflectional information (subject/object ‘agreement’ and tense/aspect/mode marking) normally associated with verbs. [...]. They are often semantically ‘empty’ [...], or they express ‘auxiliary’ information such as tense, aspect, or mode, [...]” (Payne 1997: 84).

The copula -*Vn* in Tagom has a stative meaning. It is a fully inflected verb, i.e., it is inflected for number and TA as shown in TABLE 16 and examples (36)-(40).

While, with almost all persons, the vowel of the copula changes consistently from /ɛ/ to /ɪ/ when comparing present to past and perfect, the vowel changes from /ɔ/ to /ʊ/ with 2PL, probably due to an assimilation process between the pronominal (consider *ŋðndá* ‘2PL’) and the copula. For this reason, we do not mark the morpheme boundary for 2PL:COP.

PERSON	PRESENT	PAST	PERFECT
1SG	<i>y-èn</i>	<i>y-ín</i>	<i>y-ìn</i>
2SG	<i>w-èn</i>	<i>w-ín</i>	<i>w-ìn</i>
3SG	<i>Ø-èn</i>	<i>Ø-ín</i>	<i>Ø-ìn</i>
1PL (EXCL)	<i>n-èn</i>	<i>n-ín</i>	<i>n-ìn</i>
1PL (INCL)	<i>t-èn</i>	<i>t-ín</i>	<i>t-ìn</i>
2PL	<i>ŋðn</i>	<i>ŋóŋ</i>	<i>ŋòŋ</i>
3PL	<i>k-èn</i>	<i>k-ín</i>	<i>k-ìn</i>

TABLE 16: The copula in the present, past and perfect

The copula has a major role in the structure of certain predications. This includes predicate nominals (36)-(37) and predicate adjectives (38)-(40) (but, unlike in other languages, like English, it is not used to express progressive action). In the following, I briefly discuss each construction.

According to Payne (1997: 114), predicate nominals can be divided into two types, proper inclusion and equative clauses. While the former assigns a ‘specific entity’ to a certain class, the “[e]quative clauses are those which assert that a particular entity (the subject of the clause) is identical to the entity specified in the predicate nominal, [...]”. Both kinds are expressed in Tagom using the copula *-Vn*; see (36) for proper inclusion and (37) for the equative clause.

(36) *ŋì*            *àfāndí*        *y-èn*  
 S1SG    teacher    S1SG-COP:PRS  
 ‘I am a teacher’

(37) *ŋgɔ́*            *ábá-èŋ*                    *Ø-èn*  
 S:3SG    father-POSS:1SG    S3SG-COP:PRS  
 ‘He is my father’

Consider Payne (1997) for his thoughts on predicate adjectives, before we present the relevant data of Tagom.

Predicate adjectives are clauses in which the main semantic content is expressed by an adjective. If the language lacks a grammatical category of adjectives, there will be no grammatical distinct predicate adjective construction [...]. Semantically, these clause types can be described as attributive clauses. (Payne 1997: 111f.)

In Tagom, adjectives do in fact exist and they may occur in modifying as well as in predicative function; the latter is of concern here. In (38), the adjective is *nàmɲàm* ‘cold’, it is *ndágènnndágèn* ‘yellow’ in (39) and *ràs* ‘pregnant’ in (40). Like nouns, adjectives are also marked for number; in attributive clauses they agree in number with the subject. The color term *ndágènnndágèn* in (39) is not a basic color term, but the reduplicated form of the nominal root for ‘sorghum’, i.e., *ndágèn*. In the same clause, the adjective is intensified with *álák*, considered an ideophone (see Aldawi & Nashid 2018: 144f.).

(38) *rə̀nə̀k*        *yè*            *nàmɲàm*        *Ø-èn*  
 food        DEM    cold            S3SG-COP:PRS  
 ‘This food is cold’

- (39) *ilig-è yè ndágènddágèñ-é k-èn álák*  
 pot-PL DEM yellow-PL 3PL-COP:PRS very  
 ‘These pots are very yellow’
- (40) *ḡèndá ràs-ú k-ín*  
 PP:3PL pregnant-PL 3PL-COP:PST  
 ‘They were pregnant’

Moreover, the copula verb *-Vn* plays a major role in the negation of declarative (42b) and interrogative clauses (43b) and non-verbal predications (46b), as discussed in SECTION 4.

#### 4 Negation

“[N]egation can be defined as an operator changing the truth value of a proposition *p* to its opposite *-p*” (Miestamo 2017: 405). In this section, we will have a look at how this is done in Tagom. We adopt Miestamo’s (2017) typology, which distinguishes between symmetric and asymmetric negation, showing in paradigms and/or in the construction type. According to Miestamo (2017: 412), “[i]n symmetric paradigms, the paradigms used in the negative show a one-to-one correspondence to the paradigms used in the affirmative [...] whereas in asymmetric paradigms such a one-to-one correspondence is not found and (usually) distinctions are lost in the negative”. To illustrate the former type, Miestamo presents French imperfect and present paradigms with their corresponding negative paradigms. For the latter type, he presents examples from Bagirmi, with two tense/aspect paradigms in the affirmative, while there is only one paradigm to express negation. A constructional asymmetry exists when the negative construction not only adds a negative marker (as would be the case for constructional symmetry), but “shows other structural differences as well” (Miestamo 2017: 411), such as in the finiteness of the verb. “Constructional and paradigmatic asymmetry are largely independent dimensions and any combination of these parameters is possible” (Miestamo 2017: 413).

The type of negation that will be the focus of this section is “standard negation (negation of declarative main clauses with a verbal predicate” (Miestamo 2017: 405). This is dealt with in SECTION 4.1), while different sub-types of non-standard negation, including lexical negation, are discussed in SECTION 4.2).

Our description of negation will focus on three factors:

- i. the type of the negative marker (morphological affixes vs. negative particles vs. negative verbs),

- ii. the position of the negative marker, and
- iii. the paradigmatic and constructional symmetry or asymmetry of negation vis-à-vis affirmation.

#### 4.1 Standard negation

Standard negation is one type of clausal negation.

The term standard negation was coined by Payne (1985), who defined it as ‘that type of negation that can apply to the most minimal and basic sentences. Such sentences are characteristically main clauses and consist of a single predicate with as few noun phrases and adverbial modifiers as possible’ (p.198). Today the term is used for the negation of declarative main clauses with a verbal predicate, more precisely for the pragmatically neutral and productive strategies that languages use for this function; [...]. (Miestamo 2017: 408f.)

Miestamo (2017: 409-410) mentions three main types of negative markers, i.e., affixes, particles and verbs, which are used in standard negation.

Regarding Rashad languages, Stevenson (1956-1957: 50) states that “[n]egation is affected by a negative particle (**k-**, **g-**) preceding the main verb, together with the verb ‘to be’ at the end of the phrase. The main verb appears in a modified form and does not change for person”. As our data show, declarative sentences in Tagom are negated with the prefix *k(V)-* preceding the verb root. The main verb is not marked for person. Recall that TA is transmitted by tone marking. The *g*-variant mentioned by Stevenson does not occur in Tagom. In addition, the inflected copula verb ‘to be’ (see SECTION 3.4) occurs at the end of the clause. That is, we are dealing here with constructional asymmetry.

The *k-* precedes verb roots that begin with a vowel (as can be seen, for example, with (43b) in SECTION 4.2.1), and *k(V)-* precedes verb roots beginning with a consonant, the latter exemplified with (41b) and (42b).

- (41) a. *ŋgɔ̃ t̃à-sòkù á-ndé*  
 S3SG LOC-market S3SG-go:PST  
 ‘She went to the market’
- b. *ŋgɔ̃ t̃à-sòkù ká-ndé Ø-ín*  
 S3SG LOC-market NEG-go S3SG-COP:PST  
 ‘She did not go to the market’

- (42) a. *ŋgɔ̄ pùn Ø-wèn*  
 S3SG porridge S3SG-cook:PRS  
 ‘She is cooking porridge’
- b. *ŋgɔ̄ pùn kè-wèn Ø-èn*  
 S3SG porridge NEG-cook S3SG-COP:PRS  
 ‘She is not cooking porridge’

However, when considering the attested paradigms for tense/aspect, we find that each category, i.e., present, past and perfect, has its own negated form, recognizable with the tonal marking on both the negation prefix and the main verb. That is, within negation, we find LL-marking with the present, HH-marking with the past, and HL-marking with the perfect. The quality of the vowel of the copula also differs between the present on the one hand and the past perfect on the other. These latter two are differentiated by tone again, i.e., the copula carries a high tone in the past, but a low tone in the perfect. Consider the three paradigms in TABLE 17. Thus, Tagom has paradigmatic symmetry regarding the negated tense/aspect forms. As we will see in SECTION 4.2.1, the future also has its own negated paradigm, but using a different strategy.

PERSON	PRESENT	PAST	PERFECT
1SG	<i>kà-ndè y-èn</i>	<i>ká-ndé y-ín</i>	<i>ká-ndè y-ìn</i>
2SG	<i>kà-ndè w-èn</i>	<i>ká-ndé w-ín</i>	<i>ká-ndè w-ìn</i>
3SG	<i>kà-ndè Ø-èn</i>	<i>ká-ndé Ø-ín</i>	<i>ká-ndè Ø-ìn</i>
1PL	<i>kà-ndè n-èn</i>	<i>ká-ndé n-ín</i>	<i>ká-ndè n-ìn</i>
1PL	<i>kà-ndè t-èn</i>	<i>ká-ndé t-ín</i>	<i>ká-ndè t-ìn</i>
2PL	<i>kà-ndè ŋ-òn</i>	<i>ká-ndé ŋ-ún</i>	<i>ká-ndè ŋ-ìn</i>
3PL	<i>kà-ndè k-èn</i>	<i>ká-ndé k-ín</i>	<i>ká-ndè k-ìn</i>

TABLE 17: Negated paradigms of *nde* ‘walk’ in the present, past and perfect

#### 4.2 Non-standard negation

We include, under non-standard negation, the negation of non-declarative clauses (e.g., interrogatives and imperatives), the negation of clauses with non-verbal predicates and lexicalized negation. (Not discussed here but also belonging to non-standard negation is the negation of non-main clauses.) There are distinct strategies employed by the different types of non-standard negation, which are explained below.

## 4.2.1 Negation of future mood

The technique used to negate verbs inflected for the future is different than that used with standard negation attested for the present, the past and the perfect (see SECTION 4.1). While the main verb is not prefixed by the negation marker, but carries the information on person and mood, negation is transmitted by the particle *kèyè*. This particle is, in all likelihood, composed of the negation marker *k-* and *-èyè*, the latter probably going back to the verb *-èyè* introduced in SECTION 3.3, with its translational equivalents ‘exist’ and ‘have’. However, in the context of negation, its form is invariable, i.e., it has lost its inflectional properties, as can be seen when comparing the b-sentences of (43)-(45). The particle generally occurs after the finite verb.

The relationship between the affirmative future and the negative future is constructionally asymmetric, since the final vowel attested in the affirmative future is dropped when *kèyè* follows. Consider the examples below:

- (43) a. *ɲìndé tàgòlè-gò ɲò-ndù-ùɲè*  
 S1PL Tegali-LOC S1PL-go-FUT  
 ‘We will travel to Tegali’
- b. *ɲìndé tàgòlè-gò ɲò-ndù-ùɲ k-èyè*  
 S1PL Tegali-LOC S1PL-go-FUT NEG-exist  
 ‘We will not travel to Tegali’
- (44) a. *ɲgɔ èd Ø-ànàn-ùɲè*  
 S3SG man 3S:SG-kill-FUT  
 ‘He will kill the man’
- b. *ɲgɔ èd Ø-ànàn-ùɲ k-èyè*  
 S3SG man 3S:SG-kill-FUT NEG-exist  
 ‘He will not kill the man’
- (45) a. *ɲèndá k-òndòɲ-ùɲè*  
 S3PL S3PL-sleep-FUT  
 ‘They will sleep’
- b. *ɲèndá k-òndòɲ-ùɲ k-èyè*  
 S3PL S3PL-sleep-FUT NEG-exist  
 ‘They will not sleep’

## 4.2.2 Negation of non-verbal predications

The particle *kèyè*, introduced in the previous section, is also used for the negation of non-verbal predications. It is then followed by the inflected copula verb *-Vn* at the end of the clause. A full paradigm is presented in TABLE 18.

The relationship between affirmative non-verbal predications and their negative counterparts is constructionally symmetric, i.e., the main construction is maintained and only the negation particle *-eyè* is added. Consider the affirmative constructions and their negative counterparts in (46), (47) and (48).

PRESENT	GLOSS	PAST	GLOSS
<i>k-èyè y-èn</i>	‘I am not’	<i>k-éyè y-ín</i>	‘I was not’
<i>k-èyè w-èn</i>	‘you are not’	<i>k-éyè w-ín</i>	‘you were not’
<i>k-èyè Ø-èn</i>	‘he is not’	<i>k-éyè Ø-ín</i>	‘he was not’
<i>k-èyè n-èn</i>	‘we (EXCL) are not’	<i>k-éyè n-ín</i>	‘we (EXCL) were not’
<i>k-èyè t-èn</i>	‘we (INCL) are not’	<i>k-éyè t-ín</i>	‘we (INCL) were not’
<i>k-èyè η-àn</i>	‘you are not’	<i>k-éyè η-ún</i>	‘you were not’
<i>k-èyè k-èn</i>	‘they are not’	<i>k-éyè k-ín</i>	‘they were not’

TABLE 18: Negation of the verb *-eyè* with the inflected copula

- (46) a. *rèṅàk* *yè* *ṅàmṅàm* *Ø-ín*  
 food DEM cold S3SG-COP:PST  
 ‘This food was cold’
- b. *rèṅàk* *yè* *ṅàmṅàm* *k-éyè* *Ø-ín*  
 food DEM cold NEG-exist S3SG-COP:PST  
 ‘This food was not cold’
- (47) a. *ṅì* *àfàndí* *y-èn*  
 S1SG teacher S1SG-COP:PRS  
 ‘I am a teacher’
- b. *ṅì* *àfàndí* *k-èyè* *y-èn*  
 S1SG teacher NEG-exist S1SG-COP:PRS  
 ‘I am not a teacher’
- (48) a. *ṅgó* *ábá-èṅ* *Ø-èn*  
 S3SG father-POSS:1SG S3SG-COP:PRS  
 ‘He is my father’

- b. *ŋgɔ́ ábá-èŋ k-èyè Ø-èn*  
 S3SG father-POSS:1SG NEG-exist S3SG-COP:PRS  
 ‘He is not my father’

#### 4.2.3 Negative interrogatives

Negative interrogatives in Tagom are another example of asymmetric constructional negation. The negative prefix *k-* is attached to the main verb, followed by the inflected auxiliary to which the question marker =*é* is suffixed. The verb forms in the affirmative questions of (49), (50) and (51) differ from the verb forms in the negative interrogative ones in that the latter are inflected for TA but not for person. That is, negated interrogatives use the same negation strategy as do declarative clauses in Tagom.

- (49) a. *ŋgɔ́ fār Ø-údfǎg = é?*  
 S3SG house S3SG-clean:PST = QUES  
 ‘Did she clean the house?’
- b. *ŋgɔ́ fār k-údfé Ø-ín = é?*  
 S3SG house NEG-clean S3SG-COP:PST = QUES  
 ‘Did she not clean the house?’
- (50) a. *ŋgɔ́ yèr-ùŋ Ø-ébréd = é?*  
 S3SG work-POSS3SG S3SG-finish:PST = QUES  
 ‘Did he finish his work?’
- b. *ŋgɔ́ yèr-ùŋ k-ábrét Ø-ín = é?*  
 S3SG work-POSS3SG NEG-finish S3SG-COP:PST = QUES  
 ‘Did he not finish his work?’
- (51) a. *ŋɔ́ tàgòlè-gɔ́ wè-ndè = é?*  
 S2SG Tegali-LOC S2SG-go:PRS = QUES  
 ‘Are you going to Tegali?’
- b. *ŋɔ́ tàgòlè-gɔ́ kà-ndè w-èn = è*  
 S2SG Tegali-LOC NEG-go S2SG-COP:PRS = QUES  
 ‘Are you not going to Tegali?’

#### 4.2.4 Prohibitive

“Imperatives are the clause type where we most commonly find negative strategies distinct from standard negation” (Miestamo 2017: 417). This is relevant for Tagom since the strategy used to negate the imperative is

substantially different from that used to negate the declarative or even the interrogative. Instead of negating the verb by prefixing it with *k(V)-*, the negative particle *ànàgò* precedes the imperative verb. The verb, in turn, consists of the subject index (see TABLE 3) prefixed to the verbal core. The plural form is additionally suffixed by *-dλn*, as is the case in the affirmative as well (see SECTION 3.2.2). The schematic presentations of singular and plural negated imperatives are as follows:

*ànàgò* + 2SG subject prefix *w(V)-* + VERBAL CORE  
*ànàgò* + 2PL subject prefix *η(V)-* + VERBAL CORE + *-dλn*

The relationship between positive commands and negative commands is asymmetric on the constructional level due to the presence vs. absence of the person prefix. Consider the examples in TABLES 19 and 20 below.

2SG IMPERATIVE	2SG NEGATIVE	GLOSS
<i>ηèηèk</i>	<i>ànàgò wè-ηèηèk</i>	‘Do not fall!’
<i>kà</i>	<i>ànàgò wà-gì</i>	‘Do not take!’
<i>ndò</i>	<i>ànàgò wù-ndù</i>	‘Do not go!’
<i>yù</i>	<i>ànàgò wè-yù</i>	‘Do not drink!’

TABLE 19: The negative imperative for 2SG

2PL IMPERATIVE	2PL NEGATIVE	GLOSS
<i>ηèηèg-dλn</i>	<i>ànàgò ηé-ηèηèg-dλn</i>	‘Do not fall!’
<i>kà-dλn</i>	<i>ànàgò ηà-gò-dλn</i>	‘Do not take!’
<i>kè-ndè-dλn</i>	<i>ànàgò ηé-ndù-dλn</i>	‘Do not go!’
<i>yù-dλn</i>	<i>ànàgò ηé-yè-dλn</i>	‘Do not drink!’

TABLE 20: The negative imperative for 2PL

The same particle used to negate the imperative is used to negate the hortative. The schematic presentation of the negated hortative is as follows:

*ànàgò* + prefix marker + VERBAL CORE

Note, though, that the construction of the negated hortative is in a symmetric relationship to the affirmative one. Compare the affirmative and negative examples of the hortative in TABLE 21. Also, as the examples show, tone marking on the verb is, as expected, that of the present tense/aspect.

	Tagom AFF	GLOSS	Tagom NEG	GLOSS
1PL	<i>tù-ndù</i>	‘Let us go!’	<i>ànàqò tù-ndù</i>	‘Let us not go!’
	<i>tà-mìn</i>	‘Let us sit down!’	<i>ànàqò tà-mìn</i>	‘Let us not sit down!’
	<i>tò-yù</i>	‘Let us drink!’	<i>ànàqò tò-yù</i>	‘Let us not drink!’
	<i>t-èrḡàk</i>	‘Let us eat!’	<i>ànàqò t-èrḡàk</i>	‘Let us not eat!’
3SG	<i>ù-ndùk</i>	‘Let him go!’	<i>ànàqò ù-ndùk</i>	‘Let him not go!’
	<i>à-mìn</i>	‘Let him sit down!’	<i>ànàqò à-mìn</i>	‘Let him not sit down!’
	<i>ò-yù</i>	‘Let him drink!’	<i>ànàqò ò-yù</i>	‘Let him not drink!’
	<i>Ø-èrḡàk</i>	‘Let him eat!’	<i>ànàqò Ø-èrḡàk</i>	‘Let him not eat!’
3PL	<i>kù-ndùk</i>	‘Let them go!’	<i>ànàqò kù-ndùk</i>	‘Let them not go!’
	<i>kà-mìn</i>	‘Let them sit down!’	<i>ànàqò kà-mìn</i>	‘Let them not sit down!’
	<i>kò-yù</i>	‘Let them drink!’	<i>ànàqò kò-yù</i>	‘Let them not drink!’
	<i>k-èrḡàk</i>	‘Let them eat!’	<i>ànàqò k-èrḡàk</i>	‘Let them not eat!’

TABLE 21: Affirmative and negative hortatives

#### 4.2.5 Lexical negation

“Clausal negation may also be expressed by lexically idiosyncratic negatives, i.e. the combination of negation and a lexical meaning can lexicalize” (Miestamo 2017: 423). The negation of existential/locative, experiencer and possessive constructions in Tagom are good examples of lexical negation. The relationship in all types of lexical negation is asymmetric.

#### Negation of existentials/locatives

While the affirmative existential/locative construction makes use of the verb *-eyε* ‘exist’, the negated existential (52) and locative constructions (53)-(55) both employ the verb *mbòḡ*, meaning ‘not exist’. The verb *mbòḡ* occurs at the end of the clause and is inflected for plural by the suffix *-ε* with plural nouns (52). Consider the following examples:

- (52) a. *àlgìrìf-è k-èyè*  
 money-PL S3PL-exist  
 ‘There is money’
- b. *àlgìrìf-è mbòḡ-è*  
 money-PL lack-PL  
 ‘There is no money’

- (53) a. *mən*      *tà-sòk*       $\emptyset$ -*èyè*  
sorghum    LOC-market    S3SG-exist  
‘There is sorghum at the market’
- b. *mən*      *tà-sòk*      *mbòŋ*  
sorghum    LOC-market    lack  
‘There is no sorghum at the market’
- (54) a. *kitáb*    *tàrbisà-dà*    *tèrèŋ*     $\emptyset$ -*èyè*  
book      table-LOC    on      S3SG-exist  
‘The book is on the table’
- b. *kitáb*    *tàrbisà-dà*    *tèrèŋ*    *mbòŋ*  
book      table-LOC    on      lack  
‘There is no book on the table’
- (55) a. *bis*      *ùŋgrán-dà*    *tùgròm*     $\emptyset$ -*èyè*  
cat      bed-LOC      under    S3SG-exist  
‘The cat is under the bed’
- b. *bis*      *ùŋgrán-dà*    *tùgròm*    *mbòŋ*  
cat      bed-LOC      under    lack  
‘There is no cat under the bed’

The verb *mbòŋ* used with existential and locatives is the only verb in such clauses.

#### Negation of experiencer constructions

We also find the replacement of *-èyè* ‘exist’ with the experiencer construction. However, the lexeme in question is *mbò* here instead of *mbòŋ*. Furthermore, *mbò* in the experiencer construction precedes the inflected copula *-Vn*. Since *mbò* is invariable it seems to have lost its verbal character and could be analyzed as a negation particle.

- (56) a. *ŋò*      *rà*      *n-òyò*  
O2SG    fear    2OSG-have:PRS  
‘You are afraid (lit. Fear is on/with you)’
- b. *ŋò*      *rà*      *mbò*    *n-òn*  
O2SG    fear    lack    2OSG-COP:PRS  
‘You are not afraid (lit. Fear is not on/with you)’

- (57) a. *ŋì àŋàn t-èyè*  
 O1SG happiness O1SG-have:PRS  
 ‘I am happy (lit. Happiness is on/with me)’
- b. *ŋì àŋàn mbò t-èn*  
 O1SG happiness lack O1SG-COP:PST  
 ‘I am not happy (lit. Happiness is not on/with me)’
- (58) a. *ŋèndá àlám nùŋg-èyè*  
 O3PL hunger O3PL-have:PRS  
 ‘They are hungry (lit. Hunger is on/with them)’
- b. *ŋèndá àlám mbò nùŋg-èn*  
 O3PL hunger lack O3PL-COP:PRS  
 ‘They are not hungry (lit. Hunger is not on/with them)’

#### Negation of possessives

Possessive constructions are negated with the verb *-wàndən*, meaning ‘not have, lack’, which replaces the verb *-èyè* ‘have’ in affirmative possessive clauses. The negative verb *-wàndən* is conjugated with person morphemes and is inflected for tense; see TABLE 22. Compare the structure of example (59) to example (31) above:

PERSON	PRESENT	PAST
1SG	<i>tù-wàndən</i>	<i>tó-wándən</i>
2SG	<i>nò-wàndən</i>	<i>nú-wándən</i>
3SG	<i>nò-wàndən</i>	<i>nú-wándən</i>
1PL	<i>təŋg-wàndən</i>	<i>túŋg-wándən</i>
1PL	<i>təŋg-wàndən</i>	<i>túŋg-wándən</i>
2PL	<i>nùŋ-wàndən</i>	<i>núŋú-wándən</i>
3PL	<i>nùŋ-wàndən</i>	<i>núŋú-wándən</i>

TABLE 22: Paradigm of the inflected verb *-wàndən* ‘not have, lack’

- (59) *ŋgó fār nò-wàndən*  
 O3SG house O3SG-not\_have  
 ‘He does not have a house’
- (60) *ŋìndé ágíà təŋg-wàndən*  
 O1PL PL:child O1PL-not\_have:PRS  
 ‘We (INCL) do not have children’

## 5 Conclusion and summary of findings

The study concludes with a summary of the findings.

Tagom is basically a verb-final language with SOV word order. In possessive and experiencer constructions the word order is altered to OSV, with cross-reference on the verb to the possessor (object).

With regard to TAM marking, we can state the following:

- The present tense/aspect is marked by low tone. It refers to ongoing and habitual actions and may be used to refer to future actions.
- The past tense is marked by high tone.
- The perfect differs from the past with regard to its tonal marking, which is HL while for the past it is HH.
- With regard to the future, the suffix *-òŋé* is the most obvious marker. Its first vowel is considered to be responsible for the vowel change that often occurs within the verbal root.

Generally, the verbal root is a bound morpheme. However, verbal roots which begin with a consonant are unmarked in the imperative singular, so that in that case the root corresponds to the imperative singular.

Otherwise, if the root starts with a vowel, the singular imperative is marked by the prefix *k-*. The plural form has the same variation regarding the prefix (*k-* vs. zero-marking) and is additionally always marked by the suffix *-dɔn*.

The hortative, occurring with first person plural (inclusive) and third persons, is formed by prefixing the verbal root with the relevant person marker.

The copula verb *-Vn* in Tagom is used with predicate nominals and predicate adjectives. It also plays a major role in the structure of negative declaratives, negative interrogatives and the negation of non-verbal predications.

In existential and locative constructions, the verb *-ɛyɛ* is used intransitively, while in experiencer and possessive constructions it is used transitively. Its translation as ‘exist’ vs. ‘have’ depends on these syntactic differences.

The analysis of negation is based on Miestamo’s (2017) opposition between symmetric and asymmetric negation, both on the constructional and on the paradigmatic level. While we find paradigmatic symmetry for the TAM forms present, past, perfect and future in Tagom, within each negation mode, the relationship to the affirmative is asymmetric. Constructional asymmetry can also be found for imperatives and interrogatives, while for non-verbal predication and hortative, it is symmetric.

Tagom makes use of all types of negative markers, i.e., morphological affixes, negative particles and negative verbs. In more detail:

- The *k-* prefix precedes the main verb of the clause, which ends with a copula for negative declaratives and negative interrogatives.
- The negative particle *keye* is used in negated non-verbal predications preceding the copula.
- The same particle *keye* is used to negate the future, here following the main verb.
- To negate the imperative/hortative form, the negative particle *ànàgò* precedes the verb.
- The negative particle/verb *mbə/mbəŋ* occurs clause-finally in existential and locative clauses and precedes the copula in experiencer constructions.
- The negative verb *-wəndən* ‘not have’ occurs ditto in possessive clauses.

Although, due to the difficult field situation, questions on some aspects of verbal inflection and negation remain to be answered, this first sketch on verbal inflection and clausal negation is a good starting point for future research that will hopefully advance our understanding of the Tagom language.

### **Acknowledgements**

This work is an outcome of a postdoc fellowship co-funded by the Foundation Maison des Sciences de l’Homme (FMSH), the French Embassy in Sudan (AMB) and the Ministry of Higher Education and Scientific research of Sudan (MOHE), hosted by the LLACAN Institute (CNRS) in 2018. Many of the data in this study are an outcome of the PICS project (2019-2022) between the Department of Linguistics, University of Khartoum, Sudan and the LLACAN Institute, CNRS, France.

I would like to express my thanks to all the members of the LLACAN Institute, Paris, France for their generous hospitality and for all the help that was offered during my stay in Villejuif. Special thanks are due to Dr. Nicolas Quint for his support. My sincere thanks go to Dr. Gertrud Schneider-Blum for her support and guidance. Many thanks are due to my consultant, Ibrahim Adam Yousif, who was very patient and helpful during our data collection sessions. I dedicate this work to all the Tagom community in Khartoum and the Nuba Mountains.

I would also like to express my thanks and gratitude to the sponsors of the fourth NMLC.

## Abbreviations

1	first person	O	object
2	second person	PL	plural
3	third person	POSS	possessive pronoun
C	consonant	PRS	present tense/aspect
COP	copula verb	PST	past tense
DEM	demonstrative	QUES	question
EP	epenthetic consonant	REF	referential
EXCL	exclusive	S	subject
FUT	future tense	SG	singular
INCL	inclusive	TA	tense/aspect
LOC	locative	TOP	topic
NEG	negative	V	vowel

## References

- Alamin, Suzan. 2015. The Tagoi pronominal system. *Occasional Papers in the Study of Sudanese Languages* 11. 17-30.
- Aldawi, Maha. 2022. Verbal number in Tagom. *Afrikanistik-Aegyptologie Online*, Vol. 2022.  
<https://www.afrikanistik-aegyptologie-online.de/archiv/2022/5508>
- Aldawi, Maha. In preparation. Verbal extensions in Tagom.
- Aldawi, Maha & Sawsan Nashid. 2019. An initial sketch of the Tagom noun phrase. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 129-151. Cologne: Rüdiger Köppe.
- Bashir, Abeer. 2018. Noun class genders in Tagoi. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 153-173. Cologne: Rüdiger Köppe.
- Blench, Roger M. 2013. Splitting up Kordofanian. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 571-586. Cologne: Rüdiger Köppe.
- Bybee, Joan L. 1985. *Morphology. A Study of the Relation Between Meaning and Form* (Typological Studies in Language, 9). Amsterdam & Philadelphia: John Benjamins.
- Corbett, Greville G. 1991. *Gender*. Cambridge/New York: Cambridge University Press.

- Dimmendaal, Gerrit J. 2018. Reconstructing Katloid and deconstructing Kordofanian. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 383-415. Cologne: Rüdiger Köppe.
- Heine, Bernd. 1997. *Cognitive Foundations of Grammar*. New York/Oxford: Oxford University Press.
- Greenberg, Joseph H. 1963. *The Languages of Africa*. Berlin: Mouton.
- Miestamo, Matti. 2013. Subtypes of asymmetric standard negation. In Matthew S. Dryer & Martin Haspelmath (eds.), *WALS Online*. <https://doi.org/10.5281/zenodo.7385533> (accessed on 2023-03-20).
- Miestamo, Matti. 2017. Negation. In Alexandra Y. Aikhenvald & R.M.W Dixon (eds.), *The Cambridge Handbook of Linguistic Typology*, 405-439. Cambridge: Cambridge University Press.
- Payne, John R. 1985. Negation. In Timothy Shopen (ed.), *Language Typology and Syntactic Description*, Vol. I: *Clause Structure*, 197-242. Cambridge: Cambridge University Press.
- Payne, Thomas E. 1997. *Describing Morphosyntax. A Guide for Field Linguistics*. Cambridge/New York: Cambridge University Press.
- Quint, Nicolas. 2009. *The Phonology of Koalib – A Kordofanian Language of the Nuba Mountains (Sudan)*. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. 1981. The classification of the Kadugli language group. In Thilo C. Schadeberg & M. Lionel Bender (eds.), *Nilo-Saharan: Proceedings of the First Nilo-Saharan Linguistics Colloquium, Leiden, Sept. 8-10, 1980*, 291-306. Dordrecht: Faris Publications.
- Schadeberg, Thilo C. 2013. Rashad survey data. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 325-345. Cologne: Rüdiger Köppe.
- Schneider-Blum, Gertrud, Birgit Hellwig & Gerrit J. Dimmendaal. 2018. *Nuba Mountain Language Studies – New Insights*. Cologne: Rüdiger Köppe.
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimaṅ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Tucker, Archibald N. & Margaret A. Bryan. 1966. *Linguistic Analyses: The Non-Bantu Languages of North-Eastern Africa*. London: Oxford University Press.
- Williamson, Kay & Roger M. Blench. 2000. Niger-Congo. In Bernd Heine & Derek Nurse (eds.), *African Languages: An Introduction*, 11-42. Cambridge: Cambridge University Press.

# Verb extensions in Koalib: a first general overview followed by some brief comparative considerations<sup>1</sup>

*Nicolas Quint and Siddig Ali Karmal Koko*

## 1 Verb extensions in Koalib: an introduction

Koalib is a Kordofanian language (Heibanian family<sup>2</sup>) spoken by ca. 100,000 people living in or coming from the areas of Abri, Delami, Tongole, Umm Heitan, Umm Berembeita and Djebel Nyukur, in the northeastern part of the Nuba Mountains (Southern Kordofan, Sudan; see MAP 1). As happens in many other Niger-Congo languages, verb extensions are a key element of Koalib verb morphology. Indeed, out of a total of 2,397 verbs registered in our Koalib dictionary (Quint & Ali Karmal Koko, forthcoming), 406 at most are underived verbs, while the rest, i.e., 1,991 items or 83% of the total, are extended verbs.<sup>3</sup> At least 10 different extensions are attested in contemporary Koalib (see TABLE 1).

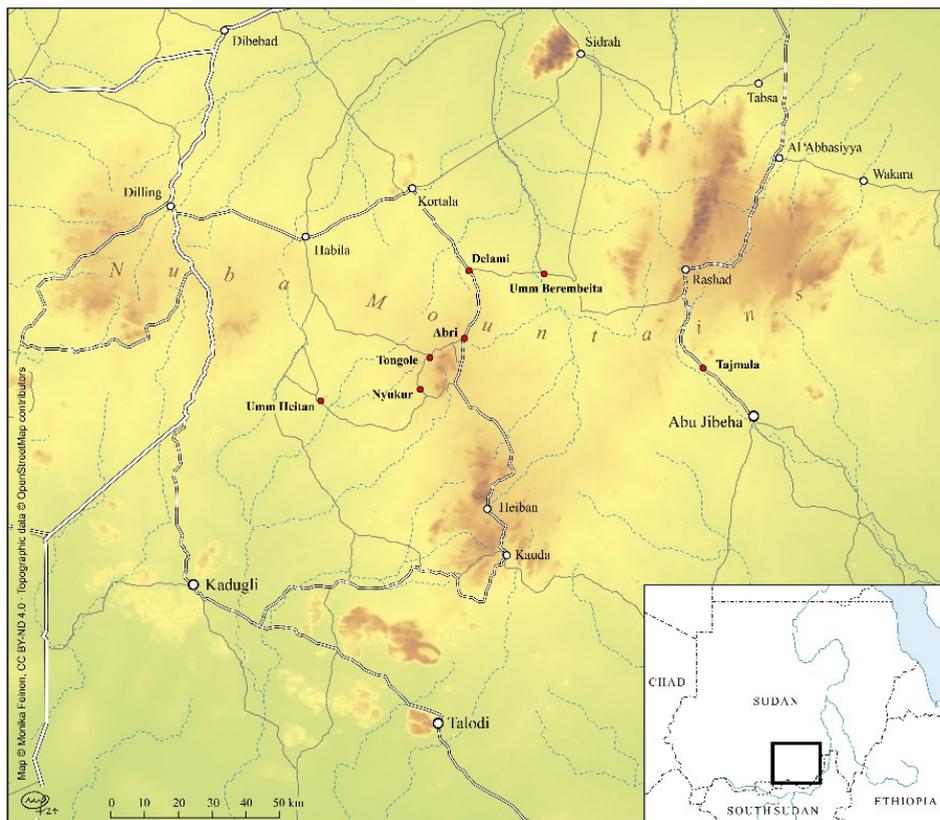
To this day, only two publications are available about Koalib verb extensions, namely Stevenson (1956/57: 29), which gives examples of some extensions, and Quint (2010), which focuses on applicatives (benefactives and malefactives).

---

<sup>1</sup> This chapter is dedicated to our Koalib and other Sudanese friends and informants who have to face the dire consequences of the present civil war in Sudan. May they have the opportunity to live in peace and harmony again soon. We also want to thank our editors for their careful revision of the present paper, as well as Rozenn Guérois and Mark Van de Velde for their bibliographical support.

<sup>2</sup> Throughout this paper, we stick to the position that, within the Niger-Congo phylum, the Kordofanian branch is a consistent phylogenetic unit comprising five distinct families (Heibanian, Katloid, Lafofa, Tegalian and Talodian). For more details about Kordofanian, see Quint (2020). For divergent views about the unity of Kordofanian, see Blench (2013) and Dimmendaal (2018).

<sup>3</sup> This Koalib dictionary, which has been in compilation since the year 2000 and is based on extensive fieldwork and the systematic review of a collection of oral texts and of nearly all available literature published in Koalib, will be used as the main corpus for the present paper.



MAP 1: The Koalib area in the Nuba Mountains of Sudan

The purpose of this chapter is to provide a general overview of verb extensions in Koalib. Its contents are organized as follows. In SECTION 2, the different verb extensions are scrutinized regarding their main characteristics (segmental and tonal morphology, valency, productivity, phonological constraints, semantics and borrowed verbs). In SECTION 3, the question of the boundaries between basic and extended verbs is tackled, with particular attention being paid to the case of frequentative and pluractional verbs. In SECTION 4, a brief comparative insight is provided, in order to allow the reader to situate Koalib verb extensions with respect to other Heibanian and Kordofanian languages. SECTION 5 summarizes the main points developed in this chapter and makes suggestions for further research.

VERB EXTENSION		EXAMPLES
Applicative 1 (benefactive)		<i>àé</i> <sup>4</sup> ‘die’ > <i>éicci</i> ‘die for s.o.’
Applicative 2 (malefactive)		<i>nyimí</i> ‘steal sth.’ > <i>nyimètè</i> ‘steal sth. from s.o.’
Associative		<i>àppé</i> ‘carry’ > <i>àppàtè</i> ‘carry together’
Causative	V <sub>H</sub>	<i>ájìè</i> ‘be weak’ > <i>èjìí</i> ‘weaken’
	suffixed	<i>tùllí</i> ‘cough’ > <i>tùllùníní</i> ‘make s.o. cough’
Excessive		<i>óblè</i> ‘be short’ > <i>òblàtté</i> ‘be too short’
Immediate		<i>jàú</i> ‘go out’ > <i>jàutènní</i> ‘go out at once’
Locative		<i>ɹùníní</i> ‘bring s.o. up’ > <i>ɹùnèncí</i> ‘bring s.o. up somewhere’
Passive		<i>ìppí</i> ‘beat’ > <i>ìppìníní</i> ‘be beaten’
Reciprocal		<i>èɹnyé</i> ‘kill’ > <i>èɹnyàtècé</i> ‘kill each other’
Reflexive		<i>ìppí</i> ‘beat’ > <i>ìppènní</i> ‘beat oneself’

TABLE 1: The ten verb extensions attested in Koalib (Quint 2020: 249-250)

## 2 Main characteristics of Koalib verb extensions

### 2.1 Segmental and tonal morphology

Each Koalib verb extension is characterized by a given segmental marker (generally a suffix) and tone melody (see TABLE 2).

Except for the V<sub>H</sub> causative, the segmental markers are all suffixes. Furthermore, at least four verb extensions (suffixed causative, immediate, passive and reflexive) share one and the same segmental marker, namely *-nnE*. The V<sub>H</sub> causative and the *-nnE* marker will be examined in more detail in this subsection.

<sup>4</sup> The Koalib data provided throughout this paper come from the *ɲèréɲè* variety (anglicized under the form *Rere*), spoken natively by Siddig Ali Karmal Koko. The data are transcribed following the phonologically-based system described in Quint (2006: 169-187; 2009: 189-210). When the transcription system is at variance with the IPA and whenever deemed necessary, a phonetic transcription is added to clarify the actual Koalib pronunciation.

VERB EXTENSION	SEGMENTAL MARKER	TONE MELODY OF THE VERB WORD	EXAMPLES
Applicative 1 (benefactive)	-(V)ccE <sup>5</sup>	H(L) <sub>n</sub> H <sup>6</sup>	(1)
Applicative 2 (malefactive)	-(V)tA	H(L) <sub>n</sub> L	(2)
Associative	-tE	(L) <sub>n</sub> H	(3)
V <sub>H</sub> causative	V <sub>H</sub> <sup>7</sup>		(7)-(9)
Excessive	-AttE		(4)
Locative	-AcE		(5)
Suffixed causative Immediate Passive Reflexive	-(V)nnE		(10)-(20)
Reciprocal	-(V)tEcE		(6)

TABLE 2: Segmental and tonal characteristics of Koalib verb extensions (centrifugal imperfective<sup>8</sup>)

Regarding tone, both applicatives are characterized by an initial high (H) tone while all other extensions share one and the same tone melody, namely (L)<sub>n</sub>H, with an initial low (L) tone. The initial high tone can therefore be understood as a specific marker of the applicative (Quint 2010: 297-298).

In the following examples, each verb extension is illustrated by a series of pairs of basic and extended verbs.

<sup>5</sup> The representation of the segmental markers is phonological. /E/ and /A/ are archiphonemes standing for /i, e, ε/ and /ɐ, a/ respectively; their realization depends on harmonic rules (Quint 2006: 34-42; 2009: 33-40). The actual phonemic value of the archiphonemes is provided in the examples.

<sup>6</sup> H = high tone; L = low tone; n = number of tone bearing units (usually considered as syllables), with n ≥ 1.

<sup>7</sup> V<sub>H</sub> = high vowel. The eight Koalib vowels are divided into two harmonic sets, a high set comprising the three vowels /i, ɐ, u/ and a low set comprising the five vowels /e, ε, a, ɔ, o/. All vowels in a given Koalib word necessarily belong to one and the same set (Quint 2006: 34-42; 2009: 33-40).

<sup>8</sup> The centrifugal imperfective is one of the three aspect-motion stems (AMS) of the Koalib verb and can be considered as the basic form of the Koalib verb morphology (Quint 2010: 296-297; forthcoming; Ferlita & Quint 2024). In particular, it is the only stem for which the tone melody is lexically (i.e., not morphologically) determined. The other two AMSs are the centripetal imperfective and the perfective, some of which forms are also presented and discussed in this paper.

## (1) Applicative 1 (benefactive):

- (a) *ùuŋí* ‘cut sth.’ > *úuŋíccí* ‘cut sth. **for** s.o.’
- (b) *àŋŋé* ‘draw (water from a well)’ > *àŋŋàccé* ‘draw (water) **for** s.o.’
- (c) *èmmé* ‘braid (hair)’ > *émmèccé* ‘braid s.o.’s (hair)’ (= ‘braid hair **for** s.o.)

## (2) Applicative 2 (malefactive):

- (a) *kèdri* ‘burp’ > *kédriṭè* [kédriḏè] ‘burp **in** s.o.’s face’
- (b) *òoné* ‘harvest’ > *óonàtà* [óonàḏà] ‘harvest [**unduly**] s.o. else’s (crop)’

## (3) Associative:

- (a) *dimmé* ‘lift sth.’ > *dimmèṭí* [dimmèḏí] ‘lift sth. **together**’
- (b) *àpré* [àvré] ‘flee’ > *àpràté* [àvràḏé] ‘flee **together** (a young couple whose parents do not want them to build a relationship)’

## (4) Excessive:

- (a) *òmmé* ‘catch (animals), fit (s.o.)’ > *ùmmèṭí* ‘be narrow’ (= ‘**too** tight’), ‘be **too** tight for s.o. (garment)’
- (b) *óorè* ‘be wide’ > *òoràtté* ‘be **too** wide’

## (5) Locative:

- (a) *ɽùŋí* [ɽùŋdí] ‘squeeze sth. (lemon)’ > *ɽùŋṭéçí* [ɽùŋḏéçí] ‘squeeze sth. (lemon) **on** sth. else (food)’
- (b) *èntéré* ‘sleep’ [èndèré] ‘sleep’ > *èntèràcé* [èndèràçé] ‘**make** s.o. sleep **against** sth. (wall) or s.o. else’

## (6) Reciprocal:

- (a) *nyìimí* ‘steal sth.’ > *nyìimèṭíçí* [nyìimèḏíçí] ‘steal **from each other**’
- (b) *éntà* [éndà] ‘meet s.o.’ > *èntàtècé* [èndàḏèçé] ‘meet (**each other**)’

2.1.1  $V_H$ -causative

The  $V_H$ -causative extension is the only one that triggers a systematic change within the verb stem. If the vowels of the basic verb belong to the low set, they are all heightened in the causative extension (7):

- (7) (a) *màané* ‘cook’ > *mèèní* ‘**make** s.o. cook’  
 (b) *còòrɛ́* [ʃòòrɛ́] ‘be clean’ > *cùùrɛ́* [ʃùùrɛ́] ‘clean sth.’ (= ‘**make** sth. clean’)  
 (c) *pèèté* [fèèðé] ‘be white’ > *pùùtí* [fùùðí] ‘whiten sth.’

However, if the vowels of the basic verb belong to the high set, there is no vowel change. In this case:

(i) If the basic verb ends with a low tone, the causative extension displays a (L)<sub>n</sub>H tone melody and contrasts tonally with the basic verb (8).

- (8) *úñní* |HL| ‘be black’ > *ùñní* |LH| ‘blacken’

(ii) If the basic verb ends with a high tone, the causative extension and the basic verb have the same form in the centrifugal imperfective (9).

- (9) (a) *nyùrttí* [nùrɛ́í] ‘come apart (overcooked meat)’ > *nyùrttí* [nùrɛ́í] ‘overcook sth. (meat) **so that it comes apart**’  
 (b) *tùkwlí* [tùg<sup>w</sup>lí] ‘swell up (boiled sorghum grains)’ > *tùkwlí* [tùg<sup>w</sup>lí] ‘**make** sth. (boiled sorghum grains) swell’

MEANING	EXTENSION	ASPECT-MOTION STEMS		
		CENTRI-FUGAL IMPER-FECTIVE	PERFECTIVE	CENTRIPETAL IMPERFECTIVE
‘come apart’	basic verb	<i>nyùrttí</i>	<i>nyùrttù</i>	<i>nyùrttè</i>
‘overcook sth.’	$V_H$ -causative		<i>nyùrttè</i>	
‘swell up’	basic verb	<i>tùkwlí</i>	<i>tùkwlù</i>	<i>tùkwlè</i> ~ <i>tùkwlitè</i>
‘make sth. swell’	$V_H$ -causative		<i>tùkwlè</i>	<i>tùkwlè</i>

TABLE 3: The three aspect-motion stems of the Koalib basic verbs *nyùrttí* ‘come apart’ and *tùkwlí* ‘swell up’, and their respective  $V_H$ -causative extensions

However, the basic verb and its causative extension always remain distinct in the perfective aspect-motion stem (where the basic form has an *-O* ending and the causative an *-A* ending) and sometimes in the centripetal imperfective (see TABLE 3).<sup>9</sup>

At any rate, the contrast between a  $V_H$ -causative and its basic verb is less clear when the vowels of the basic verb are high. Indeed, as shown in TABLE 4, the basic verbs whose vowels belong to the high set are statistically less prone to producing  $V_H$ -causative extensions: they represent only 14% of the total number of basic verbs with an attested  $V_H$ -causative extension, while verbs containing high vowels account for roughly one half (48%) of the total number of Koalib verbs.

VERB TYPE	ITEMS WITH HIGH VOWELS ( $V_H$ )	TOTAL ITEMS	% $V_H$
Basic verbs with an attested $V_H$ -causative extension	16	113 <sup>10</sup>	14%
Basic verbs	119	406	29%
All Koalib verbs (either basic or extended)	1 150	2 397	48%

TABLE 4: Proportion of different types of verbs whose vowels belong to the high harmonic set ( $V_H$ )

### 2.1.2 *-nnE* extensions

As seen above in TABLES 1 and 2, the *-nnE* suffix encodes at least four different semantic values (or semes): causative, immediate, passive and reflexive. This similarity in coding inevitably leads to an important question: does the *-nnE* suffix encode one Koalib verb extension which has different semantic values or can it reasonably be said that these four extensions (or at least some of them) are morphologically independent from each other? In this subsection, we will try to answer this question.

First of all, it is true that there is some overlap between the four main semantic values associated with the *-nnE* suffix as, in a sizeable number of instances, one and the same verb can assume several of these values (see TABLE 5).<sup>11</sup>

<sup>9</sup> According to Koalib vowel harmony rules, the archiphoneme /O/ stands for /o, ɔ/ (low vowel set) and /u/ (high vowel set); see footnotes 5 and 7 above.

<sup>10</sup> The causative extended verbs derived from another extended verb (concatenated extensions – see SECTION 2.4.2 and (37)) have been excluded from this figure.

<sup>11</sup> Note that, from a typological viewpoint, the linguistic devices encoding CAUSATIVE, PASSIVE and REFLEXIVE are frequently shared or historically derived from each other; see Haspelmath (1990).

NUMBER OF VALUES PER EACH <i>-nnE</i> EXTENDED VERB	SEMANTIC VALUES	<i>-nnE</i> VERBS	%	EXAMPLES
1 semantic value	causative	35	7%	TABLE 1
	immediate	43	8%	TABLE 1
	passive	203	37%	TABLE 1
	reflexive	135	25%	TABLE 1
	<b>Total 'monovalue'</b>	<b>416</b>	<b>77%</b>	
2 semantic values	causative + passive	20	4%	(10)
	causative + reflexive	10	2%	(11)
	immediate + passive	4	1%	(12)
	immediate + reflexive	15	3%	(13)
	passive + reflexive	57	10%	(14)
	<b>Total 'divalue'</b>	<b>106</b>	<b>20%</b>	
3 semantic values	causative + passive + reflexive	8	1.5%	(15)
	immediate + passive + reflexive	8	1.5%	(16)
	<b>Total 'trivalue'</b>	<b>16</b>	<b>3%</b>	
	<b>Overall total</b>	<b>538</b>	<b>100%</b>	

TABLE 5: Semantic values associated with each verb extended by means of the suffix *-nnE*

As shown in TABLE 5, most of the *-nnE* extended verbs are associated with only one of their four possible semantic values: out of a total of 538 *-nnE* extended verbs, the 'monovalue' verbs represent 77% of the sample.

However, the *-nnE* extended verbs associated with two semantic values (e.g. causative + passive) are also quite common, accounting for 20% of the total. The five attested types of 'divalue' verbs are illustrated below:<sup>12</sup>

<sup>12</sup> Note that only one of the logical pairs of values is lacking, namely 'causative + immediate'. However, we cannot say whether this absence is due to the limitations of our corpus or to an impossibility of associating both values with one and the same *-nnE* extended verb.

- (10) causative + passive: *nèŋné* ‘hear’  
 > *nìŋnìnní* ‘**make** s.o. hear’ (causative) + ‘**be heard**’ (passive)
- (11) causative + reflexive: *wàóé* ‘urinate’  
 > *wèùinní* ‘**cause** s.o. to urinate (e.g. beer)’ (causative) + ‘wet one’s bed (= urinate on **oneself**)’ (reflexive)
- (12) immediate + passive: *òrlé* ‘turn back’  
 > *òrlànné* ‘turn back (somewhere) **at exactly the same time as** s.o. else’ (immediate) + ‘**be turned** inside out (garment)’ (passive)
- (13) immediate + reflexive: *èlŋé* ‘sing’  
 > *èlŋànné* ‘**immediately set out to** sing’ (immediate) + ‘sing **about oneself**’ (reflexive)
- (14) passive + reflexive: *piéŋ* [fiéŋ] ‘shave s.o. off’  
 > *pièŋní* [fièŋní]<sup>13</sup> ‘**be shaved** off’ (passive) + ‘shave **oneself** off’ (reflexive)

A small minority (3%) of *-nnE* extended verbs is even associated with three semantic values. The two types of ‘trivalued’ verbs attested are illustrated in (15) and (16):

- (15) causative + passive + reflexive: *dònné* ‘roast sth. (meat)’  
 > *dùnnùnní* ‘**make** s.o. roast sth. (meat)’ (causative) + ‘**be roasted** (meat)’ (passive) + ‘burn **oneself** (= roast **oneself**)’ (reflexive)
- (16) immediate + passive + reflexive: *àaŋé* ‘go back (somewhere)’  
 > *àaŋànné* ‘go back **at once**’ (immediate) + ‘**be brought** back (somewhere) (cattle)’ (passive) + ‘put sth. back **on** (garment)’ (reflexive)

Secondly, besides the overlaps between the four values, there are also many cases where one and the same basic verb can generate segmentally different *-nnE* extended verbs (17)-(20), each associated with their own specific value(s):

<sup>13</sup> The final sequence *-[ní]* of *pièŋní* is one of the possible realizations of the variant *-nE* of the suffix *-nnE*. The variant *-nE* is mostly used with basic verbs ending with a consonant (see SECTION 2.5.1 below).

- (17) *lòó* ‘write’  
 > *lùutìnní* [lùuðìnní] ‘make s.o. write (sth.)’ (causative)  
 vs. *lòótènné* [lòððènné] ‘be written’ (passive)
- (18) *rúuŋì* ‘be dirty’  
 > *rùuŋènní* ‘get **immediately** dirty’ (immediate)  
 vs. *rùuŋùnní* ‘dirty **oneself**’ (reflexive)
- (19) *èŋnyé* [èŋŋé] ‘kill s.o., put sth. out (fire)’  
 > *èŋnyènné* [èŋŋènné] ‘**be killed**’ (passive)  
 vs. *èŋnyànné* [èŋŋànné] ‘kill s.o. **at once**’ (immediate) + ‘go out (fire),  
 subside (conflict)’ (reflexive)
- (20) *kéé* ‘be bad/dangerous, break (off) [intr.], tear away [intr.]’  
 > *kìènní* ‘tear sth. **immediately**’ (immediate)  
 vs. *kìnní* ‘be broken/torn’ (passive)  
 vs. *kèànné* ‘get damaged/spoiled (stored grain)’ (reflexive)

Thirdly, although these are not absolute rules, some values tend to be associated with a specific subgroup of *-nnE* extensions characterized by some formal features:

(i) Nearly all ( $\geq 94\%$ ) *-nnE* verbs with causative value have vowels belonging to the high set (or  $V_H$ ), while this proportion is much lower (55%) among the whole sample of *-nnE* verbs (see TABLE 6).

VERB TYPE	VALUE	$V_H$	TOTAL	%
<i>-nnE</i> verbs associated with:	causative only	33	35	94%
	causative + other(s)	71	73	97%
all <i>-nnE</i> verbs		295	538	55%

TABLE 6: Proportion of different types of *-nnE* extended verbs whose vowels belong to the high harmonic set ( $V_H$ )

In other words, *-nnE* causatives, just like  $V_H$ -causatives (see SECTION 2.1.1 above), seem to resort to using high vowels as a morphological marker of their causativeness.<sup>14</sup>

(ii) All *-nnE* verbs exclusively associated with an immediate value have an *A* vowel preceding the *-nnE* final sequence, whereas this is the case with only 42% of all *-nnE* extended verbs. In other words, *-AnnE* (rather than *-nnE*) appears to be the standard form of the suffix associated with the immediate value.

VERB TYPE	VALUE	<i>-AnnE</i>	TOTAL	%
<i>-nnE</i> verbs associated with:	immediate only	43	43	100%
	immediate + other(s)	69	70	99%
all <i>-nnE</i> verbs		225	538	42%

TABLE 7: Proportion of different types of *-nnE* extended verbs ending in an *-AnnE* sequence

The data examined above suggest that, although it is not always possible to distinguish the main four values associated with the *-nnE* suffix by means of morphological (i.e., non-semantic) criteria, in some cases at least this distinction does have a morphological basis. Be that as it may, the synchronic data we have at our disposal do not allow us to determine whether *-nnE* is a unique polysemous morpheme that acquired different values in the course of its historical development, or whether *-nnE* has a different origin according to the value(s) it encodes, with the present partial homonymy being due to the merger of historically distinct morphemes. Thus, throughout this chapter, we have preferred to consider that each of the causative, immediate, passive and reflexive semantic values is a separate verb extension.

## 2.2 Valency

Koalib verb extensions can also be characterized by the valency changes they trigger. TABLE 8 summarizes these changes, i.e., the number of core (S or O) or circumstantial (LOC = locative) arguments typically added or suppressed for each verb extension. In Koalib, O ‘object’ refers to any verb complement morphologically marked by means of the object case (Quint & Allasonnière-

<sup>14</sup> Note that, as happens with  $V_H$ -causatives (see TABLE 4 and discussion thereof), the basic verbs whose vowels belong to the high set are also less prone to producing suffixed *-nnE* causatives: out of a total of 73 *-nnE* extended verbs associated exclusively or partly with a causative value, only 19 (i.e., 26%) are derived from a basic verb containing high vowels.

Tang 2022). The object can assume the semantic role of BENEFICIARY, CAUSEE or PATIENT (see also (42)). As for the extra argument of locative extended verbs, it can be either a locative circumstantial argument (LOC, as happens here with *ɽùnɛ́ɽí*) or a morphological object (O, see (47)).

VERB EXTENSION		EXAMPLES	VALENCY CHANGE	SYNTACTIC ROLE
Applicative 1 (benefactive)		<i>àé</i> ‘die’ (intr.) > <i>èiccí</i> ‘die for s.o.’ (tr.)	+1	+O
Applicative 2 (malefactive)		<i>nyìimí</i> ‘steal sth.’ (tr.) > <i>nyìimètè</i> ‘steal sth. from s.o.’ (ditr.)	+1	+O
Causative	V <sub>H</sub>	<i>ájìè</i> ‘be weak’ (intr.) > <i>èjìf</i> ‘weaken s.o.’ (tr.)	+1	+O
	suffixed	<i>tùlì</i> ‘cough’ (intr.) > <i>tùlùnní</i> ‘make s.o. cough’ (tr.)	+1	+O
Locative		<i>ɽùnì</i> ‘bring s.o. up’ (tr.) > <i>ɽùnɛ́ɽí</i> ‘bring s.o. up somewhere’ (tr. + locative argument)	+1	+O/ LOC
Associative		<i>àppé</i> ‘carry sth.’ (tr.) > <i>àppàté</i> ‘carry sth. together’ (tr.)	0	
Excessive		<i>óblè</i> ‘be short’ (intr.) > <i>òblàtté</i> ‘be too short’ (intr.)	0	
Immediate		<i>ɽùú</i> ‘go out’ (intr.) > <i>ɽùutènní</i> ‘go out at once’ (intr.)	0	
Passive		<i>ìppí</i> ‘beat s.o.’ (tr.) > <i>ìppìnní</i> ‘be beaten’ (intr.)	-1	-O
Reciprocal		<i>èɽnyé</i> ‘kill s.o.’ (tr.) > <i>èɽnyàtècé</i> ‘kill each other’ (intr.)	-1	-O
Reflexive		<i>ìppí</i> ‘beat s.o.’ (tr.) > <i>ìppènní</i> ‘beat oneself’ (intr.)	-1	-O

TABLE 8: Valency changes typically triggered by each Koalib verb extension

One valency change for each category (+1, 0 and -1) is illustrated in turn hereafter (21-23):

- (21) a. *âé* ‘die’ (intransitive, basic verb)  
*Kwókkò kw-âé*  
 PN CL-die.IPFV.CFG  
 S S.V<sup>15</sup>  
 ‘Kwokko will die.’
- b. *èìccí* ‘die for s.o.’ (transitive (+1 = O), applicative 1 (benefactive))  
*Kwókkò kw-èì-ccí ny-éllè ny-ùgwún*  
 PN CL-die-BEN.IPFV.CFG CL.PL-child.O CL.PL-POSS3SG  
 S S.V O  
 ‘Kwokko will die **for** his children.’
- (22) a. *âppé* ‘carry’ (transitive, basic verb)  
*kw-âppé lúuɽì*  
 CL-carry.IPFV.CFG wood.O  
 S.V O  
 ‘S/he will carry the piece of wood.’
- b. *âppâté* [âppâðé] ‘carry **together**’ (transitive (+0), associative)  
*l-âpp-âté lúuɽì*  
 CL-carry-ASSOC.IPFV.CFG wood.O  
 S.V O  
 ‘They will carry the piece of wood **together**.’
- (23) a. *àmɽé* ‘love s.o.’ (transitive, basic verb)  
*kw-àmɽà Kwókkò-ɽwó*  
 CL-love.PFV Kwokko-O  
 S.V O  
 ‘S/he loves Kwokko.’

<sup>15</sup> In this paper, s (small capital) refers to the ‘subject agreement marker’, i.e., a bound morpheme agreeing with or expressing the subject on the inflected verb itself.

- b. *àmɾàtècé* [àmɾàðèzɛ́] ‘love **each other**’ (intransitive (-1 = O), reciprocal)

*l-àmɾ-àtècà*

CL.PL-love-REC.PFV

S.V

‘They love each other.’

Such valency changes are quite regular in the corpus and some extensions comply rather strictly with their prototypical behavior regarding valency: for instance, all known benefactives (applicatives 1) and suffixed causatives are transitive, which is expected as these extensions trigger an extra object argument when compared with their basic verb (see TABLE 8 above). However, a minority of  $V_H$ -causatives and malefactives (applicatives 2) are attested in intransitive constructions. This involves 3% (4/148) of  $V_H$ -causatives and 21% (55/262) of malefactives, of which 27 (10% = 27/262) have only been documented as intransitives.

Such unexpectedly intransitive  $V_H$ -causatives and malefactives themselves fall into two different categories:<sup>16</sup>

- (i) ‘semi-intransitives’, in whose construction a postposition (*lá* ‘up’ in (24), *né* ‘in’ in (25)) or an oblique complement (*ɲèɾàaŋàlɲé* = *ɲèɾàaŋàl* ‘thing’ + *ɲ* ‘CL’ + *é* ‘INSTR’ = ‘with sth.’ in (26)) plays the role of a pseudo-object:<sup>17</sup>

(24) *èrlé* ‘stand/wait’

> applicative 2: *érlàtá-lá* [érlàðà-lá] ‘stand up’<sup>18</sup>

<sup>16</sup> The notion of ‘unexpected intransitive’ arises from the fact that, contrary to what happens in Western European languages such as English or French, Koalib verbs are rarely labile. In Koalib, a change of valency almost always entails the use of another verb extension, e.g., ‘eat sth.’ (tr.) translates as *yèé*, while ‘eat’ (intr.) translates as *étné*, an irregular reflexive extension of *yèé*.

<sup>17</sup> When Koalib postpositions directly follow a verb (with no noun phrase involved), the resulting combination ‘verb + postposition’ is often quite comparable to English phrasal verbs, as suggested by the translation of (24).

<sup>18</sup> Note that this specific malefactive verb extension does not have a typically malefactive meaning; the same applies for (26) and (28)-(31). For more details about the semantics of the malefactive verb extension, see SECTION 2.6.1 below.

- (25) *àaɾé* ‘go back’  
 > V<sub>H</sub>-causative: *èɛɾí-né* ‘miscarry’ (= ‘make go back + in’)
- (26) *kèffé* ‘place/put/set’  
 > applicative 2: *kéffàtà* [ké[tàðà] *ɲèràaɲàlɲé* = ‘base one’s expectations/reasoning on (= ‘with’) sth.’
- (ii) ‘full intransitives’, which can be used without any direct or oblique complement (27)-(31):
- (27) *èrlé* ‘stand/wait’  
 > V<sub>H</sub>-causative: *írí* ‘get engaged (a man to a woman)’ (= ‘make stand/wait’)
- (28) \**bOɾɾ*- [basic verb unknown]  
 > applicative 2: *búɲètè* [bú[ɲèðè] ‘make a sauce’
- (29) *pèrtté* [fèr[é] ‘sweep/gather’  
 > applicative 2: *pérttàtà* [fèr[tàðà] ‘put the flour into a container after grinding’
- (30) *kwèé* ‘make a (seed) hole’  
 > applicative 2: *kéetàtà* [kéèðàðà] ‘put sorghum seeds in the seed holes’
- (31) \**aɾɾ*- [basic verb unknown]  
 > applicative 2: *áɲrètà* [áɲrèðà] ‘be ready for anything, stay alert’

As can be seen from this selection, the full intransitive constructions of V<sub>H</sub>-causatives and malefatives regularly refer to very common activities in Koalib traditional culture, such as marriage arrangement (27), food preparation (28)-(29), agriculture (30) or attitudes towards the outside world (31). In most of these instances, the expected object must have been dropped because it was

easily deduced from the verb itself, e.g., *búŋhètè* in (28) refers only to the specific action of MAKING A SAUCE (not any other type of food). Furthermore, we can notice that two of the five above intransitive applicatives 2 ((28), (31)) lack a basic verb (which probably got lost at some point in the history of the language). The absence of a basic verb in synchrony probably favors the intransitive use of verbs, which are morphological malefactive but whose relationship with their original basic verb has been severed, thereby rendering more obscure the mechanisms of valency change in the speakers' minds.

### 2.3 Productivity

As shown in TABLE 9, the productivity of the diverse verb extensions is quite variable.<sup>19</sup> Benefactives (29%) and *-nnE* extensions (28%, if we consider it as a unique category; see SECTION 2.1.2) are clearly dominant: in fact, the number of extended verbs associated with each of these extensions is higher than the actual number of attested basic verbs (406; see SECTION 1).

Verbs borrowed by Koalib from other languages may also combine with benefactive and *-nnE* extensions, which shows that these extensions are fully productive in today's Koalib (see SECTION 2.7). At the other end of the frequency curve, the excessive extension is clearly residual in contemporary Koalib (12 items, i.e., less than 1% of all extended verbs).

If we split the verbs associated with the suffix *-nnE* according to their value (passive, reflexive, immediate and causative), immediates and suffixed causatives also have relatively low frequencies in Koalib, suggesting that they may not be fully productive in synchrony.

---

<sup>19</sup> Note that here the notion of productivity is based on the number of lexical entries in the Koalib dictionary. Corpus-based studies based on frequency of use are still lacking for Koalib: they may give significantly different results regarding the respective vitality of each verb extension in daily speech.

EXTENDED VERBS		NUMBER	%
Applicative 1 (benefactive)		573	29%
- <i>nnE</i> extension		538	28%
of which <sup>20</sup> :	Passive	262	14%
	Reflexive	175	9%
	Immediate	56	3%
	Causative	45	2%
Applicative 2 (malefactive)		262	14%
Locative		175	9%
V <sub>H</sub> -causative		148	8%
Associative		133	6%
Reciprocal		105	5%
Excessive		12	1%
<b>Total<sup>21</sup></b>		<b>1 946</b>	<b>100%</b>

TABLE 9: Respective frequency of Koalib extended verbs in our corpus

#### 2.4 Over-derivation

Two cases of over-derivation will be discussed in this subsection:

- (i) ‘multiple extension’:<sup>22</sup> when several extended verbs belonging to one and the same type of extension are derived from one and the same basic verb;
- (ii) ‘concatenated extension’: when several different verb extensions are associated together with one and the same basic verb to produce one resulting derived verb.

<sup>20</sup> The numbers given for each value associated with the suffix *-nnE* are estimates based on TABLE 5. The number of items associated with each value is calculated as follows:  $(N/416) \times 538$ , where N is the number of *-nnE* extended verbs exclusively associated with a given value (e.g., N=35 for ‘causative’ in TABLE 5); 416 is the total number of *-nnE* extended verbs associated with one value only (‘monovalue’); and 538 is the overall total of *-nnE* extended verbs.

<sup>21</sup> If we compare the total number of derived verbs (1,991; see SECTION 1 above) with the total of derived verbs in TABLE 9, there are 45 verbs (1,991-1,946) which remain unidentified (i.e., not ascribed to any definite verb extension). Most of these are variants or dubious cases. The bias they introduce in the data  $((45/1\ 991) \times 100 = 2\%$  of the sample) can be considered as not significant.

<sup>22</sup> The term is coined after an analogy with ‘multiple birth’, whereby the basic verb is ‘the mother’, and the extended verbs are ‘the children’.

## 2.4.1 Multiple extension

The existence of this type of over-derivation comes as no surprise, as certain categories of extended verbs (in particular benefactives and *-nnE* extensions; see SECTION 2.3) are more numerous than the basic verbs.

Double benefactives (i.e., two benefactives derived from the same basic verb) have already been described in Quint (2010: 306-307), from which (32) is taken:

- (32) *èṛnyé* [èṛṇjé] ~ *ṛèenyé* [ṛèeṇjé], ‘kill sth. (animal)/s.o.’  
 > benefactive (applicative 1): *ṛénycé* [ṛèṇjé]<sup>23</sup> ‘kill sth. (animal) **for** s.o.’, where the concrete meaning of the basic verb is maintained;  
 vs. benefactive (applicative 1): *éṛnyàccé* [éṛṇàccé] ‘forgive s.o. sth.’, which has a more abstract meaning (= ‘kill/ erase [in one’s mind] the bad actions that s.o. did to you’).

Double malefactives (33), passives (34) and reflexives (35) are also attested:

- (33) *èmné* ‘eat sth. that does not need chewing (flour, porridge)’  
 > malefactive (applicative 2): *émnàtà* [émnàḏà] ‘eat **unduly** sth. **belonging to** s.o. else., eat sth. **on one’s way**’  
 vs. malefactive (applicative 2): *ímnèṛè* [ímnèḏè] ‘gnaw sth., lick sth., eat sth. **on one’s way**’

Both malefactive extensions share one of their meanings, namely ‘eat sth. **on one’s way**’, while also displaying significantly different senses.

- (34) *ìṛí* ‘obey s.o.’  
 > passive: *ìṛènní* ‘**be** tamed (bull)/calmed down (cow)’ (= ‘**be made** obedient’<sup>24</sup>)  
 vs. passive: *ìṛínní* ‘**be** obeyed’

<sup>23</sup> The final sequence *-[je]* of *ṛénycé* is one of the possible realizations of the variant *-[jE/]* of the benefactive suffix *-(V)ccE/* (Quint 2010: 303). *-[jE/]* is frequently used with basic verbs ending with a *-[mV/]*, *-[nV/]* or *-[ṇV/]* sequence (*ṛèenyé* [ṛèeṇjé] CVVṇV falls into this category) or with a consonant (see SECTION 2.5.1 below).

<sup>24</sup> The English translation suggests that this particular item has a causative component and hence that *ìṛènní* might be a case of concatenated extension (see SECTION 2.4.2), i.e., causative + passive. However, the available data do not allow us to prove this hypothesis.

- (35) *èccé* ‘look, watch’  
 > reflexive: *èccànné* ‘look **around oneself**, check **one’s outfits**’  
 vs. reflexive: *iccini* ‘feel’ (= ‘look **at oneself** [in a certain state]’)

#### 2.4.2 Concatenated extension

This type was also described in Quint (2009: 302), from which (36) is taken.

- (36) *èrrí* |LH| ‘do sth.’  
 > passive: *èrrinni* |LLH| ‘happen’ (= ‘**be done**’)  
 > benefactive (applicative 1): *èrrinnicci* |HLLH| ‘happen **to s.o.**’

In (36), we have a combination of *-nnE* (passive value) plus benefactive. As can be seen, it is the last extension (here the benefactive) that imposes its tonal melody (here |H(L)<sub>n</sub>H|; see SECTION 2.1 above) on the previously extended verb (here *èrrinni*).

Actually, concatenated extension is not a rare phenomenon in Koalib. We were able to find 161 concatenated extended verbs, i.e., 8% of the total number of identified extended verbs (161/1,946). Among the 64 types of concatenated extended verbs theoretically possible, a significant part (30, i.e., almost half) are actually attested in the corpus, as shown in TABLE 10. Note also that, at least in synchrony, the mechanism of concatenation seems to be limited to two verb extensions.

Besides *-nnE* plus BEN (illustrated in (36)), a few more pairs of combined extensions are exemplified below; see (37)-(39):

- (37) ASSO + V<sub>H</sub>-CAUS  
*èrmé* ‘hit s.o./sth., bump into sth.’  
 > associative: *èrmété* [èrmèðé] ‘face **each other** (football/wrestling team), fight **each other**, bump into **each other**’  
 > associative + V<sub>H</sub>-CAUSATIVE: *irmiti* [irmìðí] ‘**make** people fight each other, **make** people bump into each other’

PENULT. EXT.	LAST EXTENSION								TOTAL	%
	AS- SOC	BEN	EXC	LOC	MAL	- <i>nnE</i>	REC	V <sub>H</sub> - CAUS		
ASSOC		13		1		7	2	25	48	30%
BEN	1	2				5	1		9	5%
EXC	1			3	4	2	1		11	7%
LOC	1	8		2		6	3		20	12%
MAL		1				5			6	4%
- <i>nnE</i>	1	33			14	2	3	7	60	37%
REC								1	1	1%
V <sub>H</sub> -CAUS		2				1	3		6	4%
Total	4	59	0	6	18	28	13	33	161	100%
%	3%	37%	0%	4%	11%	17%	8%	20%	100%	

TABLE 10: Main types of concatenated extended verbs in Koalib

(Legend of TABLE 10: ASSOC = associative, BEN = benefactive (applicative 1), EXC = excessive, LOC = locative, MAL = malefactive (applicative 2), penult. ext. = penultimate extension, REC = reciprocal, V<sub>H</sub>-CAUS = high vowel causative)

(38) BEN + -*nnE*

*kittí* ‘open sth.’

> benefactive (applicative 1): *kitticcí* ‘open sth. to s.o.’

> benefactive + immediate: *kitticcènní* ‘immediately open sth. to s.o.’

(39) *-nnE* + MAL

*lùccí* ‘hide s.o./sth.’

> *-nnE* (passive/reflexive): *lùccìnní* ‘be hidden, be unknown, hide (oneself)’

> *-nnE* + malefactive (applicative 2): *lúccínnètè* [lúccínnèðè] ‘hide (oneself) from s.o.’

Concatenated extensions may be the source of more verbal items than the ones that have been documented in TABLE 10. For instance, benefactive (applicative 1) *cúuřiccí* ‘clean sth. for s.o.’ may directly be traced back to the basic verb *còoré* ‘be clean’. Nonetheless, it is also safe to assume that the  $V_H$ -causative verb *cùuří* ‘clean sth.’ (see (7b)) acts as an intermediary between the basic verb and its benefactive, in which case *cúuřiccí* would be a concatenated extended form (40):

(40) *còoré* [ʃòoré] ‘be clean’ (basic verb, intransitive)

> *cùuří* [ʃùuří] ‘clean sth.’ ( $V_H$ -causative, transitive)

> *cúuřiccí* [ʃúuřiccí] ‘clean sth. for s.o.’ (benefactive, ditransitive)

Although it cannot entirely be proved, the hypothesis that *cúuřiccí* is a concatenated extended form would better account for the valency of the verb (+ 1 object per extension) and for the vowel alternation between the basic verb and its benefactive form.

Finally note that the few trivalent verbs attested in Koalib are all concatenated extensions (41):

(41) *támto* [támðò] ‘go beyond sth. (place)’ (basic verb, transitive)

> *tèmtí* [tèmdǫí] ‘make s.o. cross sth.’ ( $V_H$ -causative, ditransitive)

> *tèmticcí* [tèmdǫccí] ‘make s.o. cross sth. for s.o. else’ ( $V_H$ -causative + benefactive, tritransitive), as exemplified in (42).

(42) *Kwókkò*      *kwé-tèmti-ccí*

Kwokko      CL-cross.CAUS-BEN.IPFV.CFG

S      S-V

*évpù-řwú*      *y-èeró*      *kè-pèrttà.*

Uhvoo-O      CL.PL-goat.O      CL-river.bed.O

O1 (BENEFICIARY)      O2 (CAUSEE)      O3 (PATIENT)

‘Kwókkò will get the goats across the river bed for Uhvoo.’

## 2.5 Phonological constraints

In some cases, the phonological shape of the basic verb imposes some limitations on the extension mechanisms. We will study hereafter two instances of this type of limitation.

## 2.5.1 Consonantal verbs

Most Koalib basic verbs comply with well-formedness rules regarding their syllabic structure. The imperfective-centrifugal stem has either a (C)VC.CV (43) or a (C)VV.CV (44) form, in which one can distinguish:

- a lexical verb root, (C)VC.C- or (C)VV.C-;
- a final vowel -V, characteristic of the aspect-motion (here imperfective-centrifugal).

- |      |    |                      |        |                            |
|------|----|----------------------|--------|----------------------------|
| (43) | a. | <i>ùtrí</i> [ùðrí]   | VC.CV  | ‘sip sth. (a drink)’       |
|      | b. | <i>dòrké</i> [dòrgé] | CVC.CV | ‘be striped’               |
| (44) | a. | <i>áaḡè</i>          | VV.CV  | ‘swell’                    |
|      | b. | <i>kèèré</i>         | CVV.CV | ‘be selfish, despise s.o.’ |

However, an important group of Koalib basic verbs (59 items, i.e., 15% of our sample of 406 basic verbs) do not comply with this rule, as their imperfective-centrifugal stem ends with a consonant (45). We term these verbs ‘consonantal verbs’.

- |      |    |                        |                                   |
|------|----|------------------------|-----------------------------------|
| (45) | a. | <i>èverúm</i>          | ‘burn’                            |
|      | b. | <i>èdrény</i> [èdréŋ]  | ‘tear sth.’                       |
|      | c. | <i>tèmpél</i> [tèmbél] | ‘confuse s.o.’s mind, cheat s.o.’ |

In practice, only four verb extensions are attested among the consonantal verbs (see TABLE 11) and two are really frequent: the benefactive (applicative 1) and the *-nnE* extension (46).

- |      |   |  |
|------|---|--|
| (46) | <i>òkróm</i> [ògróm]                              | ‘noisily crush sth. with one’s hand or foot’ |
|      | > benefactive: <i>òkròmjé</i> [ògròmjé]           | ‘crush sth. <b>belonging to</b> s.o.’        |
|      | > <i>-nnE</i> (passive): <i>òkròmné</i> [ògròmné] | ‘ <b>be</b> crushed’ <sup>25</sup>           |

<sup>25</sup> Note that, with the consonantal verb *òkróm*, the suffixes marking the benefactive and the *-nnE* extension are *-[jɛ]* and *-[nɛ]* respectively. These forms are variants of the prototypes *-(V)ccE* and *-(V)nnE* described in TABLE 2.

As shown in TABLE 11, there is a total of 101 verb extensions for 59 basic consonantal verbs, i.e., an average of 1.7 extended forms for each basic consonantal verb, a much lower figure than what is observed for the total sample of verbs we have at our disposal, where the average is 4.9 (1,991 extended forms for 406 basic verbs; see SECTION 1), i.e., nearly three times higher.<sup>26</sup> The phonological shape of the consonantal verbs seems therefore to considerably limit their possibilities to produce extended forms.

	BEN	LOC	MAL	- <i>nnE</i> <sup>27</sup>	TOTAL
Number of extended verbs	44	1	4	52	101
% consonantal basic verbs with at least one verb extension	76%	2%	7%	76%	

TABLE 11: Attested extended verbs derived from consonantal basic verbs

### 2.5.2 Vowel alternation

The vowel changes triggered by the  $V_H$ -causative extension may prevent the use of certain forms of  $V_H$ -causative extended verbs. As shown in TABLE 12, the  $V_H$ -causative extension of *òoré* ‘get down’ is only attested for the centripetal imperfective aspect-motion stem.

MEANING	EXTENSION	CENTRIFUGAL IMPERFECTIVE	PERFECTIVE	CENTRIPETAL IMPERFECTIVE
‘get down (intr.)’	basic verb	<i>òoré</i>	<i>òorò</i>	<i>òorà</i>
‘get s.o./sth. down (from a higher place)’	$V_H$ -causative			<i>ùurè</i>
‘cut’	basic verb	<i>ùurí</i>	<i>ùurù ~ ùurùtù</i>	<i>ùurìtè</i>

TABLE 12: The attested aspect-motion stems of the Koalib verb *òoré* ‘get down’, of its  $V_H$ -causative extension and of the verb *ùurí* ‘cut’

<sup>26</sup> For each extension considered in TABLE 11, the percentages are obtained by dividing the number of consonantal basic verbs that can be extended by the total number of consonantal verbs (= 59).

<sup>27</sup> 44 consonantal basic verbs, i.e., 76% (44/59) of all consonantal basic verbs have at least one *-nnE* extended verb. However, some consonantal basic verbs have more than one *-nnE* extended verb (due to the existence of cases of multiple extension; see SECTION 2.4.1), hence the figure of 52 (not \*44) *-nnE* extended verbs in the first line of TABLE 11.

This is arguably due to the fact that the other aspect-motion stems would have had forms (\**ùurí* for the centrifugal imperfective and \**ùurè* for the perfective; see TABLE 3) very similar to the verb *ùurí* ‘cut’, which would have led to much confusion in daily speech, as both basic verbs have a high frequency of use.<sup>28</sup> Significantly, no V<sub>H</sub>-causative extension can be derived from the verb *ùurí* ‘cut’.

## 2.6 Semantic considerations

Within the scope of this paper, it is impossible to provide an exhaustive study of the many semantic subtleties and intricacies linked with the use of verb extensions in Koalib. We will content ourselves with mentioning three important points regarding this question.

### 2.6.1 Defining the semantic core of a given extension: the example of locatives and malefactives

Like other Koalib verb extensions, locative and malefactive extensions are defined and labelled on the basis of one or more salient semantic or syntactic properties shared by a significant number of their members. For the two extensions at stake, these properties will be examined in turn below.

The two main salient properties of locatives are:

- (i) a TRANSITIVE construction (5a,b);
- (ii) the presence of either a circumstantial argument indicating PLACE (5a,b); one of the three ‘light’ postpositions (i.e., with a CV syllabic structure; see also SECTION 2.2), *-lÁ/* ‘up’, *-lO/* ‘down’, and *-nÁ/*; or a ‘heavy’ postposition (i.e., whose syllabic structure exceeds CV by at least one segmental position) with a locative meaning, usually *-náanà* ‘over’.

The malefactive is principally defined by the fact that the action:

- (i) is performed AT THE EXPENSE OF (2a,b, 33)
- (ii) and/or implies a SPATIAL RELATION VIS-À-VIS the malefactee (2a, 33) (see ‘gnaw, lick’; Quint 2010: 305-306, 309-310).<sup>29</sup>

These properties will be considered as the ‘semantic core’<sup>30</sup> of their respective extensions. We have tried to quantify these properties (and others that

<sup>28</sup> This case is a typical instance of ‘homonymic clash’ (Bynon 1985: 186-190).

<sup>29</sup> For the distinction between spatial relation and place, see the second point of the discussion following TABLE 13.

appeared when scrutinizing the data in detail) for the locative and the malefactive. The results are shown in TABLE 13.

TABLE 13 confirms the validity of the semantic core: PLACE and TRANSITIVE are definitely dominant properties associated with locatives, whereas SPATIAL RELATION and (at s.o.'s) EXPENSE are among the three higher-scored properties associated with malefactives.

SEMANTIC OR SYNTACTIC PROPERTY	LOCATIVE (175 ITEMS)		MALEFACTIVE (262 ITEMS)	
	ITEMS	% <sup>31</sup>	ITEMS	%
<b>PLACE</b>	120	69%	134	52%
<b>TRANSITIVE</b>	68	39%	51	19%
<b>SPATIAL RELATION</b>	37	21%	105	41%
<b>EXPENSE</b>	1	1%	104	40%
+ <i>náanà</i> 'over' <sup>32</sup>	37	21%	73	28%
CAUSATIVE	20	11%	0	0%
INTRANSITIVE	14	8%	11	4%
EXPERIENCER	4	2%	32	12%
Others (various)	8	5%	12	5%

TABLE 13: Semantic and syntactic properties typically associated with Koalib locative and malefactive extended verbs

However, this semantic core does not suffice to define all locative or malefactive extended verbs. Firstly, some other semantic and syntactic

<sup>30</sup> This use of the notion of 'semantic core' draws in particular on Aikhenvald (2008 [2003]: 308-317).

<sup>31</sup> The total of the percentages for locative (second column of TABLE 13) and malefactive (fourth column) extensions exceeds 100%, as one and the same extended verb may be associated with more than one property, according to its various attested meanings and constructions. For instance, a given verb can be involved in both CAUSATIVE and PLACE constructions. Note that the values associated with the intransitive property are based on the number of verbs exhibiting a full intransitive construction (see SECTION 2.2 above) in at least one of their meanings.

<sup>32</sup> For the link between *-náanà* and the more general notion of SPATIAL RELATION, see the third point of the discussion following TABLE 13.

properties have been found to be (nearly) exclusive to one of the two extensions at stake:

(i) A significant proportion of locative extensions are used as semantic CAUSATIVES (11%; see (47)) or in INTRANSITIVE constructions (8%; see (48)).

(47) Semantic causative

*lèŋŋɛ́* ‘be surprised (intr.)’

> locative: *lèŋŋàcɛ́* [lèŋŋàʒɛ́] ‘surprise s.o. (tr.)’

(48) Intransitive construction

a. \*/tEkd/- [basic verb unknown]

> locative: *tikdɛ́ɛ́* [tɪgdɛ́ɛ́] ‘be about to give birth (intr.)’

b. *úuri* ‘be much’

> locative *ùurɛ́ɛ́* [ùurɛ́ɛ́] ‘cover the entry to one’s hole with earth so that it may go undetected (of a mouse) (intr.)’

This intransitive use of locatives is at sharp variance with the more dominant TRANSITIVE property, which has been considered as a component of the semantic core of the locative extension. The explanation seems to go along the lines of what has been said above about intransitive  $V_H$ -causatives and malefactive (see SECTION 2.2): locative intransitives are used with extended verbs whose basic verb is not synchronically attested (48a), and/or when the object is contextually so obvious that it may be covert (48b).

(ii) Malefactive extensions are rather frequently used in EXPERIENCER constructions (12%; see (49)), a fact that was not explicitly recognized in Quint (2010), although some typical examples of EXPERIENCER constructions appear in the study (ex. 43, p. 308 and ex. 48, p. 309).

(49) Experiencer construction

a. *éuri* ‘be light’

> *éurítɛ́* [éurítɛ́] ‘be easy to carry **for s.o.**’ (= ‘be light **to s.o.**’)

b. *ráarè* ‘suffer, hurt, be painful’

> *ráarètà* [ráarèðà] ‘hurt s.o.’ (= ‘be painful to s.o.’)

Secondly, the distinction between PLACE and SPATIAL RELATION is somewhat fuzzy, as the notion of SPATIAL RELATION overlaps with the more general notion of PLACE. This explains why PLACE is the most frequent property associated with both locative (69%) and malefactive (52%) extensions.

Thirdly, the use of some elements in a given construction seems to be strongly correlated with a given property. Such is the case of the ‘heavy’ postposition *-náaná* ‘over’, which is clearly associated with SPATIAL RELATION (50):

(50) *-náaná* ‘over’

\*/kOɾb/- [basic verb unknown]

> *kùɾbècí* [kùɾbɛɟɪ] ‘cover sth. with sth. else’, exemplified in (51).

(51) *kwé-kùɾb-ècí*                      *ètñééá*    *kèrété*    *-náaná*

CL-cover-LOC.IPFV.CFG    food.O    cloth.O    over

‘S/he will cover the food with a cloth.’

Here the verb conveys a SPATIAL RELATION affecting its patient (‘the food’); the postposition *-náaná*, which expresses the notion of SURFACE CONTACT, contributes to underlining this spatial relation.

This short investigation into the semantics and syntactic behavior of two Koalib verb extensions has shown that the properties defining each verb extension cannot be easily stated, nor can they easily be told apart. Rather, each extension seems to combine a certain number of properties whose relative importance varies according to the meaning of the basic verb a given extension associates with.

## 2.6.2 Overlap between extensions: associative and reciprocal

In SECTION 2.6.1, we saw that different verb extensions may share some of their defining semantic or syntactic properties, and that the contents of such defining properties may actually overlap. In this subsection, we shall see that, in some cases, this property sharing may lead to complete overlap between two different verb extensions.

If we apply the notion of ‘core meaning’ discussed above to associative and reciprocal (leaving aside the cases where their actual meaning is quite distant from this core meaning), it is possible to say that:

the associative extension implies the fact of DOING SOMETHING TOGETHER and

the reciprocal extension implies the fact of DOING SOMETHING TO EACH OTHER.

These core meanings are quite similar to each other. They logically imply:

a PLURAL SUBJECT, as one cannot be alone in order to do something TOGETHER or TO EACH OTHER and

a kind of INTERACTION between the several subject participants.

This being said, it is no surprise that the meaning of both extensions may completely overlap in some instances. Some associative extended verbs have a clearly RECIPROCAL meaning (see (37) above) and, in some cases, both extensions seem to be used as exact semantic equivalents of each other (52):

(52) *èlɲé* ‘beget/deliver (child)’

> associative: *èlɲàtɛ* [èlɲàðǎé] ‘interbreed, have children together (two communities)’

= reciprocal: *èlɲàtɛcé* [èlɲàðǎzɛ]

However, this semantic overlap between the two extensions is far from being generalized and, in other instances, each extension maintains its semantic identity (53):

(53) *tòoké* [tòogé] ‘stab’

> associative: *tòokòtɛ* [tòogòðǎé] ‘**fight** each other (with any weapon)<sup>33</sup>

≠ reciprocal: *tòokàtɛcé* [tòogàðǎzɛ] ‘**stab** each other’

### 2.6.3 Shared semantics between extended verbs derived from the same basic verb

Some Koalib basic verbs may be derived into as many as ten different extended verbs. Usually, at least a component of the original meaning of the basic verb is retained in each of these derived forms. These ‘extended families’ are particularly conspicuous regarding the use of ideophones (or specific adverbial modifiers): in many cases, all or most extended verbs derived from

<sup>33</sup> The above translation of *tòokòtɛ* suggests a reciprocal meaning. However, this impression could be a translational artifact. One may assume that the basic meaning of *tòokòtɛ* is ‘fighting TOGETHER’, or maybe even ‘stabbing TOGETHER’ (i.e., a fundamentally associative meaning) if we consider the meaning of the basic verb *tòoké*, although, at the same time, the lexical meaning of the basic verb necessarily implies a certain degree of RECIPROCALITY in the interpretation of the associative extension.

the same basic verb share with it the same ideophone(s) (see (54), taken from Quint (2018b: 191-192)).

- (54) *pèrtté* [fèr̀t̀é] ‘sweep/gather sth.’ (basic verb)
- > *-nnE* (reflexive): *pèrttänné* [fèr̀t̀änné] ‘cover **oneself** with sth.’
  - > malefactive (applicative 2): *pèrttâtâ* [fèr̀t̀âdâ] ‘put sth. **somewhere**’
  - > benefactive (applicative 1): *pirttîccî* [firt̀îccî] ‘sweep sth. **for s.o.**’
  - > *-nnE* (passive) *pirttînnî* [firt̀înnî] ‘**be** swept/gathered’

All members of *pèrtté*'s extended family (i.e., the basic verb and its entire set of extensions) can combine with the intensive ideophone *ppèrèt-(ppèrèt)*, which highlights the ENERGY or the EFFICIENCY with which the action conveyed by the intensified verb is performed.

The fact that the basic verb and its extended forms share (or must historically have shared) a common semantic element can also be used to produce an internal reconstruction of the original meaning of a given verb (55).

- (55) *àmɾé* ‘love, like’ (basic verb)
- > reciprocal: *àmɾàtècé* [àmɾ̀àðèzè] ‘love **each other**’
  - > excessive: *àmɾàtté* ‘not be enough (for s.o.), not be full, be incomplete’
  - > malefactive (< concatenated extension = excessive + malefactive): *ámɾètètâ* [ámɾ̀ètètâ] ‘not be enough **for** s.o.’
  - > *-nnE* (reflexive): *àmɾànné* ‘want more of sth. (food), not have eaten enough of sth.’
  - >  $V_H$ -causative (< concatenated extension = *-nnE* +  $V_H$ -causative): *èmɾènnî* ‘eat more than one’s share (from a collective plate of food), not leave enough food for s.o. else’

In today’s Koalib, *àmɾé* basically expresses the fact of ‘loving/liking’, i.e., ‘having positive feelings towards s.o. or sth.’ The reciprocal extension *àmɾàtècé* ‘love each other’ clearly conveys the same meaning. However, the remaining extensions refer to another notion, namely the fact of ‘lacking, not being/having enough’ or ‘being short of’. The best way to explain this contrast

is probably to admit that this notion of LACK was originally present in the basic verb itself, which must have meant ‘miss s.o. or sth.’ (= ‘not have enough of s.o. or sth.’) before evolving into its more abstract meaning of ‘love/like’.

## 2.7 Borrowed verbs

Few verbal roots have recently been imported from other languages into Koalib (Quint 2018a: 198). However, some Arabic- and English-derived verbs are attested. Regarding verb extensions, two different strategies are observed:

(i) The borrowed verb is reanalyzed as a basic verb, in which case it may be extended like Koalib aboriginal verbs (56):

(56) Sudanese Arabic *ḥákam* ‘rule, judge’

> Koalib *àkkèmé* ‘judge (s.o.), sentence s.o.’ (basic verb), from which are derived:

benefactive extension: *ékkìmcí* [ékkìmcí] ‘sentence s.o. **having a relationship with** s.o. else’ (e.g., ‘s.o.’s child’)

-*nnE* (passive) extension: *àkkèmné* ‘**be judged/sentenced**’

(ii) The ending of the borrowed verb is formally close to an existing verb extension. In this case, the borrowed verb is considered as an extended verb without an attested basic verb (a frequent situation in contemporary Koalib; see Quint (2010: 301-302) and examples (28), (31), (48a) and (50) above). This extended status does not prevent the newcomer from producing extended forms of its own through the process of concatenation (see SECTION 2.4.2 above) (57):

(57) English *baptize* [bæp'taɪz]

> Koalib *bàpt̩àcé* [bàft̩àzɛ́] ‘baptize s.o.’ (locative extension), from which are derived:

benefactive extension: *bàpt̩àccé* [bàft̩àccé] ‘baptize s.o. **having a relation with** s.o. else’

-*nnE* (passive) extension: *bàpt̩àcné* [bàft̩àzné] ~ *bàpt̩ànné* [bàft̩ànné] ‘**be baptized**’

Note that the only attested verb extensions combining with borrowed verbs are the benefactive and -*nnE*, which confirms the fact that these two extensions are the most productive in the present state of the Koalib language (see also SECTIONS 2.3 and 2.5.1).

### 3 Derivation vs. inflection: defining verb extensions

After having dealt with the different verb extensions, two questions arise, which will be dealt with in turn in this section:

(i) How to draw the line between verb extensions (whose morphology clearly belongs to the realm of derivation) and other comparable forms of the Koalib verb, in particular frequentative and pluractional?

(ii) What exactly is a basic verb and how is it possible to distinguish it from its extended counterparts?

#### 3.1 Frequentative and pluractional forms

Two forms of the Koalib verb paradigm display many similarities with verb extensions: frequentative and pluractional.

##### 3.1.1 Frequentative

The Koalib frequentative expresses the fact that the action conveyed by the verb is performed often and/or repeatedly.

(58) *dūukí* [dūugí] ‘dig sth. (e.g., ground) with one’s snout (pig)’  
 > *dūkkùkkí* ‘dig often’

The frequentative form is usually produced by geminating a simple internal consonant of the verb stem (Quint 2009: 81, 94, 98; 2006: 91, 104, 108) and repeating at least twice the syllable with the new geminate (58)-(59). In some instances, the frequentative is produced through the repetition of the first syllable of the verb, in which case the initial consonant is geminated in the new replica (see (60)-(61), (64)) and sometimes articulated in a slightly different way (62). Sometimes a geminated consonant is introduced at the end of the verbal stem (63). Although frequentatives are much more commonly produced from centrifugal imperfectives, they are also attested with other aspect-motion stems (65)-(66).

We contend that frequentatives cannot be considered to be verb extensions, for the following reasons:

(i) As shown with examples (59)-(66) in TABLE 14, Koalib frequentatives are not characterized by a specific suffix (such as those found in all verb extensions except  $V_H$ -causatives) or vowel alternation (as in  $V_H$ -causatives).

EXAMPLE	ASPECT-MOTION	VERB	MEANING	FREQUENTATIVE
(59)	IPFV.CFG	<i>òoné</i>	‘harvest’	<i>ònnònné</i>
(60)	IPFV.CFG	<i>yèé</i>	‘eat’	<i>yèyyé</i>
(61)	IPFV.CFG	<i>bèvlí</i>	‘thread (beads)’	<i>bèbbílí</i>
(62)	IPFV.CFG	<i>bùrlí</i>	‘jump’	<i>ppùppùrlí</i>
(63)	IPFV.CFG	<i>éŋè</i>	‘know’	<i>éŋèŋè</i>
(64)	IPFV.CFG	<i>káttò</i>	‘drop, throw’	<i>kákkèttò</i>
(65)	PFV	<i>kèttù</i>		<i>kkèkkittù</i>
(66)	IPFV.CPT	<i>kàttà</i>		<i>kàkkèttà</i>

TABLE 14: Some Koalib frequentative forms

(ii) As shown in TABLE 15, frequentative forms can be produced both from basic verbs and extended verbs, i.e., the morphology of the frequentative seems to be independent from verb extensions and to belong to another dimension of the Koalib verb morphology.

EXTENSION	VERB	MEANING	FREQUENTATIVE
basic verb	<i>èkré</i>	‘gallop (horse)’	<i>èkkèkkèré</i>
locative	<i>èkràcé</i>	‘make sth. (horse) gallop’	<i>èkkèkkèràcé</i>
V <sub>H</sub> -causative	<i>ìkrí</i>		<i>ìkkìkkìrì</i>
benefactive	<i>ìkrìccí</i>	‘make sth. (horse) run for s.o.’	<i>ìkkìkkìrìccì</i>
- <i>nnE</i> (passive)	<i>ìkrìnní</i>	‘be galloped (horse)’	<i>ìkkìkkìrìnní</i>

TABLE 15: Frequentative forms of the Koalib basic verb *èkré* ‘gallop (horse)’ and of its attested extended verbs

(iii) In contrast to all attested verb extensions, frequentatives are not characterized by a specific tone melody. Rather, frequentative forms maintain the tone melody of the original form they modify. If we look at TABLE 15, we can see, for example, that the benefactive *ìkrìccí* |HLH| generates a frequentative with a tonal melody |HHHLH|, where the initial high tone typical of applicatives is maintained. Similarly, the melodies associated with both the *-nnE* extension *ìkrìnní* |LLH| and its frequentative *ìkkìkkìrìnní* |LLLLH| remain faithful to the general formula (L)<sub>n</sub>H (see SECTION 2.1) valid for all non-applicative extended verbs.

It therefore appears safer to assume that, unlike verb extensions, the frequentative forms of the Koalib verb belong to the domain of inflection (like, for example, aspect-motion forms) rather than derivation.

### 3.1.2 Pluractional

Pluractionality is a feature present in Koalib verbal morphology: a specific form of the verb can express the number of times an action is performed (67) or the number of the subject (68) or of the object (69) of the verb. In most cases, pluractional verbs are produced in a way similar to frequentatives, i.e., resorting to the gemination of one consonant of the basic verb:

- (67) *òopé* [òové] ‘shoot/explode once (rifle, canon)’  
 > pluractional: *òppé* [òppé] ‘shoot/explode **several times** (= ‘more than once’)
- (68) *àaḷé* ‘go back (somewhere) [singular subject]’  
 > pluractional: *àḷḷé* [àḷḷé]<sup>34</sup> ‘go back [**plural subject**]’
- (69) *ḷḷpé* ‘split sth. [singular object] open’  
 > pluractional: *ḷḷppé* ‘split sth. [**plural object**] open’

This similarity between pluractional and frequentative is understandable, as the fact of performing an action OFTEN or REPEATEDLY (frequentative) necessarily overlaps with the fact of associating an idea of PLURALITY with the action (pluractional).

Nevertheless, a few pluractionals exhibit a specific morphology different from that of the frequentative. In such cases, the pluractional form contrasts with the basic singular verb through the insertion of an extra consonant (70), the use of a *-ccE/* suffix (71)-(72)<sup>35</sup> or a partial (73) or complete suppletion (74) of the verb root.

<sup>34</sup> In Koalib, the sequence *ḷḷ* [nd] has been shown to be the functional equivalent of a geminated [ṽ] (Quint 2006: 90-91; 2009: 81).

<sup>35</sup> In spite of the fact that the pluractional suffix *-ccE* has basically the same shape as the benefactive (applicative 1) suffix (see SECTION 2.1), the tonal melody associated with each extension is different and the two forms are therefore distinct: compare the benefactive *érmèccé* |HLH| ‘hit s.o. related with s.o. else by means of sth.’ with the pluractional *érmèccé* |LLH| described in (72).

- (70) *ìdĩ* ‘fall **once**’  
 > pluractional: *irdĩ* ‘fall **several times** [singular subject] or **one after another** [plural subject]’
- (71) *àó ~ àoé* ‘land (bird) [singular subject], shoot **once** at s.o./sth. (animal)’  
 > pluractional: *àccé ~ àòccé* ‘land **several times** [singular subject] or land **[plural subject]**, shoot **several times** at s.o./sth. [singular object] or shoot at s.o./sth. (**several** people/animals) **[plural object]**’
- (72) *èrmé* ‘hit s.o. **once**’  
 > *èrmèccé* ‘hit s.o. **several times**’
- (73) *ímtè* [ímðè] ‘catch sth./s.o. [singular or plural object]’  
 > *òmmé* ‘catch sth./s.o. **[plural object]**’
- (74) *dimmé* ‘pick sth. up (off the floor) [singular object]’  
 vs. *òtté* ‘pick sth. up **[plural object]**’

Examples (70)-(74) are the only clear cases showing the existence of a distinctive pluractional morphology in Koalib. Note that, in addition to their reduced number, these pluractional forms, like frequentatives, fail to be characterized by a regular morphological pattern, in contrast with the verb extensions described in SECTION 2. Synchronically, these five irregular pluractionals are therefore probably better treated in Koalib as lexical exceptions rather than as a specific verb extension.

### 3.2 Basic verbs

The label ‘basic verb’ is supposed to be applied to verbs that are not extended forms of any other verb. In our database, 406 verbs comply with this requirement. Note that approximately 30 originally frequentative or pluractional forms are considered to be basic verbs, particularly when their meaning significantly differs from the uninflected corresponding basic form (75):

- (75) *àapé* [àavé] ‘bring sth., receive sth., take sth. over’  
 > *àppé* [àppé] ‘carry sth., support sth.’

Within the scope of this study, although *àppé* is almost certainly formed from *àapé* (through a mechanism of frequentative or pluractional inflection), *àapé* and *àppé* are both treated as basic verbs.

However, even leaving aside the question of the originally frequentative/pluractional forms, it is quite plausible that some members of the basic verb category are in reality extended verbs whose actual basic form was lost:

(i) We have seen in TABLE 4 in SECTION 2.1 that the percentage of basic verbs whose vowels belong to the high vowel set ( $V_H$ , i.e., /i, e, u/) is significantly lower (29%) than the corresponding percentage among the whole sample of Koalib verbs (48%). This is probably because many verbs with high vowels complying with the well-formedness requirement of basic verbs (see SECTION 2.5.1) are actually  $V_H$ -causatives (see SECTION 2.1.1).

(ii) A clue to identifying ‘hidden’  $V_H$ -causatives is the fact that their perfective aspect-motion stem ends with an -/A/ (see SECTION 2.1.1).

As shown in TABLE 16, the percentage of -/A/ perfectives is higher (37%) among basic verbs whose vowels belong to the high set (i.e., the set that characterizes  $V_H$ -causatives) than among basic verbs whose vowels belong to the low set (22%).

VOWEL SET		TOTAL	-/A/ PERFECTIVE	
			NUMBER	%
High ( $V_H$ )		119	44	37%
of which:	intr. <sup>36</sup>	56	16	29%
	non-intr.	63	29	46%
Low (non- $V_H$ )		287	62	22%
of which:	intr.	151	31	21%
	non-intr.	136	31	23%

TABLE 16: Percentage of basic verbs whose perfective ends in -/A/ according to the vowel set of their stem and their degree of transitivity

Furthermore, if we take into account the degree of transitivity, we see that non-intransitive verbs with high vowels have a significantly higher percentage of -/A/ perfectives (46%, i.e., close to half) than the other categories of verbs in TABLE 16. As  $V_H$ -causatives are typically transitive, this seems to indicate that a certain number of verbs considered throughout this study as basic, especially among those with high vowels, transitive constructions and an -/A/

<sup>36</sup> In TABLE 16, intr. means that at least one intransitive construction or meaning is attested for a given verb; non-intr. means that there is no intransitive construction or meaning attested.

perfective (such as (76)-(78)), are probably  $V_H$ -causatives, although it is not possible to definitely prove this in the actual state of the Koalib language.

- (76) *iití* [iĩdĩ] (perfective: *iit̪*) ‘trap sth. (animal), catch sth. with a trap’
- (77) *kùukí* (perfective: *kùuk̪*) ‘scrub sth. (scalded pig) in order to remove the burnt hair, scale sth. (fish)’
- (78) *ɲèɲí* (perfective: *ɲèɲ̪*) ‘scratch s.o. or s.o.’s body part’

#### 4 A comparative insight

##### 4.1 Verb extensions: a Kordofanian, Nuba or Niger-Congo feature?

Hyman (2020) has convincingly shown that many of the most typical verb extensions attested in Koalib have close semantic equivalents not only in other Kordofanian languages but also in non-Kordofanian Nuba languages (belonging to the Nilo-Saharan phylum) and in other branches of Niger-Congo (see for instance Schadeberg & Bostoen (2019) for more details on Bantu verb extensions). In spite of the still limited amount of data available on Kordofanian languages, what we know now is enough to assert the following:

- (i) Koalib verb extensions often closely match, both semantically and segmentally, their equivalents in the other languages of the Heibanian family (see TABLE 17 for the passive/reflexive, where all attested Heibanian forms share an /n/ element). As these languages are known to be closely related, these shared extensions are most probably cognates and some protoforms could easily be reconstructed for Heibanian.
- (ii) At higher levels of the phylogenetic tree (for instance when comparing Koalib with languages belonging to other branches of Kordofanian, such as Katloid or Talodian), the semantics and derivational mechanisms of verb extensions still resemble those of Koalib; for example, Smits (2017: 560-563 – ‘combinations of derivational suffixes’) and Vanderelst (2016: 105-107 – ‘extension combinations’) describe the phenomenon of concatenated derivation in Lumun and Dagik (both Talodian languages) respectively, in a way very similar to what has been explained here for Koalib in SECTION 2.4.2. However, the segmental shapes of the actual extensions are far more diverse (see TABLE 17) and the reconstruction of proto-Kordofanian extensions appears, at least for now, a much riskier enterprise.

KORDOFANIAN BRANCH	LANGUAGE	BEN-SUFFIX	NAME	SOURCE
Heibanian	Koalib	-(V) <b>nnE</b> /	causative/ immediate/ passive/ reflexive	Quint & Manfredi (2020: 12-13), Quint (2020: 249-251)
Heibanian	Koalib	-(i) <b>ne</b> , -(i) <b>ni</b>	passive/ reflexive	Stevenson (1957: 29)
Heibanian	Moro	-/ə <b>n</b> /	passive/ reflexive	Rose (2013: 49-50)
Heibanian	Tira	- <b>ino</b> , - <b>ine</b>	neuter- passive/ reflexive	Stevenson [1942] (Schadeberg 2009: 82-83)
Heibanian	Otoro	- <b>inu</b> , - <b>ini</b> , - <b>ino</b>	passive/ reflexive	Stevenson [1943] (Schadeberg 2009: 282-284)
Heibanian	Heiban	-(i) <b>nu</b> , -(i) <b>ni</b>	passive/ reflexive	Stevenson (1957: 29)
Talodian	Dagik	-/k:/-, -/ak:/-, -/əg/-	middle voice	Vanderelst (2016: 100-103)
Talodian	Masakin (Darra)	-a(a) <b>kɔ</b>	passive	Stevenson (1957: 38)
Talodian	Talodi	-ɔ <b>k</b> , - <b>ok</b>	passive	Stevenson (1957: 38)
Talodian	Lumun	-(a) <b>kɔ</b> / ~ -(V)tta ~ -(u)ra/	passive	Smits (2017: 529-549)
Katloid	Tima	(a) - <b>Ak</b> ; (b) - <b>Vk</b>	(a) antipassive; (b) causative/ passive	Alamin (2012: 112, 118), Schneider-Blum (2022: 6, 10, 19-24) <sup>37</sup>

TABLE 17: Attested forms of the passive/reflexive verbal suffix in Koalib and other Kordofanian languages

<sup>37</sup> Note that Schneider-Blum (2022: 10) mentions that the Tima antipassive “may convey a (...) reflexive notion”.

- (iii) Some Koalib extensions and associated values seem not to have been mentioned in the available literature on verb extensions in Kordofanian. This is the case of the excessive and the immediate. Furthermore, the distinction between the associative and the reciprocal also seems to be quite rare, and the same applies for the locative and the applicative 2. These apparent Koalib idiosyncrasies are probably at least partly due to a general challenge for Kordofanian studies: the scarcity of linguistic data, which considerably limits comparative and reconstruction approaches.

#### 4.2 A first comparison between Koalib and Werni verb extensions

In order to take advantage of new, unpublished data, we have decided to devote a short subsection to the comparison of Koalib and Werni verb extensions. According to Schadeberg (1981: 109-115), Koalib belongs to the central sub-branch of Heibanian, whereas Werni belongs to the eastern sub-branch of the same grouping. Our own research on Werni (fieldtrips made by Quint both in situ (2008) and in the region of Khartoum (2019, 2021, 2022)) suggests that this language is in many respects an outlier within the Heibanian branch, displaying various features divergent from all the rest of its sister languages. The commonalities shared between Koalib (a rather prototypical Heibanian language) and Werni regarding their verb extension systems (see TABLE 18) therefore have particular typological and historical interest within the scope of Heibanian studies.

The data selection shown in TABLE 18 (see examples (79)-(85)) allows us to draw several important inferences about the relationship between Koalib and Werni, especially regarding their verb extensions:

- (i) In spite of the fact that Koalib and Werni are not mutually intelligible, they clearly share an important number of lexical roots (e.g., ‘burp, cut, kill, sing, be sour’).
- (ii) Some verb extensions are obviously cognates, as they display both formal and semantic similarities: reciprocal (79), reflexive (80) and applicative 2 (82).
- (iii) In some cases, Werni makes distinctions that are not found in Koalib:

The passive /t/ marker (81) is formally distinguished from the reflexive /n/ marker (80) shared with other Heibanian languages; see TABLE 17 above).

Another applicative (perhaps related to the Koalib associative; see TABLE 2) seems to assume certain functions of the Koalib malefactive (applicative 2; see (85)).

EX.	LAN-GUAGE	BASIC VERB		EXTENSION		
		FORM	MEANING	TYPE	FORM	MEANING
(79)	Koalib	<i>èrnyé ~ r̄èenyé</i>	‘kill’	reciprocal	<i>èrnyàtècé</i> [èrɲàðèzɛ]	‘kill <b>each other</b> ’
	Werni	<i>áarány</i>			<i>áarnyátédé</i> [áɾpátédé]	
(80)	Koalib	<i>èécé</i>	‘see, look’	reflexive	<i>èecànné</i>	‘look at <b>oneself</b> ’
	Werni	<i>èí</i>			<i>èíné</i>	
(81)	Koalib	<i>èlɲé</i>	‘sing’	passive	<i>èlɲènné</i>	‘ <b>be sung</b> ’
	Werni	<i>ɲòrɲè</i>			<i>ɲòrɲàarè</i>	
(82)	Koalib	<i>kèdrí</i>	‘burp’	applicative 2 (male- factive)	<i>kédritè</i> [kédriðè]	‘burp at s.o.’s <b>face</b> ’
	Werni	<i>kíiré</i>			<i>kíirétá</i> [kíirétá]	
(83)	Koalib	<i>ɔɔlè</i>	‘be sour’	causative	<i>ùulí</i>	‘sour sth.’
	Werni	<i>àolá</i>			<i>éulicí</i>	
(84)	Koalib	<i>nyíimí</i>	‘steal sth.’	benefactive	<i>nyíimiccí</i>	‘steal sth. <b>for</b> s.o.’
	Werni	<i>ɲáccí</i>			<i>ɲéccí</i>	
(85)	Koalib	<i>úurí</i>	‘cut sth.’	applicative 2	<i>úurètè</i> [úurèðè]	‘cut sth <b>belonging</b> to s.o.’
	Werni	<i>uuru</i>			applicative <i>ɸuruđí</i>	

TABLE 18: Comparable verb extensions in Koalib and Werni (Heibanian)

(iv) Still in other cases, the values of the extension markers seem to have been swapped:

The Koalib benefactive (84) is marked by a suffix *-/ccE/* (‘steal’), whereas Werni resorts to vowel heightening ( $V_H$ ).

The reverse situation obtains for the causative (83), where Koalib frequently uses vowel heightening ( $V_H$ ) as an extension marker, whereas Werni uses a suffix *-/ci/*, which might well be related to the

Koalib benefactive suffix *-/ccE/*, given the considerable phylogenetic proximity between the two languages.<sup>38</sup>

A possible explanation for this swap between causative and benefactive in the two languages could be the fact that both extensions trigger an increase (+1) of the valency of the basic verb (see SECTION 2.2) and the addition of a new object to the non-derived original construction. The plausibility of this swap is strengthened further by the fact that, in today's Koalib, there is at least one case of an extended verb (86) with a *-/ccE/* suffix and a clearly causative meaning (Quint 2010: 303; Hyman 2020: 29):

(86) *yíí* 'drink sth.'

> *iccí*<sup>39</sup> 'give s.o. sth. to drink' (i.e., 'make s.o. drink sth.')

Although our sample of Werni verbs is much smaller (217 items) than our Koalib database, another difference between the two languages deserves to be mentioned: the most frequent verb extension in Werni seems to be the causative (at least 16 occurrences). Considering the fact that Werni causatives (suffix *-/ci/*) could reasonably be historically related to Koalib benefactives (suffix *-/ccE/*) and that benefactive is indeed the most frequent verb extension in Koalib (see SECTION 2.3), this could mean that proto-Heibanian *\*-/ (c)E/* is (or used to be) the most productive verb extension, independently of its original semantic value (which is yet to be reconstructed using data from more Heibanian languages).

## 5 Conclusion

Alongside noun classes, verb extensions are generally considered to be one of the two main markers of 'Niger-Congo-ness' (Quint 2020: 249-251). Koalib certainly provides a good example of a well-developed system of verb extensions in Kordofanian. In this paper, we have described and discussed in some detail the main characteristics associated with the verb extensions of one language. While we are fully conscious that this study is far from exhausting the subject, given the high number of Koalib extended forms, the complexity of their morphology and the still richer nuances of their semantics, we hope at least to have provided enough material to enable other researchers to make fruitful comparisons between Koalib and other languages (whether related or not) displaying varied arrays of verb extensions.

---

<sup>38</sup> The degree of similarity between Heibanian languages is comparable to the relationships existing between the members of the Germanic family or between those of the Romance family (Quint 2020: 241).

<sup>39</sup> For the specific tonal profile of *iccí*, see Quint (2010: 303).

If we turn now towards Kordofanian, the Nuba languages and Niger-Congo, the few comparative data we have presented above clearly show that it is possible to reconstruct protoforms of verb extensions for the different branches of Kordofanian and then, in a second stage, for the whole Kordofanian family (e.g., Katloid and Talodian seem to share a /k/ element in their passive/reflexive extensions, according to TABLE 17). This bottom-up, step-by-step process of reconstruction is an absolute prerequisite in order (i) to check the validity of the Niger-Kordofanian hypothesis (Greenberg 1970 [1963]) by comparing Kordofanian protoforms with other reconstructed verb extensions in the remaining subdivisions of Niger-Congo, and (ii) to assert, by comparison with other non-Kordofanian Nuba languages, whether the characteristics of some Kordofanian verb extensions may be due to areal (viz. phylogenetic) dynamics.

In all events, for the time being, what we need most in order to make progress in this type of comparative approach is to increase the amount of data available for Koalib and for the other languages spoken in the Nuba Mountains. Descriptive linguistics is definitely the only way to unravel the mystery of the origins and historical evolution of the many languages that render the linguistic landscape of Southern Kordofan so fascinating and unique.

### List of abbreviations

A	central vowel (/ə, a/)	non-intr.	no attested intr.
AMS	aspect-motion stem		construction
ASSOC	associative	O	object (argument)
BEN	benefactive	O	object case
CAUS	causative	O	back vowel (/u, o, ɔ/)
CFG	centrifugal	penult. ext.	penultimate
CL	class marker		extension
CPT	centripetal	PFV	perfective
ditr.	ditransitive	PL	plural
E	front vowel (/i, e, ε/)	PN	proper name
EXC	excessive	POSS	possessive
H	high tone	REC	reciprocal
INSTR	instrumental	S	subject (argument)
intr.	intransitive	S	subject agreement
IPFV	imperfective		marker
L	low tone	SG	singular
LOC	locative	tr.	transitive
MAL	malefactive	V	verb/vowel
		V <sub>H</sub>	high vowel (/i, ɐ, u/)

## References

- Aikhenvald, Alexandra Y. 2008 [2003]. *Classifiers, A Typology of Noun Categorization Devices*. Oxford/New York: Oxford University Press.
- Alamin, Suzan. 2012. *The Nominal and Verbal Morphology of Tima – a Niger-Congo Language Spoken in the Nuba Mountains*. Cologne: Rüdiger Köppe.
- Blench, Roger. 2013. Splitting up Kordofanian. In Roger M. Blench & Thilo C. Schadeberg (eds.), *Nuba Mountain Language Studies*, 571-586. Cologne: Rüdiger Köppe.
- Bynon, Theodora. 1985. *Historical Linguistics*. Cambridge/New York/Melbourne: Cambridge University Press.
- Dimmendaal, Gerrit. 2018. Reconstructing Katloid and deconstructing Kordofanian. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Languages Studies – New Insights*, 383-415. Cologne: Rüdiger Köppe.
- Ferlita, Céline & Nicolas Quint. 2024. Le koalib. In *Café des langues*, Villejuif: CNRS-ARDIS. <https://images.cnrs.fr/video/8020> (accessed 2024/06/18) and <https://www.youtube.com/watch?v=E80TN4kw52Q> (accessed 2024/06/18)
- Greenberg, Joseph H. 1970 [1963]. *The Languages of Africa*. Bloomington/The Hague: Indiana University/ Mouton.
- Haspelmath, Martin. 1990. The grammaticization of passive morphology. *Studies in Language* 14(1). 25-72.
- Hyman, Larry M. 2020. A note on Nuba Mountain verb extensions. *Faits de Langue* 51. 29-36.
- Quint, Nicolas. 2006. *Phonologie de la langue koalibe*. Paris: L'Harmattan.
- Quint, Nicolas. 2009. *The Phonology of Koalib, a Kordofanian language from the Nuba Mountains (Sudan)*. Cologne: Rüdiger Köppe.
- Quint, Nicolas. 2010. Benefactive and malefactive verb extensions in the Koalib verb system. In Fernando Zúñiga & Seppo Kittilä (eds.), *Benefactives and Malefactives, Typological Perspectives and Case Studies*, 295-316. Amsterdam: John Benjamins.
- Quint, Nicolas. 2018a. An assessment of the Arabic lexical contribution to contemporary spoken Koalib. In Stefano Manfredi & Mauro Tosco (eds.), *Arabic in Contact (Studies in Arabic Linguistics series)*, 189-205. Amsterdam/ Philadelphia: John Benjamins.
- Quint, Nicolas. 2018b. Koalib ideophones: a first overview of their main characteristics. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Languages Studies – New Insights*, 175-207. Cologne: Rüdiger Köppe.

- Quint, Nicolas. 2020. Kordofanian. In Rainer Vossen & Gerrit J. Dimmendaal (eds.), *The Oxford Handbook of African Languages*, 239-268. Oxford: Oxford University Press.
- Quint, Nicolas. Forthcoming. Koalib imperatives and semantically related forms. *Linguistique et Langues Africaines*.
- Quint, Nicolas & Marc Allasonnière-Tang. 2022. Inferring case paradigms in Koalib with computational classifiers. *Corpus Linguistics and Linguistic Theory* 19(2). 237-269. <https://doi.org/10.1515/cllt-2021-0028> (accessed 2024/06/19)
- Quint, Nicolas & Siddig Ali Karmal Koko. Forthcoming. *Dictionnaire koalib-français*. Paris: L'Harmattan.
- Quint, Nicolas & Stefano Manfredi. 2020. Les monts Nouba: une région riche de ses langues. *Faits de Langue* 51. 9-27.
- Rose, Sharon. 2013. The morphological structure of the Moro verb. In Roger M. Blench & Thilo C. Schadeberg (eds.), *Nuba Mountain Language Studies*, 115-134. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. 1981. *A Survey of Kordofanian*. Vol. 1: *The Heiban group*. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. (ed.). 2009. *Tira and Otoro. Two Kordofanian Grammars by Roland C. Stevenson*. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. & Koen Bostoen. 2019. Word formation. In Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu Languages*, 172-203. London/New York: Routledge.
- Schneider-Blum, Gertrud. 2022. On noncausal/causal alternations in Tima (Nuba Mountains, Sudan). *Linguistique et Langues Africaines* 8(2). 1-34.
- Smits, Heleen. 2017. *A Grammar of Lumun. A Kordofanian Language of Sudan*. Utrecht: LOT.
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimaṅ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Vanderelst, John. 2016. *A Grammar of Dagik. A Kordofanian Language of Sudan*. Cologne: Rüdiger Köppe.



Umbadda (Omdurman) – Sudanese mural art  
(photos: Nicolas Quint, 2016/2019)

# Inalienable personal possessives in Moro and Tira

*Sharon Rose*

## 1 Introduction<sup>1</sup>

A grammatical distinction between alienable and inalienable possession is observed in many languages of the world. Alienable possession indicates temporary or loose ownership, whereas inalienable possession expresses a more intimate or inherent possession where the item cannot be separated from the owner, such as a part/whole relationship, body part or kin term (Nichols 1988). For example, in Manam (Austronesian), inalienable possessives include kin terms and other social/cultural relations, part/whole relationships, elements of the body and physical attributes. In (1), the kin term ‘father’ has a pronominal possessive suffix, but the word ‘loincloth’ shows a separate possessive classifier to which the suffix attaches (Lichtenberk 1983: 278, 294).

### (1) Manam

- |                  |                             |
|------------------|-----------------------------|
| a. <i>tamágu</i> | b. <i>?úsi négu</i>         |
| <i>tamá-gu</i>   | <i>?úsi né-gu</i>           |
| father-1SG.POSS  | loincloth POSS.CLF-1SG.POSS |
| ‘my father’      | ‘my loincloth’              |

Inalienable possessive constructions such as those in (1) may involve obligatorily possessed nouns that cannot occur alone with a non-possessed or generic sense. In Dënesųłné (Athapaskan), the body part *naghé* ‘eye’ cannot occur alone, but must have a possessor, e.g., *dëne naghé* ‘person’s eye’ (Saxon & Wilhelm 2016: 43). Likewise, such nouns may have bound pronominal possessive affixes, as in Iipay (Kumeyaay, Yuman), where the kin term *-taʔ* ‘mother’ is a bound root with a possessive prefix: *?ə-taʔ* ‘my mother’, *pa-taʔ*

---

<sup>1</sup> I was not able to travel to Sudan to participate in the fourth Nuba Mountain Languages Conference, so I am grateful to the editors for inviting people who were not able to attend to submit papers to this volume. I would like to thank Himidan Hassen for providing the Tira data in the paper, as well as Elyasir Julima for the Moro data. Thank you to audiences at the *Annual Conference on African Linguistics* 54 for comments and to Gertrud Schneider-Blum for detailed feedback on the paper.

‘his mother’ (Langdon 1970: 143). Haspelmath (2017) refers to these as possidend nouns.

There are two main syntactic means of indicating possession. Predicative possessive constructions relate two nominals via a predicate, often the verb ‘have’ or an existential copula (Stassen 2001). Attributive possessive constructions, on the other hand, involve two nominals that are juxtaposed and can be linked to each other via adnominal marking. One nominal is the possessor (dependent) and the other the possessum (head); the order in which they appear identifies their role and one or both may also be marked morphologically (Nichols 1988, 1992). If the head is marked, it is usually with possessive affixes, while if the dependent is marked, it is usually with genitive case, although there may also be agreement with the head. Inalienable/alienable distinctions are most commonly found with attributive constructions (Heine 1997).

In some languages, there is a split system where inalienable possessives have one type of marking and alienable possessives have another. For example, in Eastern Pomo (Pomoan), kin terms have head-marking (2a), whereas most other nouns have dependent marking with genitive case (2b) (McLendon 1975: 92, 108).

(2) Eastern Pomo

- |                   |                    |
|-------------------|--------------------|
| a. <i>wíbayle</i> | b. <i>wáx jári</i> |
| <i>wí-bayle</i>   | <i>wá-x jári</i>   |
| 1SG-husband       | 1SG-GEN basket     |
| ‘my husband’      | ‘my basket’        |

Kin terms are reported to manifest inalienable possession in the languages of the Nuba Mountains (Manfredi 2022). In this article, we examine kin terms in the West Heiban languages, Moro and Tira, both of which show the inalienable/alienable distinction. This distinction is manifested only with pronominal possession, and many of the terms are possidend nouns (with an obligatory possessive affix). The kin terms are a small set, numbering around 12 or 13 terms. They include consanguineal and affinal terms, as well as terms for close family-like relationships that we term ‘social’.

The inalienable pronominal possessives have a constellation of distinct properties, some of which point toward a grammaticalization path from independent alienable possessives. First, the pronominal person suffixes that mark inalienable possession show no number distinctions for the possessor, although they do show inclusive distinctions. This is in contrast to alienable possessive markers, which show eight person/number/inclusivity distinctions, suggesting a reduction in the number marking system for inalienable

possessives. Second, there are multiple methods of marking plural on the inalienably possessed noun, including noun class prefixes, additional concord markers on certain nouns, and plural suffixes; the additional concord markers appear to be preserved from older forms. Third, some inalienable possessives can appear either with no suffixes with a generic sense, or only when the possessor is itself case-marked. Fourth, in Tira, accusative case is marked with a suffix, either with or without a tone change vis-à-vis the nominative form, or there is no separate marker of accusative case.<sup>2</sup> While most inalienable kin terms show no overt accusative marking, a subset of three terms show a change in tone between nominative and accusative. Finally, both languages show vowel alternations in inalienable kin terms. In Moro, there is evidence for both root-controlled and suffix-controlled vowel harmony, but with restrictions on the domain of application in kin terms. In Tira, there are vowel alternations in the first person suffix that trace back to a former vowel harmony pattern.

Tira and Moro are classified as West Heiban languages, part of the Heiban group of Niger-Congo languages of the Nuba Mountains (Schadeberg 1981). They form part of the Kordofanian family, although the genetic status of this family has been called into question (Dimmendaal 2018). Heiban languages have a system of noun classes, marked in most cases by an initial consonant on the noun, with modifying elements showing noun class concord. Verbs have noun class agreement markers with nominals. The Heiban languages for which there are available data also have a nominative/accusative case alignment system with accusative case marking.

The Tira data in this paper are drawn from research with Himidan Hassen, a speaker of the Kadar dialect. Himidan is from the village of Kumo near the town of Kauda. He grew up speaking Tira, which he also learned to read and write in school, along with Arabic and English. He left the Nuba Mountains in 2005 and lived in Kakuma refugee camp and Nakuru in Kenya, where he also learned Swahili. Himidan currently lives in Canada and still speaks Tira regularly.

The Moro data were provided by Elyasir Julima, from Karakaray in the Moro Hills, a speaker of the Thetogovela dialect. Elyasir grew up primarily in Omdurman in a Moro-speaking area, and was raised by his grandmother who was monolingual in Moro. He returned to the Nuba Mountains during his childhood when feasible. Elyasir learned Arabic and English in school, but did not receive Moro language instruction. He moved to Egypt in 2001 with his Moro-speaking wife and children and then to the United States, where he has lived for over 20 years, making regular trips back to Sudan, or to Egypt where many Moro reside.

---

<sup>2</sup> Lack of overt accusative case marking is lexical. It is not an indication of differential object marking based on syntactic or semantic criteria.

The paper is organized as follows. In SECTION 2, we introduce possessive constructions, showing both nominal possession with genitive case, alienable and inalienable pronominal possessives and predicative possession. In SECTION 3, we introduce kin terms and show how the plural possessed forms are encoded. In SECTION 4, we discuss bare forms of nouns normally marked with inalienable suffixes. In SECTION 5, we discuss tone patterns in Tira inalienable forms, and in SECTION 6, we discuss vowel alternations.

## 2 Possessive constructions

Attributive possessive constructions in Moro and Tira can be divided into adnominal possession and pronominal possession. Pronominal possession shows distinctions between alienable and inalienable possession.

### 2.1 Adnominal possession

Adnominal possession is indicated in both languages with a genitive case prefix on the possessor that agrees in noun class with the possessum. The genitive prefix is of the shape *Cɛ́* in Tira and *íC:ɛ́* or *Cɛ́* in Moro, where C is a noun class concord consonant. The order of the phrase is POSSESSUM CL.GEN-POSSESSOR. Both possessor nouns in the data in (3) and (4) belong to CLg, but the noun class of the possessum differs based on plurality (CLl ‘egg’ or CLŋ ‘eggs’), which is reflected in the concord of the genitive prefix. The vowel of the genitive marker deletes before a vowel-initial noun, as in (3b) and (4b).<sup>3</sup>

#### (3) Tira

- |    |                          |    |                           |
|----|--------------------------|----|---------------------------|
| a. | <i>léŋ lékúkù</i>        | b. | <i>ŋéŋ ŋórá</i>           |
|    | <i>léŋ lé-kúkù</i>       |    | <i>ŋéŋ ŋ-órá</i>          |
|    | CLl.egg CLl.GEN-CLg.Kuku |    | CLŋ.egg CLŋ.GEN-CLg.child |
|    | ‘Kuku’s egg’             |    | ‘the child’s egg’         |

#### (4) Moro

- |    |                          |    |                         |
|----|--------------------------|----|-------------------------|
| a. | <i>léŋ íl:ɛ́kúk:ù</i>    | b. | <i>ŋéŋ íŋ:úm:ið</i>     |
|    | <i>léŋ íl:ɛ́-kúk:ù</i>   |    | <i>ŋéŋ íŋ:-úm:ið</i>    |
|    | CLl.egg CLl.GEN-CLg.Kuku |    | CLŋ.egg CLŋ.GEN-CLg.boy |
|    | ‘Kuku’s egg’             |    | ‘the boy’s eggs’        |

In Moro, the basic genitive case marker is *Cɛ́*. This is used for non-specific possession (5a) as well as in compounds (5b):

<sup>3</sup> In other work, we indicate only high tone (á) in Moro and leave low tone unmarked; for ease of comparison with Tira, we mark low tone (à) as well in this paper.

- (5) Moro
- a. *ìrə̀ŋ gə̀màtʃó*  
*ìrə̀ŋ gə̀-màtʃó*  
 CLg.name CLg.GEN-CLg.man  
 ‘name of an adult’
- b. *ŋàl:ətʃà ŋə̀láj*  
*ŋàl:ətʃà ŋə̀-láj*  
 CLŋ.sweetness CLŋ.GEN-CLl.bee  
 ‘honey’ (lit. ‘sweetness of bees’)

If a specific individual/entity or a personal name is the possessor, then the ‘strong concord’ version of the genitive is used as in (4). The strong concord has the form *íC:ə̀-*, with gemination of the concord marker, and an initial vowel (Jenks 2013a, 2013b). This seems to be an amalgamation of the demonstrative pronoun *íC:i*, which is also used as a relative pronoun, and the genitive marker *Cə̀-*. Indeed, in written Moro, the genitive construction is written with separate words, as NOUN *iCi* Cə̀ NOUN, as in the example from the story ‘The lion and the hyena’ in the Moro Story Corpus (<https://linguistics.berkeley.edu/moro/>) in (6):

- (6) Written Moro
- día irri rə̀ ŋwə̀lía*  
*día irri rə̀ ŋwə̀lía*  
 CLr.cow CLr.DEM CLr.GEN CLŋ.hyena  
 ‘the hyena’s cow’

## 2.2 Alienable pronominal possession

For most nouns, pronominal possession is indexed by possessive pronouns which follow the noun and show concord for noun class.

- (7)
- |       | Tira            | Moro                  |
|-------|-----------------|-----------------------|
| 1SG   | <i>éC-èní</i>   | <i>íC:-ə̀ŋ-C-ə̀ŋ</i>  |
| 2SG   | <i>éC-ə̀</i>    | <i>íC:-ò-C:-è</i>     |
| 3SG   | <i>éC-úŋ</i>    | <i>íC:-òŋ-C-òŋ</i>    |
| 1DUAL | <i>éC-ə̀lí</i>  | <i>íC:-ə̀lə̀ŋ-C-ì</i> |
| 1INCL | <i>éC-ə̀lír</i> | <i>íC:-ə̀ndí-C-ì</i>  |
| 1EXCL | <i>éC-ə̀j</i>   | <i>íC:-ə̀ŋ-C-ə̀ŋ</i>  |
| 2PL   | <i>éC-àló</i>   | <i>íC:-àlə̀-C:-è</i>  |
| 3PL   | <i>éC-én</i>    | <i>íC:-èn-C-èn</i>    |

In Tira, the template *éC*-PRON is employed,<sup>4</sup> whereas in Moro, it is either *íC*:-PRON-C:-è or *íC*:-PRON-C:-PRON (see also Jenks 2013a on Moro). The pronominal possessives are provided in (7).

Concord for noun class is shown in (8) for the 3PL form *éC-én*, where the C indicates concord with the noun class of the noun.

- (8) Tira
- |                     |              |                       |               |
|---------------------|--------------|-----------------------|---------------|
| a. <i>léŋ él-én</i> | ‘their egg’  | c. <i>àjén ég-én</i>  | ‘their hill’  |
| b. <i>ŋéŋ éŋ-én</i> | ‘their eggs’ | d. <i>nàjén én-én</i> | ‘their hills’ |

A complete paradigm of Tira pronominal possessive pronouns is shown in (9) for the word *léŋ* ‘egg’, which is CL1. The first and second person forms all show a LH tone pattern on the pronoun, while the third person forms have H tone.

- (9) Tira *léŋ* ‘egg’
- |     |                   |       |                   |       |                    |
|-----|-------------------|-------|-------------------|-------|--------------------|
| 1SG | <i>léŋ él-èŋí</i> | 1DUAL | <i>léŋ él-žlí</i> | 1INCL | <i>léŋ él-žlíŋ</i> |
|     |                   |       |                   | 1EXCL | <i>léŋ él-ǎj</i>   |
| 2SG | <i>léŋ él-š</i>   |       |                   | 2PL   | <i>léŋ él-àló</i>  |
| 3SG | <i>léŋ él-úŋ</i>  |       |                   | 3PL   | <i>léŋ él-én</i>   |

Moro pronominal possessors have strong concord *íC*:- with suffixes. There are two kinds of templates, one with reduplication and one without. For 2SG, 2PL and the inclusive forms, 1DUAL and 1INCL, the template is *íC*:-PRON-C:-è. The final /e/ is raised to [i] with 1DUAL and 1INCL due to height harmony triggered by the vowels /ɜ/ or /ɔ/ (Ritchart & Rose 2017). For 1SG, 1EXCL, 3SG and 3PL, the template is *íC*:-PRON-C:-PRON, with reduplication of the pronominal, as shown in (10) with the word *ðəl* ‘horn’ of CLð. The concord consonant is not geminated when following a consonant.

- (10) Moro *ðəl* ‘horn’
- |       |                         |
|-------|-------------------------|
| 1SG   | <i>ðəl íð:-əŋ-ð-əŋ</i>  |
| 2SG   | <i>ðəl íð:-ò-ð:-è</i>   |
| 3SG   | <i>ðəl íð:-òŋ-ð-òŋ</i>  |
| 1DUAL | <i>ðəl íð:-žłəŋ-ð-ì</i> |
| 1INCL | <i>ðəl íð:-əndí-ð-ì</i> |
| 1EXCL | <i>ðəl íð:-àŋ-ð-àŋ</i>  |
| 2PL   | <i>ðəl íð:-àłə-ð:-è</i> |
| 3PL   | <i>ðəl íð:-èn-ð-èn</i>  |

<sup>4</sup> Stevenson (1949; see Schadeberg (ed.) 2009) transcribes the initial vowel of the possessive template as [i].

Possession is one of the ways in which the Thetogovela dialect of Moro differs from standard written Moro. In written Moro, the paradigm in (11) is employed. The inclusive and plural forms resemble Thetogovela, but with no additional suffix, either *C:e* or reduplication. The singular forms are built from a different base *əlěɾə* and have person suffixes. In written Moro, the letters <đ ě ñ> correspond to [ð ɜ ɲ]. The *iCi* element is added for greater specificity, but is not required. Vowel harmony is responsible for the *eđ/iđ* alternation.<sup>5</sup>

- (11) Written Moro *đəl* ‘horn’
- |       |                           |
|-------|---------------------------|
| 1SG   | <i>đəl iđi đ-əlěɾə-ñi</i> |
| 2SG   | <i>đəl iđi đ-əlaɾə-ɲa</i> |
| 3SG   | <i>đəl iđi đ-əlěɾə-ɲu</i> |
| 1DUAL | <i>đəl iđi iđ-ələŋ</i>    |
| 1INCL | <i>đəl iđi iđ-ěndr</i>    |
| 1EXCL | <i>đəl iđi eđ-añ</i>      |
| 2PL   | <i>đəl iđi eđ-alo</i>     |
| 3PL   | <i>đəl iđi eđ-en</i>      |

### 2.3 Inalienable pronominal possession

Inalienable pronominal possessives are found only with a small set of kin terms. They involve bound suffixes with no number distinction for the possessor in the first, second and third person forms, where 1EXCL is the plural counterpart of 1SG. These suffixes also do not show noun class concord (although see SECTION 4.1 for exceptions with regard to plural marking). The suffixes are provided in (12):<sup>6</sup>

- (12)
- |           | Tira           | Moro              |
|-----------|----------------|-------------------|
| 1SG/1EXCL | <i>-áj/-ěj</i> | <i>-əɲ</i>        |
| 2SG/2PL   | <i>-əló</i>    | <i>-əlò</i>       |
| 3SG/3PL   | <i>-én</i>     | <i>-èn</i>        |
| 1DUAL     | <i>-əlí</i>    | <i>-ələŋ</i>      |
| 1INCL     | <i>-əlír</i>   | <i>-ələŋ-ěndr</i> |

The suffixes resemble the plural suffixes of possessive pronouns in both languages, although there are distinct forms for 1DUAL and 1INCL. The Moro 1INCL inalienable suffix is actually a double suffix consisting of the 1DUAL suffix *-ələŋ* and the 1INCL suffix *-ěndr* found in alienable possessives. Examples are provided of two cognate nouns with these suffixes in (13) and (14). Note

<sup>5</sup> Written Moro does not indicate tone, and since we do not know exactly how this would be pronounced when read aloud (this may depend on a person’s dialect), we only indicate the written form.

<sup>6</sup> The vowel alternation will be addressed in SECTION 7.

that the root in Moro exhibits vowel harmony triggered by the 1DUAL and 1INCL suffixes, so the noun root *ðr-* raises to *ùr-*.<sup>7</sup>

- (13) Tira ‘sibling’ (noun class concord: *g*)
- |           |               |        |                |
|-----------|---------------|--------|----------------|
| 1SG/1EXCL | <i>ðr-áj</i>  | 1 DUAL | <i>ðr-àlí</i>  |
| 2SG/2PL   | <i>ðr-àló</i> | 1 INCL | <i>ðr-àlír</i> |
| 3SG/3PL   | <i>ðr-én</i>  |        |                |

- (14) Moro ‘sibling’ (noun class concord: *g*)
- |           |               |        |                     |
|-----------|---------------|--------|---------------------|
| 1SG/1EXCL | <i>òr-àñ</i>  | 1 DUAL | <i>ùr-àlón</i>      |
| 2SG/2PL   | <i>òr-àlò</i> | 1 INCL | <i>ùr-àlón-òndr</i> |
| 3SG/3PL   | <i>òr-èn</i>  |        |                     |

It has been noted in the typological literature that inalienable possessives tend to exhibit structural properties that distinguish them from alienable possessives (Heine 1997). First, they involve a tighter structural bond between possessum and possessor (Nichols 1992:117). Second, they have less complex structures (van Rijn 2016, Haspelmath 2017). The West Heiban inalienable possessives fit this typological profile. They have bound suffixes. The lack of noun class concord and lack of plural distinctions in (13) and (14) compared to those with alienable pronominal possessives can also be construed as less complex in terms of structure.

When two nominals are linked in an attributive possessive relationship, the genitive construction is used, regardless of whether one of the nouns has an inalienable pronominal suffix or not. In the examples in (15) and (16), there are two indications of possession, the inalienable bound suffix and the class-marked genitive prefix on the possessor. In (15a) and (16), the possessum is an inalienably marked noun and requires a possessive suffix.

- (15) Tira
- a. *ðéṛén ðékúkù*  
*ðéṛ-én*                      *ðé-kúkù*  
 CLð.father-3POSS      CLð.GEN-CLg.Kuku  
 ‘Kuku’s father’
- b. *léñ léðéṛáj*  
*léñ*                      *lé-ðéṛ-áj*  
 CLl.egg      CLl.GEN-CLð.father-1POSS  
 ‘my father’s egg’

<sup>7</sup> It is possible to add the possessive pronouns used with alienable forms (as in SECTION 2.2) after these suffixed forms to disambiguate the number of the possessor: e.g., Tira *ðr-én ég-én* ‘their sibling’.

- (16) Moro  
*ùḍḗrén káljàsèr*  
*ùḍḗr-én k-áljàsèr*  
 CLg.mat.uncle-3POSS CLg.GEN-CLg.Elyasir  
 ‘Elyasir’s maternal uncle’

In (17) an example with two inalienably possessed nominals is shown. Here, the fact that both ‘uncle’ and ‘father’ are inalienably possessed does not affect the use of the genitive to link them.

- (17) Tira  
*ídérén kéḍétáj*  
*ídér-én ké-ḍét-áj*  
 CLg.mat.uncle-3POSS CLg.GEN-CLḍ.father-1POSS  
 ‘my father’s maternal uncle’

#### 2.4 Predicative possession

Both Tira and Moro use the verb ‘have’ to express predicative possession between two nominals, including stand-alone pronouns:

- (18) Tira  
*àprí jèrḍó léḗ-è*  
*àprí j-èrḍ-ó léḗ-è*  
 CLj.boy CLj-have-PFV CLl.egg-ACC  
 ‘the boy has an egg’

- (19) Moro  
*íḡ:é-w ḡ-èrḡ-ó ìrìə joàḡnà*  
*íḡ:é-w ḡ-èrḡ-ó ìrìə j-oàḡnà*  
 1SG.PRN-EMPH 1SG-have-PFV CLj.cow CLj-many  
 ‘as for me, I have many cows’

Predicative pronominal possession in Tira involves juxtaposition of the noun and pronominal possessive pronouns with no copula, as in (20).

- (20) Tira  
*léḡ lôn íl-èḡí*  
*léḡ lôn íl-èḡí*  
 CLl.egg CLj-DEM CLl.POSS-1SG.POSS  
 ‘that egg is mine’

In Moro, the same construction includes a prefixed element *Cà-* instead of strong concord on the nominal. Jenks et al. (to appear) analyze this as the preverbal root clause element that normally appears on main clause verbs.

- (21) Moro  
*ðàmàlà ðàðó*  
*ðàmàlà ð-à-ð-ó*  
 CLð.camel CLð-RTC-CLð-2SG.POSS  
 ‘the camel is yours’

Stevenson (2009/1942) notes a similar element for Tira, namely *aC-* instead of *iC-* preceding the possessive pronoun. We gloss this as POSS.PRED. This is not found in Himidan’s speech. In Stevenson’s transcription, <th> is [ð] and he does not mark tone.

- (22) Tira  
*ireth kai agun*  
*ireth k-ai a-g-un*  
 CLg.cloth CLg-DEM POSS.PRED-CLg.POSS-3SG.POSS  
 ‘that cloth is his’

We now explore kin relationships in more detail, and then examine the phonological and morphological properties of the inalienable forms.

### 3 Kin relationships

Inalienable possession is only indicated on kin terms in Moro and Tira, and only for pronominals. Body parts, which are often inalienably possessed in other languages (Chappell & McGregor 1996, Nichols 1988), show alienable possession. TABLE 1 lays out the stems for the different kinds of kin terms. These are divided into consanguineal (blood) relations, affinal (marriage) relations and what we term ‘social’ kin terms. Social kin terms refer to relationships that are familial-like in terms of closeness, but would not fit into a family tree. The term ‘community’ is a loose translation for *dəng-*, expressing the concept of one’s immediate locale, which includes one’s neighbors, family and general close entourage. This word is inalienable in Moro but alienable in Tira. The word *əmàð-* for ‘peer/agemate’ is typically used to refer to those young men who are married at the same time in traditional marriage ceremonies. The shading in the cells is intended to highlight stems used for multiple kin relationships.

	MORO <sup>8</sup>	TIRA
<b>CONSANGUINEAL</b>		
‘father/paternal uncle’	<i>èt-</i>	<i>ðét-</i>
‘mother/paternal aunt’	<i>lèng-</i>	<i>léng-</i>
‘maternal uncle/aunt’	<i>ùdér-</i>	<i>ídér-</i>
‘sibling/cousin’	<i>òr-</i>	<i>òr-</i> <sup>9</sup> (paternal)
‘grandparent/grandchild’		<i>ùrnèng-</i>
‘offspring’	<i>íðjéng-</i>	<i>èðèng-</i>
<b>AFFINAL</b>		
‘parent-in-law/child-in-law’	<i>ùn-</i>	<i>ùn-</i>
‘co-spouse’	<i>ùmàrt-</i>	<i>èròmɿ-</i>
‘wife/fiancée’	<i>wàs-</i>	<i>w(à)-</i>
‘husband/fiancé’	<i>èváng-</i>	<i>èmàn-</i>
‘husband’s brother’	<i>èváng-</i>	<i>ij-</i>
‘brother’s wife’	<i>wàs-</i>	<i>ij-</i>
‘husband’s sister’	<i>wàs-</i>	<i>ij-</i>
‘wife’s brother’	<i>wàs-</i>	<i>ib-</i>
‘sister’s husband’	<i>ib-</i>	<i>ib-</i>
‘wife’s sister’	<i>ib-</i>	<i>ib-</i>
<b>SOCIAL</b>		
‘peer/agemate’	<i>èmàð-</i>	<i>èmàð-</i>
‘community’	<i>dèng-</i>	(alienable)

TABLE 1: Inalienable kin term stems

Both languages show similar kin terminology. There are no gender distinctions for many of the terms (uncle/aunt, sibling/cousin, grandparent/grandchild, parent-in-law/child-in-law), but gender is important for paternal/maternal lineage with respect to uncle and aunt. It is also important for determining sibling-in-law terms. However, for sibling-in-law, it is not the gender of the person referred to, but the anchor to ‘ego’ that matters. For example, in Tira, *ib-* is a sibling-in-law and can refer to a man or a woman, but only to sibling-in-laws for whom the anchor is a woman, either one’s wife or one’s sister being the anchor to the person being referred to.

There are some differences between the two languages for affinal relationships. Tira has two different words for different kinds of ‘sibling-in-laws’. The word *ij-* indicates a male anchor (husband/brother) of the referent and *ib-* indicates a female anchor (wife/sister). In Moro, the word *ib-* also refers to female anchors,

<sup>8</sup> This list expands on the eight terms provided in Jenks (2013a).

<sup>9</sup> This is only ‘paternal cousin’ in Tira. ‘Maternal cousin’ is indicated by a separate word with alienable possession.

but is not used for wife’s brother, for which *was-* is employed, which is generally used for male anchors. However, the term for a husband’s brother is the same as the word for ‘husband’.

In general, the types of kin terms documented for Moro and Tira resemble those documented in other Nuba Mountain languages (Manfredi 2022, Veit & Schneider-Blum 2024), particularly with respect to Koalib/Rere, another Heiban language (Demir Nalci et al., to appear). For example, there is a separate term for maternal uncle/aunt, while paternal uncle/aunt uses the same term as father/mother. Moro has no separate word for grandparent or grandchild, but Tira shows intergenerational skipping, with the same word employed for both grandparent and grandchild.

There are some other kin terms that do not have inalienable suffixes but instead employ the personal possessive pronouns of alienably possessed nominals, as discussed in SECTION 2.2. A list of alienable kinship terms is provided in TABLE 2.

	MORO	TIRA	COMMENT
CONSANGUINEAL			
‘dad’	<i>ápà</i>	<i>ábà</i>	term of address
‘mom’	<i>nánà</i>	<i>ájà</i>	term of address
‘grandfather’	<i>útódíó</i>	--	term for older man
‘grandmother’	<i>ópá</i>	--	term for older woman
‘maternal cousin’	--	<i>ηέρα</i>	
‘maternal sibling’	--	<i>ìlìṣìṣ</i>	
‘child’	<i>ηέρα</i>	<i>óra</i>	
SOCIAL			
‘community’		<i>ìdáná</i>	cf. Moro inalienable

TABLE 2: Alienable kin terms

Moro uses the general words for older man and older woman to refer to grandfather and grandmother. There is no distinct word for ‘grandchild’. The word for ‘maternal cousin’ in Tira is similar to the word for ‘child’ in Moro, which can also mean ‘girl’ more generally. Neither language has a gender-specific term ‘son’ or ‘daughter’. The inalienable gender-neutral term ‘offspring’ can be used, or the alienable word for ‘child’ or ‘boy’.

Examples of these kin terms with possessive pronouns are provided in (23) and (24):

- (23) Tira  
*ilìḡinà èg-èḡí*  
*ilìḡinà*                      *èg-èḡí*  
 CLg.maternal sibling      CLg.POSS-1SG.POSS  
 ‘my maternal sibling’
- (24) Moro  
*ḡèrá íḡ:òḡ:è*  
*ḡèrá*                      íḡ:-ò-ḡ:-è  
 CLḡ.child              CLḡ.POSS-2SG.POSS-CLḡ-2SG.POSS  
 ‘your child’

3.1 Plural of possessed

Inalienable kin terms often show double or even triple marking for plurality (see TABLE 3 and examples (25) and (26)).

	MORO		TIRA	
	SINGULAR	PLURAL	SINGULAR	PLURAL
‘father/pat. uncle’	<i>èḡ-</i>	<i>èr-</i>	<i>ḡ-èḡ-</i>	<i>r-èḡ-</i>
‘mother/pat. aunt’	<i>lèḡḡ-</i>	<i>èl-</i>	<i>lèḡḡ-</i>	<i>l-èl-</i>
‘mat. uncle/aunt’	<i>ùḡḡr-</i>	<i>l-ḡwḡr-l-</i>	<i>ídḡḡr-</i>	<i>l-ḡḡr-l</i>
‘sibling/cousin’	<i>òr-</i>	<i>l-òr-l</i>	<i>ḡr-/àrò</i>	<i>l-ḡr-</i> <i>àl/làrò</i>
‘grandparent/grandchild’			<i>ùrnèḡḡ-</i>	<i>l-ùrnèḡḡ-</i>
‘parent/child-in-law’	<i>ùn-</i>	<i>èl-nw-</i>	<i>ùn-</i>	<i>l-ùn-</i>
‘co-spouse’	<i>ùmàrt-</i>	<i>l-èùmàrt-</i>	<i>èrèmt-</i>	<i>l-rèmt-</i>
‘peer/close friend’	<i>èmàḡ-</i>	<i>l-èmàḡ-</i>	<i>èmàḡ-</i>	<i>l-èmàḡ</i>
‘sister’s husband/ wife’s sister’	<i>ìb-</i>	<i>l-àb-</i>	<i>ìb-</i>	<i>l-àb-(al)-</i>
‘brother’s spouse/ husband’s sibling’			<i>ìj-</i>	<i>l-ìj-l</i>
‘wife’	<i>wàs-</i>	<i>l-wàs-</i>	<i>w(a)-</i>	<i>l-áj-l-</i>
‘husband’	<i>èvàng-</i>	<i>l-àvá-l</i>	<i>èmàn</i>	<i>l-èmàn</i>
‘offspring’	<i>íḡjḡḡḡ-</i>	<i>l-íḡjḡḡḡ-</i>	<i>èḡḡḡḡ-</i>	<i>l-èḡḡḡḡ-</i>
‘community’		<i>dèḡḡ-</i>	--	--

TABLE 3: Inalienable singular/plural stems

The main method of indicating plural is through noun class. Inalienable kin terms belong to the human noun class pairing *g* (singular) and *l* (plural), except for ‘father’ in Tira, which is *ḡ* (singular)/*r* (plural) and ‘community’ which is a location and does not have noun class. Both Tira and Moro have lost the original

noun class prefix \*k(w)/g(w), leaving vowel-initial nouns in the singular<sup>10</sup> and an *l*-plural noun class prefix in most forms (see Schadeberg 1981, Gibbard et al. 2009 on Moro). Concord and verb agreement serve to reveal the noun class. Koalib maintains the original noun class marker of this class, as can be seen with the cognate of *ùn-/lùn-*, which is *kú:n-/lú:n-* ‘parent-in-law’ in Koalib (Rere) (Demir Nalci et al., to appear). The bound plural noun class marker is shown as a prefix in the table; this makes comparison with the singular easier. In addition to the prefix *l*- in the plural, there are some forms with an additional *l* following the root. We examine these in the next section.

### 3.2 Vestiges of noun class concord

An extra *l* appears between the root and inalienable suffixes in certain plural forms in both languages. Fuller forms with third person suffixes are in (25) and (26).

- (25) Tira
- |    |                |                         |                   |                           |
|----|----------------|-------------------------|-------------------|---------------------------|
| a. | <i>ídér-én</i> | ‘his/her m. uncle/aunt’ | <i>lédér-l-én</i> | ‘his/her m. uncles/aunts’ |
| b. | <i>w-én</i>    | ‘his/her/their wife’    | <i>láj-l-én</i>   | ‘her/their husbands’      |
- (26) Moro
- |    |              |                         |                       |                          |
|----|--------------|-------------------------|-----------------------|--------------------------|
| a. | <i>òr-én</i> | ‘his/her/their sibling’ | <i>lòr-l-én-àndá</i>  | ‘his/her/their siblings’ |
| b. | <i>èv-én</i> | ‘her/their husband’     | <i>lèvá-l-én-àndá</i> | ‘her/their husbands’     |

If the grammaticalization pathway was that inalienable possessives developed from standard possessive pronouns that became bound to the kin term stems, this marker is likely the vestige of a noun class concord marker *l*- on person suffixes (cf. Tira alienable *léñ él-én* ‘their egg’). The concord marker [l] seems to have been preserved with nouns whose roots end in a vowel, glide or [r]. It is not preserved when the root ends in an obstruent [t ð s b] or a nasal [n].

Support for the additional *l* being a noun class marker comes from the fact that [ŋg] appears in the singular of the words for ‘offspring’, ‘husband’, ‘mother’ and ‘grandparent/grandchild’, where *l* appears in the plural (27)-(28). This marker is probably a former *g* noun class concord. Indeed, Tira has *ŋg* as a concord/agreement marker for this particular noun class.

<sup>10</sup> In the *g*-class, the vowel can be analyzed as a noun class prefix, probably the remnant of the original noun class marker, that had a round vowel/labial glide. See Gibbard et al. (2009) for details.

(27) Tira  
*lé-ŋg-én* ‘his/her/their mother’ *lé-l-én* ‘his/her/their mothers’

(28) Moro  
*lè-ŋg-én* ‘his/her/their mother’ *èl-én-àndá* ‘his/her/their mothers’

The concord *g* is preserved with roots with a final vowel or final [ŋ]. Compare Moro *dəŋg-àp* ‘my community’ with Tira *ìdájá* ‘community’, which is an alienable form. However, not all words with *ŋg* in the singular have *l* in the plural. The words for ‘offspring’ and the Tira word for ‘grandparent/grandchild’ have final *ŋg* in the plural form as well. If the final *ŋg* was historically a concord marker, it is possible that it has now lexicalized and been extended to both singular and plural in these forms.

These vestiges of concord marking suggest a diachronic pathway whereby pronominal possessives became grammaticalized as bound inalienable suffixes on kin terms, with loss of the concord prefix in forms that ended in obstruents or nasals, but preservation with other roots.

### 3.3 Plural suffixes

The associative plural suffix is also added to inalienable kin terms as a mark of plurality. In Thetogovela Moro, the associative plural marker *-àndá* is used with proper nouns and certain alienable kin terms (29a-c). It has the allomorph *-ŋéndà* after vowel-final words. It is obligatorily used on all inalienable plural forms (29d-g).

- (29) Moro
- |                        |                            |
|------------------------|----------------------------|
| a. <i>dʒòrdʒ-àndá</i>  | ‘George and company’       |
| b. <i>kúk:ù-ŋéndà</i>  | ‘Kuku and company’         |
| c. <i>áp:à-ŋéndà</i>   | ‘dads/dads and company’    |
| d. <i>èr-áp-àndá</i>   | ‘my fathers’               |
| e. <i>èl-áp-àndá</i>   | ‘my mothers’               |
| f. <i>lòrl-áp-àndá</i> | ‘my siblings/pat. cousins’ |
| g. <i>Iwàs-áp-àndá</i> | ‘my wives’                 |

In Tira, the associative plural marker *-ŋá* can be used optionally on inalienable plural forms:

- (30) Tira
- |                        |                        |
|------------------------|------------------------|
| a. <i>kúkù-ŋá</i>      | ‘Kuku and company’     |
| b. <i>ájà-ŋá</i>       | ‘mom/moms and company’ |
| c. <i>l-ìb-èj(-ŋá)</i> | ‘my siblings-in-law’   |

A similar use of the associative plural on inalienable possessives is also noted for Koalib (Rere) (Demir Nalci et al., to appear) and other Nuba Mountain languages (see Manfredi 2022 for details). In Koalib (Rere), the associative plural *-(í)ḡá* occurs on the word for ‘mother’ (*léḡ-éí-ḡé* ‘my mothers’) and optionally on the word for father (*réḡ-éí(-ḡé)* ‘my fathers’) (Demir Nalci et al., to appear).

#### 4 Bare forms

Certain kin nouns in both languages can occur with no inalienable suffixes, with a generic sense (see TABLE 4).

Some forms end in a consonant, but some of these forms have an extra vowel that does not appear with the suffixes, for example, Tira *ùnò* ‘an in-law’ vs. *ùn-éj* ‘my parent-in-law’. The form with the final vowel is likely to be the base and its vowel is deleted with the vowel-initial bound suffixes.

	MORO	TIRA
‘sibling, relative’	<i>òrəwà</i>	<i>àrò</i>
‘wife’	<i>wàsà</i>	
‘co-spouse’		<i>èrəmṭù</i>
‘in-law’	<i>ùnə</i>	
‘parent-in-law/child-in-law’		<i>ùnò</i>
‘peer/agemate’		<i>èməð</i>
‘offspring’		<i>ìððḡ</i>
‘grandparent/grandchild’		<i>ùrnò</i>

TABLE 4: Bare forms of inalienable possessives

In Moro, the word *òrəwà* appears with an extra [wa] syllable in addition to the base *òr-* ‘sibling’. In written Moro, ‘his sister/brother’ does not use the inalienable possessive suffixes for third person but is instead expressed with *orba* (the standard written Moro form of *òrəwà*) and an alienable possessive: e.g., *orba gələḡəḡu* ‘his/her sibling/relative’ (cf. (11) in SECTION 2.2). In Tira, the same word for ‘sibling/pat. cousin’ also cannot take third person inalienable suffixes and occurs alone or with a possessive pronoun: *àrò* (*éḡúḡ*) ‘his/her sibling’; otherwise, independent pronominal possessive pronouns are normally not used with inalienable kin terms in this manner.

In Moro, some stems can appear with no suffixes only with a case-marked overt nominal possessor. This occurs with ‘mother,’ ‘father’ and ‘uncle/aunt’ (Jenks & Sande 2017), as shown below. The name Kuku has an accusative case marker *-ḡ*. If the nominal possessor is not case marked, the inalienable suffix is required.



c. <i>òrì</i>	LL	<i>órí-ṣé</i>	HH-H	‘water’
d. <i>lùbùtù</i>	LHH	<i>lúbút-é</i>	HH-H	‘dove’

Some nouns show no distinction between nominative and accusative (35).

(35) Tira

	NOMINATIVE	ACCUSATIVE	
a.	<i>ḍár</i>	<i>ḍár</i>	‘rope’
b.	<i>ùḍḍ</i>	<i>ùḍḍ</i>	‘worm’
c.	<i>làṙà</i>	<i>làṙà</i>	‘candle’

So far we have not noted any lexical nouns in which the accusative is marked only by tone change, although such patterns are attested in Koalib (Rere) (Quint & Allasonnière-Tang 2022). Moro has a limited accusative case marking system (Jenks & Rose 2018) and does not seem to employ tone changes to mark accusative case.

Inalienable possessives in Tira do not have accusative case suffixes, but some nouns do show tone changes. Monosyllabic nouns that are H-toned in the nominative show a change in the accusative. The root is L and the suffix is -LH instead of -HH. This is the pattern found for ‘father’, ‘mother’ and ‘wives’.

<i>father H</i>	NOMINATIVE		ACCUSATIVE	
1SG/1EXCL	<i>ḍét-áj</i>	H-H	<i>ḍèt-áj</i>	L-H
2SG/2PL	<i>ḍuét-áló</i>	H-HH	<i>ḍèt-àló</i>	L-LH
3SG/3PL	<i>ḍét-én</i>	H-H	<i>ḍèt-én</i>	L-H
<i>mother H</i>	NOMINATIVE		ACCUSATIVE	
1SG/1EXCL	<i>lèṅg-áj</i>	H-H	<i>lètṅg-áj</i>	L-H
2SG/2PL	<i>lèṅg-áló</i>	H-HH	<i>lètṅg-àló</i>	L-LH
3SG/3PL	<i>lèṅg-én</i>	H-H	<i>lètṅg-én</i>	L-H
<i>wives H</i>	NOMINATIVE		ACCUSATIVE	
1SG/1EXCL	<i>l-áj-l-áj</i>	H-H	<i>l-àj-l-áj</i>	L-H
2SG/2PL	<i>l-áj-l-áló</i>	H-HH	<i>l-àj-l-àló</i>	L-LH
3SG/3PL	<i>l-áj-l-én</i>	H-H	<i>l-àj-l-én</i>	L-H

TABLE 5: Tira tone change on root and second person suffix; H nominative roots

However, with all other nouns, no tone changes are found, and the nominative and accusative are identical in tone. This is true for all bisyllabic HH nouns, but also for other monosyllabic nouns such as parent-in-law, which has L-H in the nominative.

<i>parent-in-law L</i>	NOMINATIVE		ACCUSATIVE	
1SG/1EXCL	<i>ùn-éj</i>	L-H	<i>ùn-éj</i>	L-H
2SG/2PL	<i>ùn-àló</i>	L-LH	<i>ùn-àló</i>	L-LH
3SG/3PL	<i>ùn-én</i>	L-H	<i>ùn-én</i>	L-H
<i>peer LL</i>	NOMINATIVE		ACCUSATIVE	
1SG/1EXCL	<i>èmàð-áj</i>	LL-H	<i>èmàð-áj</i>	LL-H
2SG/2PL	<i>èmàð-àló</i>	LL-LH	<i>èmàð-àló</i>	LL-LH
3SG/3PL	<i>èmàð-én</i>	LL-H	<i>èmàð-én</i>	LL-H
<i>mat. uncle/aunt HH</i>	NOMINATIVE		ACCUSATIVE	
1SG/1EXCL	<i>ídér-éj</i>	HH-H	<i>ídér-éj</i>	HH-H
2SG/2PL	<i>ídér-àló</i>	HH-LH	<i>ídér-àló</i>	HH-LH
3SG/3PL	<i>ídér-én</i>	HH-H	<i>ídér-én</i>	HH-H

TABLE 6: Tira nouns with no tone change; L, LL and HH nominative roots (all other forms)

We analyze the tone changes in terms of accusative case being indicated by L tone on the root. There is no segmental accusative suffix in these forms that accompanies the L tone.<sup>12</sup> As there are multiple ways of marking accusative case, including no marking, the fact that some inalienable possessives show a tone change and some show no change is in keeping with the overall system of case marking. This is lexical, so we do not attempt to explain why certain nouns have this pattern and others do not.

However, the tone change on the second person suffix (-HH versus -LH) is not due to grammatical tone case assignment but to phonology. We maintain that the underlying form of the second person suffix is *-àló* with LH tone. This is the form that appears in both the nominative and accusative of all the other inalienable forms that do not show tone change, and it is the pattern for the 2PL alienable possessive. H tone spreads from the root to the suffix in the nominative, so /ðéʔ-àló/ → [ðéʔàló], as shown in (36):



H tone does not, however, spread from bisyllabic roots with HH tone. This is due to the way H tone spreading operates in Tira, being triggered only by a singly-linked autosegmental H tone. Consider the following sentences, drawn from Kaldhol (2024). In (37a), the LH noun *dijó* ‘cow’ spreads its H tone onto the low-toned

<sup>12</sup> Inalienably possessed nouns have vowel-initial suffixes. It is possible, therefore, that an accusative suffix has been attached to these forms, but due to vowel hiatus resolution, it does not surface.

object *ɣəm̀* ‘food’. In (37b), on the other hand, the HH noun *ǎámlá* does not spread its tone as it is doubly linked.<sup>13</sup>

(37) Tira

a. *lá ɣátsà díjɔ ɣóm̀*  
*l-á ɣátsf-à díjɔ ɣóm̀*  
 CLI-IPFV give-FV CLr.cow CLɣ.food  
 ‘they will give the cow food’

b. *lá ɣátsà ǎámlá ɣóm̀*  
*l-á ɣátsf-à ǎámlá ɣóm̀*  
 CLI-IPFV give-FV CLǎ.camel CLɣ.food  
 ‘they will give the camel food’

H tone does not spread from the bisyllabic H toned forms such as *úǎér-* due to the same restriction.

The tone change pattern is also seen with the singular noun ‘wife’ in (38), but the first and third person suffixes also show a tone change. While the second person suffix is *-áló* with LH tone, the first and third person suffixes have a  $\overline{\text{LH}}$  rising tone rather than just H tone.

(38) Tira

<i>wife</i> H	NOMINATIVE		ACCUSATIVE	
1SG/1EXPL	<i>w-áj</i>	-H	<i>w-ǎj</i>	$\overline{\text{LH}}$
2SG/2PL	<i>w-áló</i>	-HH	<i>w-áló</i>	-LH
3SG/3PL	<i>w-én</i>	-H	<i>w-én</i>	$\overline{\text{LH}}$

The plural form of ‘wife’ is *lájł-áj* ‘my wives’ (ACC. *lájł-áj*) and the Moro singular cognate is *wàs-*, e.g., *wàs-ájł* ‘my wife’. This suggests that the root may not just be /w-/, as it appears, but actually /wa-/.<sup>14</sup> The root vowel is deleted before vowel-initial inalienable suffixes. If the tone on the accusative root is L, as it is in the plural, the L-H sequence would become a contour tone [ǎ] or [ǎ] following vowel deletion; the root tone is recuperated on the suffix, a type of tone stability. This is demonstrated in (39).

(39) Tira

<i>wife</i> H	NOMINATIVE		ACCUSATIVE	
1SG/1EXPL	/wá-áj/	→ [wáj]	/wà-áj/	→ [wǎj]
2SG/2PL	/wá-áló/ → [wá-áló]	→ [wáló]	/wà-áló/ → [wáló]	→ [wáló]
3SG/3PL	/wá-én/	→ [wén]	/wà-én/	→ [wǎn]

<sup>13</sup> These nouns are in object position, but have no overt accusative case marking.

<sup>14</sup> There is another word *ǎwá* ‘woman, female’ (cognate with Moro *ǎwá*) which may or may not be related to *wà-*.

In conclusion, a small class of inalienable kin terms (‘mother’, ‘father’, ‘wife’) show accusative case via a tone change. The remaining inalienable kin terms show no distinction between nominative and accusative.

## 6 Vowel alternations

Both languages show vowel alternations in the inalienable possessives. These have to do with vowel harmony in Moro, and possible vestiges of vowel harmony in Tira.

### 6.1 Moro vowel harmony

Moro has a productive system of vowel harmony in which lower vowels /e a o ə/ are raised to their higher counterparts [i ɜ u ə] by the higher vowels /i ɜ u ə/ (Ritchart & Rose 2017). Harmony operates bidirectionally, but kin terms show restrictions in the progressive direction. See Jenks (2013a) for discussion.

Suffixes with lower vowels show raising when the suffixes are attached to stems with high vowels. This occurs with the stems *ùn-* (40c,f) and *ìb-* (40d,h). The first person /-áɲ/ and third person /-én/ suffixes are raised to [ɛɲ] and [ín] respectively. This is an example of progressive height harmony.

- (40) Moro progressive harmony
- |    |              |                                |
|----|--------------|--------------------------------|
| a. | <i>òr-áɲ</i> | ‘my/our (EXCL) sibling’        |
| b. | <i>èt-áɲ</i> | ‘my/our (EXCL) father’         |
| c. | <i>ùn-ɛɲ</i> | ‘my/our (EXCL) parent-in-law’  |
| d. | <i>ìb-ɛɲ</i> | ‘my/our (EXCL) sibling-in-law’ |
| e. | <i>òr-én</i> | ‘his/her/their sibling’        |
| g. | <i>èt-én</i> | ‘his/her/their father’         |
| f. | <i>ùn-ín</i> | ‘his/her/their parent-in-law’  |
| h. | <i>ìb-ín</i> | ‘his/her/their sibling-in-law’ |

Harmony can also operate in the regressive direction. This occurs with the first person dual suffix *-ɛ́lɛ́ɲ*, which has high vowels. It causes stems with low vowels to raise, so /o e a/ are raised to [u i ɜ] respectively.

- (41) Moro regressive vowel harmony from inalienable suffixes
- |    |                |                         |    |                    |                      |
|----|----------------|-------------------------|----|--------------------|----------------------|
| a. | <i>òr-áɲ</i>   | ‘my/our (EXCL) sibling’ | d. | <i>ùr-ɛ́lɛ́ɲ</i>   | ‘our (DUAL) sibling’ |
| b. | <i>èt-áɲ</i>   | ‘my father’             | e. | <i>ìt-ɛ́lɛ́ɲ</i>   | ‘our (DUAL) father’  |
| c. | <i>èmàð-án</i> | ‘my peer’               | f. | <i>ìməð-ɛ́lɛ́ɲ</i> | ‘our (DUAL) peer’    |

The inalienable kin terms show two kinds of restrictions in the progressive direction related to a bisyllabic window. First, a bisyllabic root does not cause raising of a suffix (\**ùdɛ́r-ín*). Instead, the form is disharmonic.

- (42) Moro monosyllabic inalienable suffixes
- a. *ùḍḗr-én* ‘his/her/their mat. uncle/aunt’
  - b. *ìḍḗḅḅg-én* ‘his/her/their offspring’
  - c. *ùmḗrt-én* ‘his/her/their co-spouse’

Second, a bisyllabic suffix cannot undergo raising from a root with a high vowel (\**ùn-ḗlú*, \**ùn-ḗló*), as shown for the second person suffix.

- (43) Moro bisyllabic inalienable suffixes
- a. *ùn-àló* ‘your parent-in-law’
  - b. *ìb-àló* ‘your sibling-in-law’

Both restrictions can be analyzed as harmony operating in a bisyllabic domain. Harmony can apply from root to suffix as long as both of them are monosyllabic. Harmony applies from the initial vowel of the root in (42), but applies only to the second root vowel. In (43), the initial vowel of the suffix is within a bisyllabic window, but this would make the suffix partially harmonized – \**ìb-ḗló* – which the language does not allow.

This restriction differs from progressive harmony in the verbal domain, which is iterative – both the manner applicative suffix *-aḍḗt* and the imperfective suffix *-a* are raised by a high-voweled root (44b). Enclitics are outside the harmonic domain and do not harmonize (44c), but this is the only restriction on harmony.

- (44) Moro harmony in the verb
- a. *g-à-lág-àḍḗt-à*  
CLg-RTC-cultivate-MAN.APPL-IPFV  
‘s/he is about to cultivate in this manner’
  - b. *g-ḗ-kíḍ-ḗḍḗt-ḗ*  
CLg-RTC-open-MAN.APPL-IPFV  
‘s/he is about to open in this manner’
  - c. *g-ḗ-kíḍ-ḗḍḗt-ḗ = lḗ*  
CLg-RTC-open-MAN.APPL-IPFV-3PL.OBJ  
‘s/he is about to open them in this manner’

The limitations on progressive harmony with inalienable suffixes are suggestive of gradual incorporation into the harmonic domain; vowel harmony is only partially extended to bound suffixes. It is not a restriction on particular suffixes, but on the size of the harmonic domain.

6.2 Tira vowel alternations

Tira does not have vowel harmony, but there are vowel alternations in the inalienable suffixes. These may be vestiges of a former harmony system. The first person possessive suffix has two allomorphs: *-aj* and *-ej*.

(45) Tira first person suffix allomorphs

	<i>-áj</i>		<i>-éj</i>
‘mother’	<i>léŋg-áj</i>	‘uncle/aunt’	<i>ídér-éj</i>
‘father’	<i>ðét-áj</i>	‘co-spouse’	<i>èrəmt-éj</i>
‘sibling’	<i>ðr-áj</i>	‘sibling-in-law’	<i>ib-éj</i>
‘wife’	<i>w-áj</i>	‘parent-in-law’	<i>ùn-éj</i>
‘husband’	<i>èmán-áj</i>	‘offspring’	<i>èðèŋg-éj</i>
‘peer/agemate’	<i>èmàð-áj</i>	‘grandfather’	<i>ùrnèŋg-éj</i>
‘sibling-in-law’	<i>ij-áj</i>		

At first glance, there seems to be nothing that would predict the choice of suffix. Roots such as *èmán-* and *èðèŋg-* seem very similar phonologically in that both have low vowels. The tone of the root can be either low or high in both lists. However, when compared to the Moro cognates, a striking pattern emerges. The cognate stems of *-éj* forms all have high vowels in Moro (*ùdár-*, *ùmàrt-*, *ib-*, *ùn-*, *íðəŋg-*) whereas the cognate stems of *-áj* forms all have lower vowels in Moro (*ləŋg-*, *èt-*, *òr-*, *wàs-*, *èváŋg-*, *èmàð-*). There are no cognates for *ùrnèŋg* or *ij-*, as Moro does not have these forms.

Simmons (2023) shows that Tira /ɛ/ corresponds to Moro high /ɜ/ or /i/, or to Moro low /e/. The alternation of the first person *-áj/-éj* suffix parallels the Moro first person suffix *-áj/-éj* alternation and appears to reflect an older vowel system before sound changes in Tira converted some high vowels to /ɛ/. *-ej* was likely *\*-ɛj*, with vowel raising applied to all suffixes following high vowels, but is now realized as [ɛ].

7 Conclusion

Moro and Tira both have a set of inalienable pronominal possessed kin terms. There are a number of affinal and social kin terms, with some differences between the two languages. These inalienably possessed kin terms use bound suffixes to express the pronominal possessor, but no number distinctions. There is additional plural marking of the possessed: leftover concord suggests grammaticalization from the concord of possessive pronouns while the use of the associative plural on kin terms is an areal phenomenon. In Tira, there are tone changes that index accusative case on certain inalienable forms. This can be explained as being part of the general case marking system of the language, which employs tone changes. Finally, there are vowel alternations in both

languages. In Moro, general vowel harmony shows domain restrictions, suggesting a gradual incorporation of former suffixes into the nominal system. In Tira, vowel alternations seem to be a synchronically arbitrary pattern, but a comparison with Moro shows that they are connected to a former vowel harmony system. These patterns are suggestive of a grammaticalization pathway from independent alienable pronominal possessives to inalienable suffixes, with a reduction in form of pronominal possessor marking.

### Abbreviations

CL	noun class	MAN.APPL	manner applicative
CLF	classifier	OBJ	object
DEM	demonstrative	POSS	possessive
EXCL	exclusive	SG	singular
FV	final vowel	PL	plural
GEN	genitive	PRED	predicate
INCL	inclusive	RTC	root clause
IPFV	imperfective		

### References

- Chappell, Hilary & William McGregor. 1996. Prolegomena to a theory of inalienability. In Hilary Chappell & William McGregor (eds.), *The Grammar of Inalienability. A Typological Perspective on Body Part Terms and the Part-Whole Relation*, 3-30. Berlin: De Gruyter Mouton. <https://doi.org/10.1515/9783110822137.3>
- Demir Nalci, Neşe, Titus Kubri Kajo Kunda & Sharon Rose. To appear. Tone patterns in Rere (Koalib) inalienable possessives. *Studies in African Linguistics*.
- Dimmendaal, Gerrit. 2018. Reconstructing Katloid and deconstructing Kordofanian. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 383-415. Cologne: Rüdiger Köppe.
- Gibbard, George, Hannah Rohde & Sharon Rose. 2009. Moro noun class morphology. In Masangu Matondo, Fiona McLaughlin & Eric Potsdam (eds.), *Selected Proceedings of the 38th Annual Conference on African Linguistics*, 106-117. Somerville, MA: Cascadilla Proceedings Project.
- Haspelmath, Martin. 2017. Explaining alienability contrasts in adpossession constructions: Predictability vs. iconicity. *Zeitschrift für Sprachwissenschaft* 36(2). 193-231. <https://doi.org/10.1515/zfs-2017-0009>
- Heine, Bernd. 1997. *Cognitive Foundations of Grammar*. Oxford: Oxford University Press.

- Kaldhol, Nina Hagen. 2024. *Tonal Dimensions of Morphological Complexity*. San Diego: University of California San Diego dissertation. <http://dissertations.umi.com/ucsd:23580>
- Jenks, Peter. 2013a. Noun phrases in Moro. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 57-82. Cologne: Rüdiger Köppe.
- Jenks, Peter. 2013b. Head movement in Moro DPs: Evidence for a unified theory of movement. In Robert E. Santana-LaBarge (ed.), *Proceedings of the 31<sup>st</sup> West Coast Conference on Formal Linguistics* 31, 248-257. Somerville, MA: Cascadilla Proceedings Project.
- Jenks, Peter & Sharon Rose. 2018. The puzzle of case marking in Moro. Paper presented at the World Congress of African Linguistics 9, Mohamed V University, Rabat, Morocco.
- Jenks, Peter, Elyasir Julima, Angelo Naser & Sharon Rose. To appear. *A Grammar of Moro with a Focus on the Thetogovela Dialect*. Language Science Press.
- Jenks, Peter & Hannah Sande. 2017. Dependent accusative case and caselessness in Moro. In Andrew Lamont & Katerina Tetzloff (eds.), *Proceedings of the Forty-Seventh Annual Meeting of the North East Linguistic Society*, 109-118. Amherst, MA: GLSA Publications.
- Langdon, Margaret. 1970. *A Grammar of Diegueño: the Mesa Grande dialect*. (University of California Publications in Linguistics, 66). Berkeley, CA: University of California Press.
- Lichtenberk, Frantisek. 1983. *A Grammar of Manam*. (Oceanic Linguistics Special Publications 18). University of Hawai'i Press.
- Manfredi, Stefano. 2022. An areal typology of kin terms in the Nuba Mountain languages. *Journal of African Languages and Linguistics* 43(2). 199-247. <https://doi.org/10.1515/jall-2022-8896>
- McLendon, Sally. 1975. *A Grammar of Eastern Pomo*. (University of California Publications in Linguistics, 74). Berkeley, CA: University of California Press.
- Nichols, Johanna. 1988. On alienable and inalienable possession. In William Shipley (ed.), *In Honor of Mary Haas: From the Haas Festival Conference On Native American Linguistics*, 557-610. Berlin/New York: De Gruyter Mouton. <https://doi.org/10.1515/9783110852387.557>
- Nichols, Johanna. 1992. *Linguistic Diversity in Space and Time*. Chicago, IL: University of Chicago Press.
- Quint, Nicolas & Marc Allasonnière-Tang. 2022. Inferring case paradigms in Koalib with computational classifiers. *Corpus Linguistics and Linguistic Theory* 19(2). 237-269. <https://doi.org/10.1515/cllt-2021-0028>

- Ritchart, Amanda & Sharon Rose. 2017. Moro vowel harmony: implications for transparency and representation. *Phonology* 34. 1-38.  
<https://doi:10.1017/S0952675717000069>
- Schadeberg, Thilo. 1981. *A Survey of Kordofanian Vol 1: The Heiban Group*. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. (ed.). 2009. *Tira and Otoro. Two Kordofanian Grammars by Roland C. Stevenson*. Cologne: Rüdiger Köppe.
- Saxon, Leslie & Andrea Wilhelm. 2016. The “possessed noun suffix” and possession in two northern Dene (Athabaskan) languages. *International Journal of American Linguistics* 82 (1). 35-70.  
<https://doi.org/10.1086/684423>
- Simmons, Mark. 2023. Diachrony of morphologically constrained rounding harmony in Tira. Ms. UC San Diego.
- Stassen, Leon. 2001. Predicative possession. In Martin Haspelmath, Wulf Oesterreicher & Wolfgang Raible (eds.), *Language Typology and Language Universals: An International Handbook*, 954-960. Berlin/New York: Mouton de Gruyter.
- van Rijn, Marlou. 2016. The grammaticalization of possessive person marking: a typological approach. *Transactions of the Philological Society* 114. 233-276. <https://doi.org/10.1111/1467-968X.12077>
- Veit, Nataliya & Gertrud Schneider-Blum. 2024. Kin-relational expressions of the Tima (Nuba Mountains, Sudan). In Andrea Hollington, Alice Mitchell & Nico Nassenstein (eds.), *Anthropological Linguistics – Perspectives from Africa*, 223-252. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/clu.23.09vei>

# Comparative Heibanic

*Roger M. Blench*

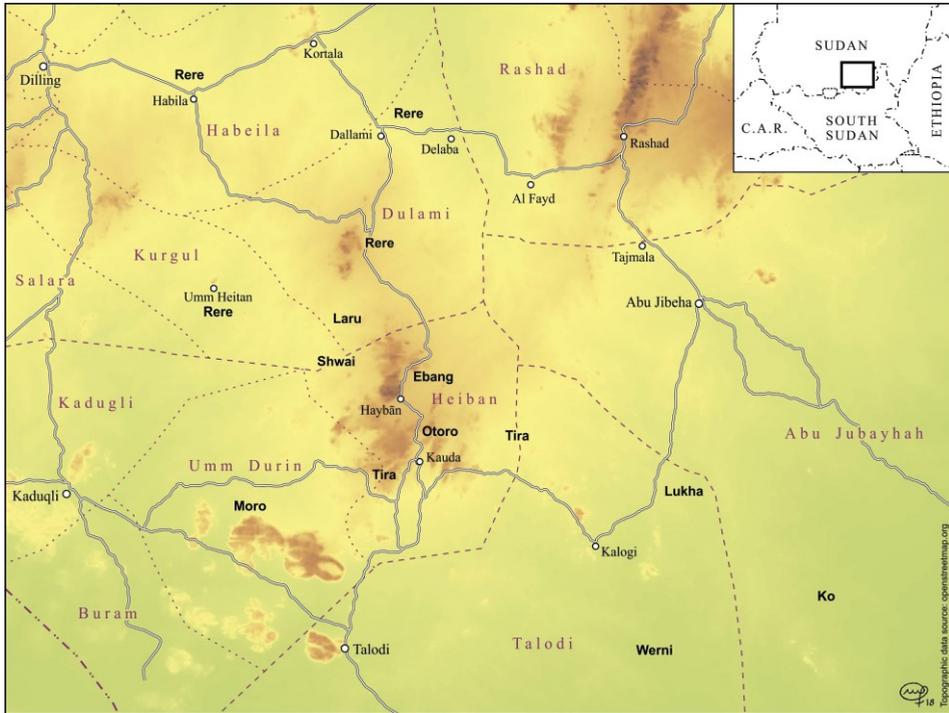
## 1 Introduction

This paper is an overview of the Heibanic languages, part of the disputed Kordofanian branch of Niger-Congo. It outlines the possible phonemic inventory of Proto-Heibanic [PH], and then sets out a series of cognate sets which provide evidence for the reconstruction of individual phonemes. The only previous synthesis of Heibanic is Schadeberg (1981a), which remains an important source for some of the lesser-documented speech varieties. Not all attested phonemes are supported by individual datasets. The paper makes use of modern published literature, as well as the unpublished materials of Roland Stevenson (1925-1990), listed in the references as Stevenson (ined.). Blench (1997) published a short catalogue of the files in his storage boxes. The final section of the paper synthesises the possible noun-class alternations of Heibanic and speculates on their semantic associations. The absence of modern documentation on some varieties makes this inevitably a work in progress.

The Heibanic languages were first characterised by Stevenson (1956-7, 1962-64) as ‘Koalib-Moro’ and subsequently by Schadeberg (1981a), who published a comparative wordlist with analyses. The Heibanic languages (see TABLE 1) are spoken in the southeast of the Nuba Mountains, between Dilling and Talodi. MAP 1, from Schadeberg & Blench (2013), shows the approximate location of these languages. The continuing civil war in Sudan has displaced many communities and there are significant diaspora groups in Khartoum. Some smaller languages may be severely endangered.

Heibanic was formerly considered one of the branches of Kordofanian, itself a primary branch of Niger-Congo (Greenberg 1963; Schadeberg 1989). However, in recent times it has become clear that Kordofanian is not a genetic unit and that it consists of several independent branches (Blench 2013). Blench (2018) considered the claims that Heiban and Talodi form a branch, but found the evidence to be less than convincing. However, both have rich noun class systems and some of the prefix alternations look remarkably similar to those

present in the other branches of Niger-Congo, so we can presume the relationship is genetic.



MAP 1: The Heibanic languages

The literature on Heiban was reviewed in Blench (2018) and some preliminary proposals made for the reconstruction of its noun classes. This paper extends the evidence base for Proto-Heibanic by setting out the evidence for the individual reconstructions which underlie the suggested proto-forms. Fresh data have emerged for several languages, although many remain severely underdocumented. It is intended to complement the comparative study of the Talodi branch by Norton & Alaki (2015).

Elisabeth Guest<sup>1</sup> (1998e) undertook a separate survey of nominal affix alternations which drew on a larger sample than Schadeberg (1981a). Significant newer publications and unpublished material on individual Heiban languages since the 1970s are listed in TABLE 1.

---

<sup>1</sup> I would particularly like to acknowledge Elisabeth Guest's kind permission to make use of her unpublished materials on the Heibanic languages.

LANGUAGE	PUBLICATIONS
Rere [Koalib]	Guest (1998c), Quint (2009), Quint (2010a,b, 2018), Quint & Manfredi (2020), Boychev (2013)
Ebang [Heiban]	Meinhof (1943-1944), Schadeberg & Kossmann (2010), Schadeberg (2010, 2020)
Ko [Kau, Fungor]	Faris (1978)
Werni [Warnang]	No new data
Moro	Black & Black (1971), Guest (1997b, 1998a,d), Gibbard et al. (2009), Rose (2013), Rose et al. (2014) Jenks & Rose (2011, 2012, 2015, 2017), Jenks (2013, 2014), Jenks & Sande (2017), Naser & Rose (2020), Jenks et al. (2024)
Tira	Watters (1993, 1995), Stevenson (Schadeberg 2009)
Shwai	Guest (1997a)
Otoro	Blench (n.d.), Guest (1998b), Stevenson (Schadeberg 2009)
Lukha [Logol]	No new data
Laru	Schadeberg (1981b), Kuku (2012, 2015)

TABLE 1: Recent publications and documentation on Heiban languages

I have not listed all the earlier publications, which are covered extensively in Blench (2013). Particular attention is drawn to Jenks et al. (2024), published since the initial version of this paper, which is a full-length grammar of Moro with a significant dictionary appended. Its findings are incorporated into the revised text.

From the more recent literature we can draw up tables of the noun-class affix alternations attested in individual Heiban languages. Sometimes the concord system is also recorded. Although I have included a column for semantics, this should be treated with due scepticism. Many nouns in a given class do not seem to fit into any overall semantic scheme.

FIGURE 1 shows the hypothetical internal structure of the Heibanic group, slightly updated from Blench (2018). Schadeberg (1981a) uses various lexicostatistical procedures to come up with different genetic trees. However, the present classification is based on more impressionistic shared lexical items.

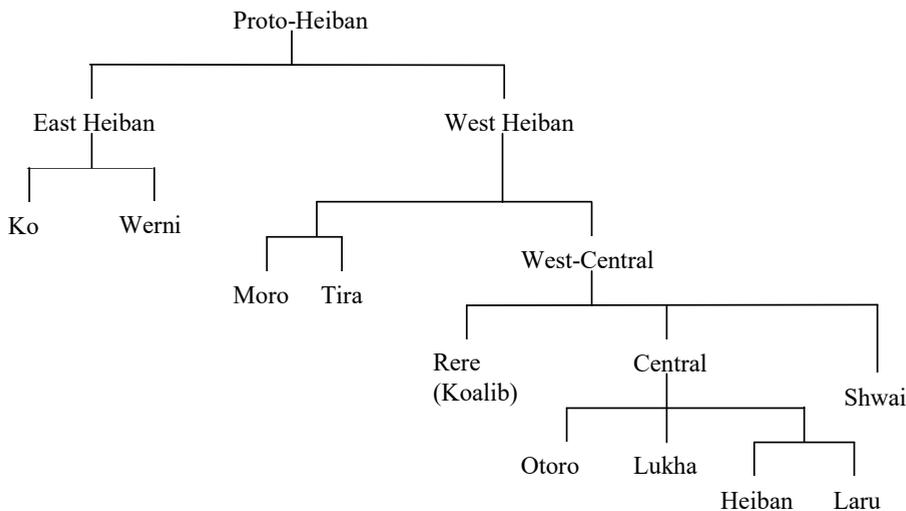


FIGURE 1: Internal structure of the Heibanic group

## 2 Phonemic inventory

### 2.1 Consonants

The reconstruction of the Proto-Heibanic phonemic inventory encounters difficulties from the varying transcriptions in different sources, particularly in relation to dentals. The consonants otherwise are relatively uncontroversial, and wherever a shared lexeme provides evidence for a specific consonant, this is mentioned. By contrast, the vowels and tones are largely guesswork, as they are not apparent from the datasets. TABLE 2 shows my reconstruction of the consonants of Proto-Heibanic.

	LABIAL	DENTAL	ALVE- OLAR	RETRO -FLEX	PALA -TAL	VELAR	GLOT- TAL
Plosive	p b	t̪ d̪			c ɟ	k, k <sup>w</sup> g, g <sup>w</sup>	
Fricative	f v	θ ð	s				h
Nasal	m		n		ɲ	ŋ	
Laterals			l				
Trills			r				
Flap				ɾ			
Approximant	w				y		

TABLE 2: Proto-Heibanic consonants

For Rere [Koalib], Quint (2009: 49) proposes a distinction between ‘plain’ and ‘strong’ consonants, and he marks the ‘strong’ consonants by doubling. These are also transcribed in the wordlists in Schadeberg (1981a) for some languages. TABLE 27, which presents the dataset for ‘bad’ and shows consistent *-kk-* in medial position, is the only example where this can be reconstructed. This is presumably the same as the fortis/lenis distinction found in West African Niger-Congo languages, such as Upper Cross and some Plateau languages. Kuku (2012) similarly transcribes these for Laru and it is plausible that the voiced obstruents showed this distinction in PH.

Homorganic prenasalisation was also characteristic of PH. Dental stops are preceded by /n/, bilabials by /m/ and velars by /ŋ/ (Schadeberg 1981a: 119 for \*nD-). Not all the attested prenasalised segments can be reconstructed. Consonants show limited prosodic modification, but there is evidence for /k<sup>w</sup>/ and /g<sup>w</sup>/ contrasting with their unmodified counterparts.

This should be compared with the table in Schadeberg (1981a: 116). I have omitted the fortis/lenis contrasts that he includes, although I think some of these are quite plausible, as the evidence is often contradictory. He proposes an additional liquid \*L, based on *l ~ ɭ* correspondences. I prefer to reconstruct this as \*ɽ. Guest (e.g., in 1998e) transcribes /x/ for several Heibanic languages, but this phoneme is not recorded by other authors, so I have omitted it.

## 2.2 Vowels

Vowels are more problematic. Phonologies of Heibanic languages (e.g., Guest 1997c) suggest that they have nine vowels arranged in +/- ATR sets, as with Talodi. The general pattern of vowels in Nuba Mountain languages has been reviewed in Bashir & Rose (2024), although they appear to consider that languages do not have ATR systems unless explicitly mentioned by the author. But transcription moves on and it seems more plausible that languages with eight or nine vowels are indeed harmony systems. Kuku (2012) proposes eight vowels for Laru, which lacks the +ATR counterparts of the mid-vowels /ɛ/ and /ɔ/. Quint (2009) sets up a quite different inventory for Rere (TABLE 3).<sup>2</sup>

---

<sup>2</sup> Rere is technically the main dialect of Koalib and the one in which most materials have been published. I therefore use it in preference to the more general cover term Koalib.

	FRONT	CENTRAL	BACK
Close	i		u
Mid-High	e		o
Mid-Low	ɛ	ɐ	ɔ
Open		a	

TABLE 3: Rere vowels (Source: Quint 2009)

Jenks et al. (2024: 19) argue for quite a different approach to the vowels of Thetogovela Moro (TABLE 4).

	FRONT	CENTRAL	BACK
Close	i		u
Mid-High	e	ə	o
Mid-Low		ɜ ə	
Open		a	

TABLE 4: Moro vowels (Source: Jenks et al. 2024)

Moro was previously analysed as having seven vowels. The vowel /ɜ/ is written in the orthography as *ě*, but the additional vowel /ə/ is not marked. Indeed, the authors point out that the two are difficult to distinguish perceptually. Moro has vowel harmony (see Ritchart & Rose 2017), in which the vowels /e a o ə/ alternate with /i ɜ u ə/ and roots contain vowels from only one of the sets.

However, these distinctions are not transcribed in the major comparative sources (Stevenson *ined.*; Schadeberg 1981a). TABLE 5 shows the proposed vowels for Proto-Heibanic, which I consider to have been an ATR system.

	FRONT	CENTRAL	BACK
Close	i		u
Mid-High	ɪ		ʊ
Mid-Low	ɛ	ə	ɔ
Open		a	

TABLE 5: Proto-Heibanic vowels

Quint (2009: 41) argues that Rere shows systematic length contrast in vowels, as illustrated in the examples in TABLE 6.

RERE	GLOSS	RERE	GLOSS
<i>kérào</i>	‘snake’	<i>kéeráo</i>	‘fawn’
<i>kèr̀à</i>	‘skull’	<i>kèr̀áa</i>	‘season’
<i>két̀ò</i>	‘temporary pool’	<i>két̀òò</i>	‘froth’
<i>lòm̀òr</i>	‘stick’	<i>lóóm̀ór</i>	‘period’

TABLE 6: Rere long/short vowel contrasts

On the other hand, Laru (Kuku 2012), and indeed most other languages for which we have evidence, does not show such contrasts. Nonetheless, as the reconstruction for ‘belly’ (TABLE 18) shows, a consistent transcription of the stem-initial vowel as *aa-* argues for a possible contrast of the central vowel in Proto-Heibanic. TABLE 25 gives evidence for the long vowel *-εε-* in PH. The widespread development of length contrast in Rere may be a local innovation.

### 2.3 Tones

Proto-Heibanic was almost certainly tonal. Schadeberg (1981a) transcribes high, low and falling tones for some languages. This system is independently confirmed for Shwai in Ali et al. (1998), and for Tira in Watters (1993). Quint (2009) and Kuku (2012) propose a similar two-tone height system for Rere and Laru with an additional rising tone. Moro (Jenks et al. 2024: 89) also has two contrastive tone heights, which are only present on nouns. These occur on vowels, but also on nasals and on /r/ when syllabic.

## 3 Heibanic reconstructions

### 3.1 General

Schadeberg (1981a) is the only existing proposal for the Proto-Heibanic lexicon, although Guest (1998e) and Blench (2018) have put forward a scheme for nominal affix alternation. In an ideal world, we would have comparable transcriptions for all the languages included and modern phonologies. However, the data are more of a mosaic, and have to be normalised to develop a comparative lexicon. This section puts forward a small sample of the items which will potentially be included in such a lexicon to illustrate the arguments for the reconstruction of phonemes and affix alternations. The entries for

individual languages are derived from the sources listed in TABLE 1, harmonised to a common transcription. I have arranged the languages according to the order in Schadeberg (1981a) for easier comparison, although this does not reflect the classification in FIGURE 1. Where there are apparently multiple roots, I have arranged the attested forms in several columns, the first column containing the cognate set which I consider supports the reconstructed form. Jenks et al. (2024) includes a dictionary and I have crosschecked the Moro from other sources with their citations. For reasons not fully understood, the lexemes they record are often outliers, not cognate with other Heibanic lexemes, in contrast to previous sources. This may be a matter of dialect, in that the lect they have recorded is innovative. Certainly more will need to be done on comparative Moro.

### 3.2 Pronouns

TABLE 7 provides justification for \**ɲ* and \**i* for 1SG, \**ɲ* and \**a* for 2SG, and \**ɲ* and \**u* for 3SG. The extended forms with \*-(n)d(V) for the latter are all confined to West-Central Heibanic.

LANGUAGE	‘I, me’	‘you SG.’	‘he, she, it’
Rere	<i>ɲi</i>	<i>ɲa</i>	<i>ɲundu</i>
Heiban	<i>ɲi</i>	<i>ɲa</i>	<i>ɲeda</i>
Abul	<i>ɲi</i>	<i>ɲa</i>	<i>ɲinda</i>
Laru	<i>ɛɲ</i>	<i>ɲa</i>	<i>ɲinde</i>
Otoro	<i>ɲi</i>	<i>ɲa</i>	<i>ɲun</i>
Shirumba	<i>ɲi</i>	<i>ɲa</i>	-
Tira	<i>ɲɲi</i>	<i>ɲɲa</i>	<i>ɲɲu</i>
Moro	<i>ɲɲi</i>	<i>ɲɲa</i>	<i>ɲɲu</i>
Ko	<i>ɲɲi</i>	<i>ɲwa</i>	<i>wa</i>
Warnang	<i>ɲɲi</i>	<i>uɲa</i>	<i>ɲanɛ</i>
Logol	<i>gweeni</i>	<i>ɲa</i>	<i>gusunu</i>
Shwai	<i>ɲi</i>	<i>ɲa</i>	<i>ɲu</i>
<b>Proto-Heibanic</b>	<b>*-ɲi</b>	<b>*ɲa</b>	<b>*ɲu</b>

TABLE 7: Heibanic pronouns

The reconstruction of Heibanic pronouns is relatively simple compared with other parts of speech. See Schadeberg (1981a: 181ff.) for a preliminary discussion. Heibanic pronouns are remarkably conservative, given the general diversity in the lexicon.

## 3.3 Nouns

Nouns provide the bulk of reconstructions in this paper, in part because of the interest of affix alternations but also because they are far less subject to semantic diversification than other parts of speech, such as verbs and adjectives. Jenks et al. (2024: 154) give a rich account of Moro noun-class affix alternations and the associated concord system. In the following tables I have given Roman numerals II and occasionally III to forms which are apparently non-cognate with the main reconstructed form. Sometimes these are cognate with one another, as in the reconstruction for ‘grass’ in TABLE 8 below, but are not sufficiently widespread to assign them to PH.

I have divided the entries in TABLE 8 into two sets, but the attestations in Ko (East Heibanic) and Lukha (West-Central Heibanic) suggest that a form similar to *\*k-aaru* must be reconstructed to PH. *\*k-* would then be an unpaired prefix for mass nouns, as listed in TABLE 29. Intriguingly, the velar in the plural prefix of the Ko attestation corresponds to the singular prefix in the other languages, suggesting it may be a back-formation from common Heibanic. These forms provide possible evidence for *\*ɿ* and *\*k* as PH.

LANGUAGE	SG	PL	II
Rere	<i>k-arawa</i>		
Heiban	<i>k-ááró</i>		
Abul			
Laru			
Otoro	<i>g-árúm</i>		
Shirumba		<i>ŋ-</i>	<i>l-ájá</i>
Shwai			
Tira		<i>ŋ-</i>	<i>l-ajna</i>
Moro		<i>ŋ-</i>	<i>ŋ-ana</i>
Ko	<i>ɿ-uɿú</i>	<i>k-aɿú</i>	
Logol	<i>g-aaru</i>		
<b>Proto-Heibanic</b>	<b><i>*k-aaru[m]</i></b>		

TABLE 8: Heibanic ‘grass’

TABLE 9 constitutes evidence for the labialisation of the velar /k<sup>w</sup>/ at PH level and for the contrastive status of *k<sup>v</sup>-* in PH (cf. TABLE 29). The Heibanic forms show a surprising similarity to Hausa *kwado* ‘toad’ and other Chadic attestations. I presume the second attestation for ‘frog’ in Moro is a different species.

LANGUAGE	SG	PL	SG	PL
Rere	<i>kw-urɔ</i>	<i>l-</i>		
Heiban	<i>gw-udɔ</i>	<i>l-</i>		
Abul				
Laru				
Otoro	<i>gwu-rɔ</i>	<i>li-</i>		
Shirumba				
Shwai	<i>x-áddá</i>	<i>l-</i>		
Tira	<i>l-uli</i>	<i>ŋ-</i>		
Moro	<i>l-du</i>	<i>ɲəlu</i>	<i>liŋwɜ</i>	<i>ɲiŋwɜ</i>
Ko	<i>kudro</i>			
Logol				
<b>Proto-Heibanic</b>	<b>*kw-udrɔ</b>	<b>l-</b>		

TABLE 9: Heibanic ‘frog’

As for ‘charcoal’, for which the forms are given in TABLE 10, only Otoro and the second Moro form show a singular/plural alternation and it is the plural which corresponds to the usual Heiban root. I am therefore interpreting these as back-formations. These forms provide evidence for \*ŋ, \*a, \*r and the labialised form of /ŋ, ŋ<sup>w</sup>/.

LANGUAGE	SG	PL	SG	PL
Rere	<i>ŋwurɔ</i>			
Heiban	<i>ŋwuraŋ</i>			
Abul				
Laru	<i>yeraŋ</i>			
Otoro	<i>l-ra</i>	<i>ŋwu-</i>		
Shirumba				
Shwai	<i>ra</i>			
Tira	<i>ŋwura</i>			
Moro	<i>ŋwura</i>		<i>lɛmíníɔ</i>	<i>ŋɛmíníɔ</i>
Ko	<i>ŋiraŋ</i>			
Warnang				
Logol				
<b>Proto-Heibanic</b>	<b>*ŋwuraŋ</b>			

TABLE 10: Heibanic ‘charcoal’

TABLE 11 provides justification for the reconstruction of PH \*ɿ and \*u. All terms refer to the olive baboon, *Papio anubis*.

LANGUAGE	SG	II	PL
Rere	<i>kw-eruwel</i>		<i>l-</i>
Heiban	<i>kw-uruwel</i>		<i>l-</i>
Abul		<i>irajjar</i>	
Laru	<i>th-iruel</i>		
Otoro	<i>gw-uruwel</i>		<i>l-</i>
Shirumba			
Shwai			
Tira		<i>tamburu</i>	
Moro	<i>oruveta</i>		
Ko			
Warnang		<i>karawar</i>	
Logol			
<b>Proto-Heibanic</b>	<b>*gw-uruwel</b>		<b>l-</b>

TABLE 11: Heibanic ‘baboon’

For ‘cow, cattle’, the forms of which are presented in TABLE 12, two roots are reconstructible, one for PH and one for PWCH. \* $\eta$ i-da provides evidence for PH \*d and \*i.

LANGUAGE	SG	PL	SG	PL
Rere	<i><math>\eta</math>-ida</i>	<i>y-</i>		
Heiban			<i><math>\eta</math>-imiro</i>	<i>ɲ-</i>
Abul				
Laru	<i>g-ida</i>			
Otoro			<i><math>\eta</math>-imiro</i>	<i>ɲ-</i>
Shirumba				
Shwai			<i><math>\eta</math>-imiro</i>	<i>ɲ-</i>
Tira	<i>di-o</i>	<i>ir-o</i>		
Moro	<i>d-iə</i>	<i>ir-iə</i>		
Ko	<i>da</i>			
Warnang				
Logol				
<b>PWCH</b>			<b>*<math>\eta</math>-imiro</b>	<b>ɲ-</b>
<b>Proto-Heibanic</b>	<b>*<math>\eta</math>i-da</b>	<b>*ir</b>		

TABLE 12: Heibanic ‘cow, cattle’

The reconstruction of ‘elephant’ (see TABLE 13) provides evidence for \* $\delta$ , \*o, \* $\eta$  and \*r. The alternation of  $\delta$ -/r- prefixes is attested in Moro (TABLE 15) although the attestations in Moro dialects do not show this for ‘elephant’. This

root is quite widespread elsewhere in Africa, appearing in other language phyla, including Afroasiatic and Niger-Congo. For example:

Omotic P-Mao \*tongVl-  
Dogonic Dogon Toro dúŋ(u)

LANGUAGE	SG	PL	SG	PL
Rere	<i>ð-ohɔr</i>	<i>r-</i>		
Heiban	<i>ð-ohɔr</i>	<i>r-</i>		
Abul				
Laru	<i>ð-uhur</i>			
Otoro	<i>ð-uhɔr</i>	<i>d-</i>		
Shirumba				
Shwai	<i>ð-ohɔr</i>			
Tira	<i>ð-ohɔr</i>	<i>y-</i>		
Moro	<i>ð-əhɔr</i>	<i>y-</i>	<i>ʔó:ŋór</i>	<i>ró:ŋór</i>
Ko	<i>ð-ohɔr</i>			
Warnang				
Logol				
<b>Proto-Heibanic</b>	<b>*ð-ohɔr</b>	<b>*r-</b>		

TABLE 13: Heibanic ‘elephant’

The forms for ‘bee’, given in TABLE 14, provide evidence for PH \*g<sup>w</sup>- and \*l-.

LANGUAGE	SG	PL	SG	PL	II
Rere		<i>d-</i>			<i>θ-ömani</i>
Heiban	<i>gw-ai</i>	<i>l-</i>			
Abul					
Laru	<i>ɣ-ai</i>				
Otoro	<i>gw-ai</i>	<i>l-</i>			
Shirumba					
Shwai	<i>lai</i>				
Tira	<i>ø-oi</i>	<i>l-ai</i>			
Moro	<i>w-ai</i>	<i>l-ai</i>	<i>wáyá</i>	<i>láyá</i>	
Ko	<i>w-ai</i>	<i>l-ai</i>			
Warnang					
Logol					
<b>Proto-Heibanic</b>	<b>*g<sup>w</sup>-ai</b>	<b>*l-</b>			

TABLE 14: Heibanic ‘bee’

The bow and arrow is not very widespread in the Nuba Mountains and the word for ‘arrow’ is absent in several lexical sources. The available forms are listed in TABLE 15. The additional Moro forms may apply to different arrow types. I have given the non-cognate forms under II. The forms provide evidence for \*θ and \*r.

LANGUAGE	SG	PL	SG	PL	SG	PL	II
Rere	<i>θ-orəŋ</i>	<i>d-</i>					
Heiban							<i>lu-pire</i>
Abul							
Laru							<i>gi-burθa</i>
Otoro							
Shirumba							
Shwai							
Tira							<i>dhopi</i>
Moro	<i>δ-uru-va</i>		<i>δólán</i>	<i>rólán</i>	<i>δamŋfa</i>	<i>ramŋfa</i>	
Ko	<i>θuru</i>						
Warnang							
Logol							
<b>Proto-Heibanic *θ-uru</b>							

TABLE 15: Heibanic ‘arrow’

LANGUAGE	SG	II	PL
Rere		<i>k-érige</i>	<i>y-</i>
Heiban	<i>d-əy</i>		<i>d-</i>
Abul	<i>d-i</i>		<i>r-</i>
Laru	<i>g-ui</i>		<i>ŋw-</i>
Otoro		<i>g-írge</i>	<i>j-</i>
Shirumba	<i>δ-ε</i>		<i>r-</i>
Shwai		<i>z-ah</i>	<i>r-ah</i>
Tira		<i>i-rεδ</i>	<i>ñ-dreδ</i>
Moro	<i>δ-ey</i>	<i>δ-án</i>	<i>r-</i>
Ko	<i>t-úí</i>		<i>d-</i>
Warnang	<i>á-wí</i>		<i>cú-</i>
Logol	<i>d-í</i>		<i>d-</i>
<b>Proto-Heibanic *D-wi</b>			<b>*r-</b>

TABLE 16: Heibanic ‘hand’

The lexeme for ‘hand’ (see TABLE 16) also usually refers to ‘arm’. Strictly speaking the data are too differentiated to support a reconstruction of δ-, hence I have indicated \*D-. However, they clearly align with a widespread δ-/r-

alternation and are so listed in TABLE 29. It is surprising that the attestations for a basic body part should be so diverse and this may be an artefact of the elicitation process. The dentals in the singular prefix do not seem to form a consistent pattern.

The variants in TABLE 17 provide evidence for PH \*θ. This is one of the few Heibanic roots which show widespread cognates elsewhere in Niger-Congo.

LANGUAGE	SG	PL
Rere	<i>θ-iri</i>	<i>r-</i>
Heiban	<i>ð-iri</i>	<i>d-</i>
Abul		
Laru	<i>g-iri</i>	
Otoro	<i>ð-iri</i>	<i>d-</i>
Shirumba		
Shwai		
Tira	<i>u-riθ</i>	<i>n-</i>
Moro	<i>u-nderi</i>	
Ko	<i>θ-iri</i>	
Warnang		
Logol		
<b>Proto-Heibanic</b>	<b>*θ-iri</b>	<b>*r-</b>

TABLE 17: Heibanic ‘vein’

LANGUAGE	SG	PL	SG	PL
Rere	<i>k-áaré</i>	<i>y-</i>		
Heiban	<i>k-ááɛ</i>	<i>ɲ-</i>		
Abul	<i>g-aare</i>	<i>ɲ-</i>		
Laru	<i>l-aari</i>	<i>ɲw-</i>		
Otoro	<i>g-aare</i>	<i>ɕ-</i>		
Shirumba	<i>i-riɲ</i>	<i>nd-riɲ</i>		
Tira			<i>ari</i>	<i>na-ari</i>
Moro	<i>é-káré</i>		<i>árá</i>	<i>ná-árá</i>
Ko	<i>ε-wɪɲ</i>	<i>ɸu-</i>		
Warnang	<i>ø-aariɲ</i>	<i>ɸ-</i>		
Logol	<i>g-aari</i>	<i>ɕ-</i>		
Shwai	<i>x-aɾɪɲ</i>	<i>n-</i>		
<b>Proto-Heibanic</b>	<b>*k-aariɲ</b>	<b>*nɕ-</b>		

TABLE 18: Heibanic ‘belly, stomach’

As for the realisations of ‘belly, stomach’ (see TABLE 18), the PH initial is most plausibly the voiceless velar, i.e. \*k. This is a rare case where a long

vowel appears to be reconstructible. The final palatal nasal /-ɲ/ must almost certainly be reconstructed, as it is attested in both East and West Heibanic. Logol provides evidence for an affricate in the plural, which presumably must be combined with a nasal prefix, hence the plural reconstruction.

LANGUAGE	SG	PL	II	III
Rere	<i>k-iaw</i>	<i>y-</i>		
Heiban	<i>g-iû</i>	<i>ɕ-</i>		
Abul	<i>g-íyu</i>	<i>ø-íyu</i>		
Laru	<i>ʔ-íyú</i>	<i>ɲw-</i>		
Otoro	<i>g-íya</i>	<i>ɕ-</i>		
Shwai		<i>ø-</i>	<i>x-abxur</i>	
Shirumba		<i>n-</i>	<i>áb(ú)gúr</i>	
Tira	<i>ð-íyyu</i>	<i>ø-</i>		
Moro			<i>ð-isiá<sup>3</sup></i>	<i>imɜðólwɜ</i>
Ko	<i>k-íye</i>	<i>ʃ-</i>		
Warnang	<i>k-íya</i>	—		
Logol	<i>g-íyyú</i>	—		
<b>Proto-Heibanic</b>	<b>*k-iyu</b>	<b>ɕ-</b>		

TABLE 19: Heibanic ‘bark’

Other Kordofanian languages distinguish ‘fresh’ and ‘dried’ bark, so this may explain the divergent forms here. As demonstrated in TABLE 19, /k/ is retained as a prefix with the realisations of ‘bark’ in more languages than with ‘stomach’ (TABLE 18). The Shwai form is from Guest (1998) and the Shirumba from Schadeberg (1981a). They are clearly related but far from identical and not cognate with common Heibanic, as also is the case for Moro. Laru and Tira have developed a divergent dental prefix in the singular.

For ‘wing’, TABLE 20, there appear to be two distinct roots with evidence for the second form being rather weak; hence the reconstructed form remains speculative. TABLE 20 also provides evidence for \*k and \*b.

TABLE 21 provides evidence for PH \*ɲ, \*i and final \*-n, with plausible evidence for \*v.

<sup>3</sup> According to Jenks et al. (2024), this is a bark loincloth.

LANGUAGE	SG	PL	SG	PL	SG	PL	COMMENT
Rere			<i>k-ílli</i>	<i>y-</i>			= 'shoulder'
Heiban	<i>k-íbbó</i>	<i>ɲ-</i>					
Abul							
Laru							
Otoro	<i>g-íbbó</i>	<i>ɕ-</i>					
Shwai	<i>u-bbɔ</i>	<i>nə-</i>					
Tira							
Moro			<i>élle</i>	<i>nólle</i>	<i>ε-ldia</i>	<i>nə-</i>	also 'feather'
Ko	<i>k-əbbów</i>	<i>tʃ-</i>					
Warnang							
Logol	<i>d-uffú</i>	<i>d-</i>					
<b>Proto-Heibanic</b>	<b>*k-ibbo</b>	<b>*ɲʃ-</b>	<b>*k-illi</b>				

TABLE 20: Heibanic 'wing'

LANGUAGE	FORM	COMMENT
Rere	<i>ɲ-îñ</i>	
Heiban	<i>ɲ-îñ</i>	
Laru	<i>ɲ-îñ</i>	
Moro	<i>ɲ-əfáni, ɲəvəní</i>	
Otoro	<i>ɲ-îñ</i>	
Shwai	<i>ɲ-əv(v)in</i>	
Tira	<i>ɲ-əvin</i>	
Ko	<i>ɲ-un</i>	
Warnang	<i>tʃ-uunu</i>	? prefix unexplained
Logol	<i>ɲ-ívín</i>	
<b>Proto-Heibanic</b>	<b>*ɲ-əvin-</b>	

TABLE 21: Heiban 'blood'

### 3.4 Numerals

Numerals can only be reconstructed to Proto-Heibanic for 'one', 'three', 'five' and 'ten'. However, Moro-Tira and West Heibanic have distinctive forms, which map well onto the proposed tree in FIGURE 1. Tables are given below for 'one', 'five' and a summary table for 1-10 showing reconstructions for mesolects. Numerals above 'five' are often additive ('six' is 'three + three', for example).

All the forms for 'one' in TABLE 22, except Ko, are plausibly related. However, the Heiban, Abul and Shirumba forms have suffixed an *-ip(p)o* element not found elsewhere, so I have segregated them in a second column

entry. Furthermore, TABLE 22 provides evidence for \*k and a fortis dental, either *-tt-* or *-tt̥-*.

LANGUAGE	FORM	II	III
Rere	<i>kwutte</i>		
Heiban		<i>gwetipɔ</i>	
Abul		<i>gwɔdippɔ</i>	
Laru	<i>gwette</i>		
Otoro	<i>gwɛdɔŋ</i>		
Shirumba		<i>ittíβɔ</i>	
Shwai			
Tira	<i>kenne</i>		
Moro	<i>kuntu, gw-ənto</i>		
Ko			<i>tákkən</i>
Warnang	<i>ŋúttɔ</i>		
Logol	<i>gwátte</i>		
<b>Proto-Heibanic</b>	<b>*<i>(n)k<sup>w</sup>utt̥ən</i></b>		

TABLE 22: Heibanic ‘one’

TABLE 23 is evidence for the dental fricatives \*θ and \*ð, as well as for \*n and \*i. The long vowel in V<sub>1</sub> position changes its segmental character, but its persistent presence suggests that it may be reconstructible.

LANGUAGE	FORM
Rere	<i>θúðni</i>
Heiban	<i>θuðna</i>
Abul	<i>θúúðna</i>
Laru	<i>θúðini</i>
Otoro	<i>θɔðdane</i>
Shirumba	<i>ðinné</i>
Shwai	<i>ðene</i>
Tira	<i>ðɛ(n)ɛnɛ</i>
Moro	<i>ðéénəŋ, ðénɔŋ</i> (Jenks et al. 2024)
Ko	<i>θɔθθúí</i>
Warnang	
Logol	<i>θúðíní</i>
<b>Proto-Heibanic</b>	<b>*<i>θú(ú)ðini</i></b>

TABLE 23: Heibanic ‘five’

TABLE 24 presents reconstructions of Heibanic numerals in summary form.

NUMERAL	PROTO-HEIBANIC	PROTO-WH	PROTO-MT
One	<b>*(n)k<sup>w</sup>uṭṭon</b>		
Two	not reconstructible		
Three	<b>*θiṛil</b>		<b>*-ṛidzin</b>
Four	not reconstructible	<b>*kəwəŋə</b>	<b>*-maralon</b>
Five	<b>*θú(ú)ḍini</b>		
Six	not reconstructible	<b>*niriṛil</b>	<b>*kiṛidzinkiriṛidzin (3 + 3)<sup>4</sup></b>
Seven	not reconstructible	<b>*kwəwəŋə θiṛil</b>	<b>*maralon ṛidzin</b>
Eight	not reconstructible	<b>*dubaŋ</b>	not reconstructible
Nine	not reconstructible	<b>*kwudine kəwəŋə</b>	not reconstructible
Ten	<b>*diḍe</b>	<b>*di(e)</b>	<b>*reḍ</b>

TABLE 24: Reconstructions of Heibanic numerals

### 3.5 Verbs

Verbs are less well-attested in the sources. By comparison with nouns, Stevenson (ined.) has many fewer datasets which are complete enough to reconstruct.

LANGUAGE	FORM	II
Rere		
Heiban	<i>gwí-m-εεl-á</i>	
Abul	<i>gu-m-εεl-á</i>	
Laru	<i>gú-m-εεl-ε</i>	
Otoro		<i>gw-ind-í</i>
Shirumba	<i>η-έέl-a</i>	
Shwai		
Tira	<i>η-έέl-a</i>	
Moro		<i>erl-</i>
Ko		<i>ú-nuwəl-ḍ</i>
Warnang		
Logol	<i>m-εεl-έ</i>	
<b>Proto-WC Heiban</b>	<b>*-[ŋ]-εεl-έ</b>	

TABLE 25: Heibanic ‘walk’

<sup>4</sup> In Jenks et al. (2024: 223), a quinary-based numeral for ‘six’ is recorded, i.e., ‘5 + 1’, but the form in Stevenson (ined.) is cognate with Tira and presumably older.

The defective evidence of lexemes for ‘walk’ (see TABLE 25) for East Heibanic means this form may be from West Heibanic. The bilabial nasal /m/ is confined to the Central subgroup and the velar nasal /ŋ/ is attested in Shwai and Tira, so is a more plausible reconstruction at the PWCH level.

The forms for ‘wash’ in TABLE 26 are mostly drawn from Schadeberg (1981a: 52), where they were recorded as imperatives. The proto-form provides evidence for \*w and \*y.

LANGUAGE	FORM	II
Rere	<i>í-yya</i>	
Heiban	<i>u-yǒ</i>	
Abul		
Laru		
Otoro	<i>we-u, we-a</i>	
Shirumba	<i>wé-yú</i>	
Shwai		
Tira	<i>wa-i</i>	
Moro	<i>t<sup>w</sup>aa-ǒu</i>	<i>oas-, áss-u</i> (imperfective)
Ko	<i>weyɔ-ǒ</i>	
Warnang	<i>uwóy-ú</i>	
Logol		
<b>Proto-Heibanic</b>	<b>*wé-yǒ</b>	

TABLE 26: Heibanic ‘wash’

### 3.6 Adjectives

Adjectives are difficult to record consistently and the data contain many gaps. Some of the citations presented in TABLE 27 are likely to be stative verbs and thus to occur in a variety of surface forms. The dataset in TABLE 27 provides evidence for fortis \*kk. The reconstruction of voiceless \*T- in the plural reflects uncertainty about the identity of this segment and it therefore does not appear in TABLE 29. Adjectives show concord with head nouns and thus have concord segments, as shown in the PL column below. Jenks et al. (2024: 156) show the concord segments for each noun-class pairing, although they do not give worked examples of their application.

LANGUAGE	FORM	PL	II
Rere	- <i>gi</i>	<i>tí</i>	<i>kwú</i>
Heiban	- <i>ikké</i>		
Abul			
Laru			
Otoro	- <i>kkéŋ</i>		<i>gwu-</i>
Shirumba	- <i>ikké</i>	<i>ǝ-</i>	
Shwai			<i>xa-ka</i>
Tira	- <i>co</i>		
Moro	- <i>ccíá</i>	<i>θa-</i>	<i>c- (be bad)</i>
Ko	- <i>ekki</i>	<i>ʔ-</i>	
Warnang			
Logol	- <i>íkkí</i>	<i>ŋ-, j-</i>	
<b>Proto-Heibanic</b>	<b>*-ikké</b>	<b>T-</b>	

TABLE 27: Heibanic ‘bad’

## 4 Comparative Heibanic

### 4.1 Noun classes

Blench (2018: 359ff.) has laid out the nominal affix alternations for documented Heibanic languages and these need not be repeated here. Jenks et al. (2024: 154) present a fresh account of Moro noun classes, which they identify as shown in TABLE 28. Paired classes are followed by single classes.

ALTERNATION	CONCORD	SG	PL	GLOSS
g/l	g/k	<i>evaja</i>	<i>lɔvaja</i>	‘pauper’
l/ŋ	l-/ʔ-	<i>lavɔra</i>	<i>ŋavɔra</i>	‘stick’
l/ɲ	l-/ʔ-	<i>lává</i>	<i>ɲává</i>	‘mosquito’
ǝ/r	ǝ-	<i>ǝápá</i>	<i>rápá</i>	‘friend’
ǝ/j	ǝ-	<i>ǝárá</i>	<i>járá</i>	‘rope’
g/n	g-/k-	<i>oʃʃfa</i>	<i>nəʃʃfa</i>	‘milk pot’
ŋ/ɲ	ŋ-	<i>ŋerá</i>	<i>ɲerá</i>	‘girl’
j/j	j-, k-, s-	<i>ájén</i>	<i>ején</i>	‘mountain’
ŋ	ŋ-	<i>ŋgárá</i>		‘salt’
ǝ	b-, p-, m-, ǝ-	<i>mogwátá</i>		‘peanut’
j	j-, k-, s-	<i>ibəgwé</i>		‘fog’
g	g-/k-	<i>áŋálá</i>		‘haze’
ǝ	ǝ-	<i>ǝávárǝáj</i>		‘writing’

TABLE 28: Moro noun-class alternations by concord class

TABLE 29 is a revised compilation of the possible noun classes of Proto-Heibanic, with an even more speculative Proto-Heibanic (PH) form. It should be compared with the lists in Schadeberg (1981a) and Guest (1998e). Square brackets around the PH form indicate that it is too sparsely attested to be safely reconstructed. The Werni entries, which are entirely adopted from Schadeberg (1981a: 101), indicate that a significant merger of noun classes has occurred. Two pairings ( $\eta$ -/ $\eta$ - and  $l$ -/ $\eta$ -) are identical to Tira, but elsewhere, neither the semantics nor the segmental forms are a good match. The Moro pairings updated from Jenks et al. (2024) do not entirely correspond to those recorded by other researchers.

#### 4.2 Synthesis and conclusions

This paper provides a preliminary reconstruction of the phonology, comparative lexicon and nominal affix system of the Heibanic languages of Kordofan in the light of scholarship subsequent to the pioneering Schadeberg (1981a). Despite more than forty years intervening, many of his observations concerning the group remain valid. Although we know considerably more about some languages, such as Koalib and Moro, Ko and Warnang remain poorly documented, making hypotheses concerning the entire group speculative. This paper is intended to expand the available dataset of comparative glosses as part of a larger project to bring together the ensemble of evidence for Heibanic as a whole. Evidence for reconstructing some phonemes remains weak, despite their widespread presence in the attested forms. Many languages remain in need of modern transcriptions, especially of vowels and tones, in order to provide wholly convincing proto-forms. Heiban nominal affix alternations do provide some regularities, both segmentally and in their semantics, but their overall diversity remains high and the proto-forms are correspondingly uncertain. The relationship between Heibanic and the Talodi languages remains problematic, but the argument for a direct Niger-Congo affiliation remains strong.

TABLE 29: Comparative Heiban noun class affixes

*PH	Ko	War-nang	Tira	Moro	Shwai	Rere	Otoro	Heiban	Laru	Examples	Semantics
*kw~gw- /li-	(w)u-/li-		w-/l- ø-/l-	w-/l- ø-/l-	x-, w-, m-, ø-/l-	kw-/l- li-	gw-/l- ø-/li	kw-, gw- /l-, ø-/li-	ɖ-/ɲw-	woman, fish, neck	persons, ethnonyms, some animals
*k(w)~ g(w)-/j-	k-/ø-		ð-/ø-	k-/nɖʒ-, ntʃ-	x-, w-, m-, ø-/y-	apart from 'tree', in persons class	gw-/j-	kw-, gw- /j- ø-/ji-		tree	trees and plants, body parts
*li-/ɲw-	l-/ɲ-		l-/ɲ(w)- ɽ/ɲ-	l-/ɲ-	l-/ɲ-	l-/ɲw-	l-/ɲw-	l-/ɲw-	k-, g-/y-	egg, seed, head, water drop	round things
*ɲi-/ir	u-/ɽ-		d-/ir-	d-/t-	ɲ-	ɲ-/y-	ɲ-/j-	ɲ-/j-		goat/cow	domestic animals
*l-/j-			l-/ø-	l-/i-	l-	l-/y-	l-/j-			tooth	eye and other body parts
*k-/C-	k-/tʃ-					k-/y-	k-, g-/j-	k-, g-/j- k-/tʃ-	k-, g-/ɲw-	belly, ear, stone, wing straw, hole	common things
*ð-/r-	t-/d-		ð-/r-	ð-/r-	z-/r-	t-/r-	ð-, t-/d-	ɖ-/d-			long things, bushy things
*ð-/y-	d-/tʃ-		ð-/y-	ð-/ø- ð-/y-	z-/y-, ø-	t-/y- d-/c-	ð-/j- t-/c-	ɖ-/tʃ-, j- t-/tʃ-		snake, locust	long, harmful things
*k-/N-	k-/ø-					k-, g-/ɲy-	g-/n-		l-/ɲw-	common things	hollow, deep things, inc. trees

*PH	Ko	War-nang	Tira	Moro	Shwai	Rere	Otoro	Heiban	Laru	Examples	Semantics
*ŋ-, t-/ɲ-	ŋ-/ɲ-	ŋ-/ɲ-	ŋ-/ɲ-	y-/ɲ-		t-/ɲ-	ŋ-/ɲ-	ŋ-/ɲ-		bushbaby, owl	domestic & small animals, weapons
*t-, l-/ɲ-	l-/ɲ-		t-, l-/ɲ-		t-	t-/ɲ-				sesame grains, beans	diminutives
*ŋ- /ɲ- *[V]-/y-		(a)-/c(V)-	a-/i-, e-		ŋ-/ɲ-	ŋ-/ɲ- ø-/y-	ø-/y-			fire, salt, sun	augmentatives nouns with initial vowel
<b>Unpaired</b> *ø-/ŋa			ø-/ŋa		ø-/ŋa	ø-/ŋa	-ŋa	ø-/ŋa	ø-/ŋa	father	parents, sequential children
*ð[i]-			ð-, ði-	ɖə-	za-	t-, tɿ-	ð-, ði-	d-, di-	d-, di-		infinite, verbal noun
*t- *ŋ-	t- ŋ-		ŋ-, ŋə-	ŋ-, ŋə-	ŋ-	ŋ-	ŋ-, ŋə-	ŋ-	y-	thorn, hair blood, fat, water	projecting item liquids, abstract nouns
*k-	k-			g-/k-		k-	g-	k-		grass, night, rain, smoke, sand, termites	mass nouns, natural world
*[tʃ-]	tʃ-									guts, meat, name	mass or abstract nouns, animates

## Acronyms

D	voiced dental
PH	Proto-Heibanic
PWCH	Proto-West-Central Heibanic
T	voiceless dental

## References

- Bashir, Abeer & Sharon Rose. 2024. Vowel Harmony in Niger-Congo Languages of the Nuba Mountains. In *The Oxford Handbook of Vowel Harmony*. Harry van der Hulst & Nancy A. Ritter (eds.) 625–632. <https://doi.org/10.1093/oxfordhb/9780198826804.013.50>
- Black, Keith & Elizabeth Black. 1971. *The Moro Language: Grammar and Dictionary*. Linguistic Monograph Series, No. 6. Sudan Research Unit, University of Khartoum, Khartoum.
- Blench, Roger M. 1997. The papers of Roland Stevenson. *Nilo-Saharan Newsletter* 1. 3-16.
- Blench, Roger M. 2013. Does Kordofanian constitute a group and if not, where do its languages fit into Niger-Congo? In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 571-586. Cologne: Rüdiger Köppe.
- Blench, Roger M. 2018. Do Heiban and Talodi form a genetic group and how are they related to Niger-Congo? In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 355-382. Cologne: Rüdiger Köppe.
- Boychev, Georgi. 2013. *Case Inflection in Koalib: Discovering the Rules*. Nancy: University of Lorraine MA thesis.
- Faris, James C. 1978. Nominal classes of the Southeastern Nuba: Implications for linguistic science. In Robin Thelwall (ed.), *Aspects of Language in the Sudan*, 97-113. Ulster: The New University of Ulster.
- Gibbard, George, Hannah Rohde & Sharon Rose. 2009. *Moro Noun Class Morphology*. In Masangu Matondo, Fiona McLaughlin & Eric Potsdam (eds.), *Selected Proceedings of the 38th Annual Conference on African Linguistics*, 106-117. Somerville, MA: Cascadilla Proceedings Project.
- Greenberg, Joseph H. 1963. *The Languages of Africa*. The Hague: Mouton.
- Guest, Elizabeth. 1997a. *Cwaya noun classes*. Ms. SIL, Khartoum.
- Guest, Elizabeth. 1997b. *Moro verbs*. Ms. SIL, Khartoum.
- Guest, Elizabeth. 1997c. *Heiban grammar*. Ms. SIL, Khartoum.
- Guest, Elizabeth. 1998a. *Moro noun classes*. Ms. SIL, Khartoum.
- Guest, Elizabeth. 1998b. *Otoro noun classes*. Ms. SIL, Khartoum.

- Guest, Elizabeth. 1998c. *Kwalib noun classes*. Ms. SIL, Khartoum.
- Guest, Elizabeth. 1998d. *Miscellaneous Moro grammar*. Ms. SIL, Khartoum.
- Guest, Elizabeth. 1998e. *Noun classes for the Heiban group of languages*. Ms. SIL, Khartoum.
- Jenks, Peter. 2013. Noun phrases in Moro. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 57-82. Cologne: Rüdiger Köppe.
- Jenks, Peter. 2014. Head movement in Moro DPs: Evidence for a unified theory of movement. In Robert E. Santana-LaBarge (ed.), *Proceedings of WCCFL 31*, 248-257. Somerville, MA, Cascadilla Proceedings Project.
- Jenks, Peter & Sharon Rose. 2011. High tone in Moro: Effects of prosodic categories and morphological domains. *Natural Language & Linguistic Theory* 29(1). 211-250. <https://doi.org/10.1007/s11049-011-9120-x>
- Jenks, Peter & Sharon Rose. 2012. Syllable weight and high tone in Moro. In Ryan Bochnak, Nassira Nicola, Peet Klecha, Jasmin Urban, Alice Lemieux & Christina Weaver (eds.), *Proceedings of the 45th Chicago Linguistic Society*, 271-285. Chicago: Chicago Linguistic Society.
- Jenks, Peter & Sharon Rose. 2015. Mobile object markers in Moro: The role of tone. *Language* 91(2). 269-307.
- Jenks, Peter & Sharon Rose. 2017. Documenting raising and control in Moro. In Jason Kandybowicz & Harold Torrence (eds.), *Africa's Endangered Languages: Documentary and Theoretical Approaches*, 207-235. Oxford: Oxford University Press.
- Jenks, Peter & Hannah Sande. 2017. Dependent accusative case and caselessness in Moro. In Andrew Lamont & Katerina Tetzloff (eds.), *Proceedings of NELS 47*, Vol. 2, 109-119. Amherst, MA: GLSA.
- Jenks, Peter, Elyasir Julima, Angelo Naser & Sharon Rose. 2024. *A Grammar of Moro: With a Focus on the Thetogovela Dialect*. Berlin: Language Science Press.
- Kuku, Nabil Abdalla. 2012. Laru vowel harmony. *Occasional Papers in the Study of Sudanese Languages* 10. 17-34.
- Kuku, Nabil Abdalla. 2015. Laru locatives. *Occasional Papers in the Study of Sudanese Languages* 11. 1-16.
- Meinhof, Carl. 1943-1944. Das Heiban in Kordofan. *Zeitschrift für Eingeborenen Sprachen* 34. 94-130.
- Naser, Angelo Ali & Sharon Rose. 2020. Ideophones in Moro. *Faits de langues* 51(1). 37-62. <https://doi.org/10.1163/19589514-05101004>
- Norton, Russell & Thomas Kuku Alaki. 2015. The Talodi languages: A comparative-historical analysis. *Occasional Papers in the Study of Sudanese Languages* 11. 31-161.

- Quint, Nicolas. 2009. *The Phonology of Koalib: A Kordofanian Language of the Nuba Mountains (Sudan)*. Cologne: Rüdiger Köppe.
- Quint, Nicolas. 2010a. Benefactive and malefactive in the Koalib verb system. In Fernando Zúñiga & Seppo Kittilä (eds.), *Benefactives and Malefactives: Typological Perspectives and Case Studies*, 295-316. Amsterdam: John Benjamins. <http://digital.casalini.it/9789027288318>
- Quint, Nicolas. 2010b. La littérature orale en koalib (Sud-Kordofan). *Études Littéraires Africaines* 28. 45-57. <https://doi.org/10.7202/1028793ar>
- Quint, Nicolas. 2018. An assessment of the Arabic lexical contribution to contemporary spoken Koalib. In Stefano Manfredi & Mauro Tosco (eds.), *Arabic in Contact*, 189-205. Amsterdam: John Benjamins <https://doi.org/10.1075/sal.6.10qui>
- Quint, Nicolas & Stefano Manfredi. 2020. Les monts Nouba: une région riche de ses langues. *Faits de langues* 51(1). 9-27. <https://doi.org/10.1163/19589514-05101002>
- Ritchart, Amanda & Sharon Rose. 2017. Moro vowel harmony: implications for transparency and representations. *Phonology* 34(1). 163-200. <https://doi.org/10.1017/S0952675717000069>.
- Rose, Sharon. 2013. The morphological structure of the Moro verb. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 25-56. Cologne: Rüdiger Köppe.
- Rose, Sharon, Farrell Ackerman, George Gibbard, Peter Jenks, Laura Kertz & Hannah Rohde. 2014. In-situ and ex-situ wh-question constructions in Moro. *Journal of African Languages and Linguistics* 35. 91-126. <https://doi.org/10.1515/jall-2014-0003>
- Schadeberg, Thilo C. 1981a. *A Survey of Kordofanian. Volume 1: The Heiban Group*. Hamburg: Helmut Buske.
- Schadeberg, Thilo C. 1981b. Die Geschichte der Nominalklassen des Laru (Kordofanisch). In Herrmann Jungraithmayr (ed.), *Berliner Afrikanistische Vorträge – Referate der Fachgruppe Afrikanistik des XXI. Deutschen Orientalistentages, Berlin, 24.-29. März 1980*, 203-212. Berlin: Dietrich Reimer.
- Schadeberg, Thilo C. 1989. Kordofanian. In John Bendor-Samuel (ed.), *The Niger-Congo Languages*, 66-80. Lanham: University Press of America.
- Schadeberg, Thilo C. (ed.). 2009. *Tira and Otoro. Two Kordofanian Grammars by Roland C. Stevenson*. Cologne: Rüdiger Köppe.
- Schadeberg, Thilo C. 2010. Pronouns and concords in Ebang (Heiban, Kordofanian). Paper presented at the Colloque sur les pronoms en niger-congo, St. Petersburg (Russia) from 13 to 15 September 2010.
- Schadeberg, Thilo C. 2020. Tmesis in Ebang (Heiban, Kordofanian). *Faits de Langues* 51(1).79-98.: <https://doi.org/10.1163/19589514-05101006>.

- Schadeberg, Thilo C. & Maarten Kossmann. 2010. Participant reference in the Ebang verbal complex (Heiban, Kordofanian). *Journal of African Languages and Linguistics* 31. 79-100.  
<https://doi.org/10.1515/jall.2010.005>
- Schadeberg, Thilo C. & Roger M. Blench. 2013. The Nuba Mountain languages: an introduction. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountains Language Studies*, 1-24. Cologne: Rüdiger Köppe.
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimaŋ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Stevenson, Roland C. 1962-64. Linguistic research in the Nuba mountains. *Sudan Notes and Records* 43. 118-130; 45. 79-102.
- Stevenson, Roland C. Ined. *Comparative Kordofanian wordlists*. Unpublished mss.
- Watters, Kathy S. 1993. *The Status and Function of Tone in Tira*. Nairobi: University of Nairobi MA dissertation.
- Watters, Kathy S. 1995. *Tira wordlist*. Ms. SIL Khartoum.



In Khartoum (photos: Gertrud Schneider-Blum, February 2018)

# The endophoric demonstrative *weeŋ* in Tima – A qualitative corpus analysis

*Milo Reinmüller*

## 1 Introduction

The Sudanese language Tima (Niger-Congo) has three demonstratives, one of which does not indicate notions of physical distance: *weeŋ*. In this descriptive work, a corpus of 12 narrative stories is examined in order to describe the functions of this demonstrative. Specifically, on the basis of a qualitative analysis, three functions are proposed, all of which are related to a common semantic-pragmatic profile: the ability of *weeŋ* to signal the low cognitive activation of referents.

Cross-linguistic research has not only shown that all languages studied so far have demonstrative-like linguistic units (Peeters et al. 2021: 411f.), but also that their form and functions are subject to immense variation. Languages differ in the number of demonstrative categories, in the morphosyntactic forms they take (Peeters et al. 2021: 411f.) and in the functions they perform (Himmelmann 1996). Although most research (e.g., Diessel 1999, Peeters et al. 2021) suggests that the most basic function of demonstratives is to point linguistically to objects or persons within the utterance situation, i.e., to perform exophoric reference, Himmelmann's (1996) study in particular has shown that demonstratives perform various functions at the text-internal (endophoric) level as well. There, among other things, they serve information-structural purposes, i.e., they help the listener to identify the right referents (Himmelmann 1996: 226).

Tima, a Niger-Congo language, provides evidence for a demonstrative that does not serve to deictically point to entities present in the utterance situation: the morpheme *weeŋ*. Although paradigmatically related to two demonstrative roots used to linguistically point to proximate and distant referents, this morpheme does not itself convey notions of physical distance, but rather serves to mark referents as known to the listener. The present study investigates the properties of *weeŋ* in order to contribute to the understanding of functions that have often not been perceived as prototypically performed by demonstratives.

To this end, a corpus of 12 narrative stories<sup>1</sup> is examined. Specifically, three different functions of *weeŋ* will be established on the basis of corpus examples. These are the reference to textually distant antecedents (SECTION 2.1.1), the resolution of ambiguous reference where it picks up the least activated of competing referents (SECTION 2.1.2) and the marking of referents known outside the scope of the discourse (SECTION 2.2). In addition, occasional quantitative distributions will be presented to support the hypothesis formulated.

Before proceeding to the main issue of this study, i.e., the presentation of the functions performed by *weeŋ*, a number of introductory sub-sections follow. First, a brief overview of Tima is given in SECTION 1.1; previous research on the three demonstratives in Tima is then presented in SECTION 1.2. In SECTION 1.3, I introduce the theoretical approaches to the analysis of demonstratives that are used in this study. The kind of data and its annotations that serve to investigate *weeŋ* are described in SECTION 1.4. In SECTION 2, the observed functions of the demonstrative *weeŋ* are presented and discussed on the basis of corpus examples. SECTION 3 discusses the findings of this study, with a particular focus on a common pragmatic profile implied by all three functions of *weeŋ* in SECTION 3.2. Finally, a short summary follows in SECTION 4.

### 1.1 General information on Tima<sup>2</sup>

Tima is a highly endangered language spoken by approximately 7,000 speakers in the Nuba Mountains of Sudan. The number of those Tima who have left their home area remains unclear (Meerpohl 2012: 23). Dimmendaal (see, e.g., 2014: 246; 2018: 383) classifies Tima as one of the Katloid languages, along with the closely related languages Katla and Julut. The Katloid languages are part of the Niger-Congo phylum.

---

<sup>1</sup> All recordings under analysis are stored in the DOBES archive (<http://dobes.mpi.nl/>) of the Max Planck Institute for Psycholinguistics. These are: 02\_AliTia\_1; 03\_AliTia\_2; 08\_Hamad\_1; 09\_Hamad\_2; 10\_Hamad\_311\_Hamad\_4; 010207\_Jenge\_LionHyena; 011007\_11\_AdlaanMisiria\_Myth; 011007\_14\_AdlaanMisiria\_Horsequarrel; 031007\_Daldum\_ClanDividing; 280117\_10\_Hamid\_Clandividing; and 20190108\_HamidPearFilm.

<sup>2</sup> Numerous publications on Tima provide an overview of phonetics/phonology and morpho-syntactic properties of the language. The interested reader is referred to Dimmendaal (2009), Bashir (2010) and Alamin (2012), followed by more specific publications. For a social-anthropological study see Meerpohl (2012).

Tima makes use of lexical and grammatical tone and has advanced tongue root vowel harmony.<sup>3</sup> The language is attested to have a flexible word order, varying from AVO, OVA, VAO to AOV in transitive clauses, depending on the pragmatic context. Verbs in Tima can show great morphological complexity, as they have a total of 13 slots for bound elements (Dimmendaal 2014: 246f.). Nouns, on the other hand, usually consist of a prefix containing information about number, followed by a nominal root. Nevertheless, nouns can be accompanied by several proclitics, such as directional or instrumental markers, as well as demonstrative enclitics, which will be presented in detail in SECTION 1.2. Furthermore, nouns can be modified by possessive pronouns, adjectives and quantifiers.

Verbal arguments can be realized in different morphosyntactic forms in Tima, first of all as independent external noun phrases or as independent pronouns. Subjects and objects of transitive clauses are generally indexed by bound forms on the verb, with third person referents indicated by zero forms. Thus, core arguments are often neither overtly indexed on the verb nor represented as free pronouns or noun phrases. Beneficiaries and instrumental arguments may also be left unmentioned. In that case, the verb is marked for the applicative or the instrumental marker, but the slot for the pronoun or noun phrase remains vacant.

After this brief introduction to the socio-cultural setting and the most basic grammatical structures relevant for the understanding of the examples, we will now turn to the demonstratives of Tima, as presented in previous research.

## 1.2 Demonstratives in Tima

Tima has three demonstrative morphemes, *nɛ/na*, *yaa* and *weej*, which are differentiated neither for number nor for gender.<sup>4</sup> Two studies, namely Alamin (2012) and Dimmendaal & Schneider-Blum (in preparation), propose basic semantic, pragmatic and information-structural functions of the demonstratives. These functional descriptions form the basis of the present analysis and are therefore briefly summarized in SECTION 1.2.1. In SECTION 1.2.2, the two morphosyntactic forms in which demonstratives are realized are presented, i.e., as clitic attachments to lexical roots and in their status as the roots of

---

<sup>3</sup> In the Tima orthography, as developed by the Tima Language Committee in collaboration with linguists from Khartoum and Cologne, tone is not written. In accordance with this convention, the materials I worked with were not marked for tone. Since I didn't have sufficient experience with the language to transcribe tone, the examples cited are not marked for tone.

<sup>4</sup> The variation between =*nɛ* and =*na* depends on the ATR property of the noun's root vowel, while the independent root of the proximate demonstrative is *nɛ*; *yaa* and *weej* are invariable.

independent demonstrative pronouns. Thus, the demonstrative morpheme is, in either case, a bound form. Since its status varies between enclitic and bound root, morpheme boundaries (= or -, respectively) are not indicated in the main body of the text when referring to the two functions. Throughout this article, the terms *demonstrative*, *demonstrative form* and *demonstrative morpheme* will be used to refer to both morphosyntactic forms, i.e., demonstrative clitics and demonstrative roots.

### 1.2.1 Functions

As numerous examples show, *na/na* and *yaa* can, among other functions, have exophoric reference. They can refer to either near (*na/na*) or distant (*yaa*) entities that are present in the immediate environment of the speech situation. The third demonstrative, *weeŋ*, on the other hand, cannot be used for exophoric reference, but is described as referring to previously mentioned referents (Dimmendaal & Schneider-Blum, in preparation).

The present study follows Dimmendaal & Schneider-Blum's analysis, where *weeŋ* is classified as a demonstrative even though it does not have exophoric reference. This is because it is paradigmatically related (see SECTION 1.2.2) to the other two demonstratives, *na/na* and *yaa*, which both have distance-indicating, deictic functions. Therefore, I treat *weeŋ* as a demonstrative, following Himmelmann (1996: 211), who notes that "in several languages, there are elements which share highly specific morphosyntactic features with distance-sensitive demonstratives and, for this reason, have to be considered demonstratives, though distance is irrelevant to their semantics".

Apart from their exophoric or anaphoric uses, the three demonstratives most certainly play a role in the marking of definiteness and specificity. As Dimmendaal & Schneider-Blum (in preparation) put it, "the noun that is attached by the demonstrative clitic always refers to a specific, particular referent", whereas nouns with no demonstrative attached remain vague in that respect. Elsewhere, they note that "the demonstrative clitic [...] provides the noun with a definite notion". While Dimmendaal & Schneider-Blum relate their observation mainly to nouns marked with the proximal demonstrative, the present corpus confirms that referents realized with a word containing the non-exophoric demonstrative *weeŋ* are also specific and particular. Tima has no specific definite articles, but the use of demonstratives generally implicates the notion of definiteness. Note, though, that in several of the examples below which contain complex noun phrases, the head noun is encliticized by the demonstrative while selective marking occurs on the modifier of the noun phrase (see (1), (3) and (6)). In such cases, definiteness is not necessarily as clear as it

is here (see, e.g., example (47) in Becker & Schneider-Blum 2020).<sup>5</sup> How demonstratives and the selective marker interact, and whether they express definiteness or rather specificity (see von Heusinger 2002), remains to be investigated.

### 1.2.2 Morphosyntactic forms

The demonstrative morphemes *nʌ/na*, *yaa* and *weeŋ* are attached to many different types of morphemes and thus belong to a variety of different parts of speech. However, their embeddings can generally be grouped as follows. On the one hand, they attach themselves enclitically to nominal, adjectival or numeral hosts, and on the other hand, they form the roots of independent demonstrative pronouns (see TABLE 1). In this section, the structural properties of both embeddings are briefly described.

PRONOMINAL CLITIC	SEMANTIC BASE	SINGULAR PRONOUN	PLURAL PRONOUN
= <i>nʌ/na</i>	<i>nʌ/na</i>	<i>ci-<sup>↓</sup> nʌ/cííŋ</i>	<i>í-<sup>↓</sup> nʌ/ííŋ</i>
= <i>yaa</i>	<i>yaa</i>	<i>ci-yáà</i>	<i>í-yàá</i>
= <i>weeŋ</i>	<i>weeŋ</i>	<i>cú-<sup>↓</sup> wéeŋ/kú-<sup>↓</sup> wéeŋ</i>	<i>í-<sup>↓</sup> wéeŋ</i>

TABLE 1: Tima demonstrative pronominals

Free demonstrative pronouns in Tima consist of one of the three demonstrative roots (i.e., the semantic base) combined with a number-differentiating prefix. All three categories are attested as able to be combined with either a singular or a plural affix. For the proximate demonstrative, a second form is attested, i.e.,

<sup>5</sup> Becker & Schneider-Blum (2020: 27, example (47)):

*kùlʌ*,      *ihwáá = 'ná*      *ì há'wók = í = yé*      *ò = t̃ndd̃d̃;*  
 yesterday    people = DEM.PROX    many = SEL = FOC.PL    DIR = road

*ínʌ*      *ìhá'wók = í*      *ó-kòkwéé*      *ídék*,      *ì bè ?é ŋ = í*  
 PL:DEM.PROX    many = SEL    3-hold:PST    necks    few = SEL

*í-pʌk-ʌk-àà*      *yʌwùh*  
 3-throw:PST-AP-INS    stones

‘Yesterday, lots of people were in the street; (while) most of them were peaceful, *some* threw stones.’

*cííŋ* in the singular and *ííŋ* in the plural. TABLE 1 shows the full paradigm of demonstrative pronominals (with the morpheme boundaries indicated).

Apart from their presence within independent pronouns, the three demonstrative morphemes are attached as enclitics to other nouns or noun-modifying elements, i.e., adjectives, numerals and nominal modifiers, as well as to phrasal verbal modifiers.<sup>6</sup> In (1), for example, the demonstrative *na* encliticizes to the noun *ʔamaa* ‘talk’.

- (1) *ʊ-dɔɔ-w-aa*      *ŋ = irba*      *ə-dah = ʔ*      *ii-murik*  
 P-stand.up-EP-INS    ERG = Irba    P-say = APP    APP:PL-Tima
- mɛ = yɛ*      *i-ri-y-aa = ʔaŋ*      ***ʔ-amaa = na***  
 OPT = REP    P-change-EP-INS = LOC3P    SG-talk = DEM1
- du-murik = i*      *twar = a = ʔaŋ*      *a = ʔ-amaa = na*  
 MOD-Tima = SEL    different = SOUR = LOC3P    SOUR = SG-talk = DEM1
- də-maadaŋ = ʔ [...]*  
 MOD-Katla = SEL
- ‘Then Irba told the Tima people to change the Tima language different from the Katla language [...].’ (280117\_10\_Hamid\_Clandividing 073-075)

The referents marked by demonstrative clitics (as well as by demonstrative pronouns) seem not to be semantically restricted. They are attached to physical as well as non-physical referents, animate as well as inanimate entities and human as well as non-human referents, as shown in (1)-(4).

- (2) *[...] u-kumun-aa*      *caak-aa = ʔaŋ = ʔ*      ***ŋ = ihɪ = na***  
 P-find-INS      become-INS = LOC3P = APP    ERG = milk = DEM1
- ŋ = i-kʌk*  
 INS = PL-bitter
- ‘[...] and found out that the milk had become bitter (for them).’  
 (280117\_10\_Hamid\_Clandividing 047)
- (3) ***ku-juur = na***      *i = i-murik = i*      *irba*  
 SG-magician = DEM1    DIR = PL-Tima = SEL    Irba

---

<sup>6</sup> For a demonstrative with a phrasal verbal modifier, see, e.g., example (8) in Schneider-Blum (this volume).



Finally, the three clitics are also attested as attaching to personal pronouns. These typically include first and second person independent forms.<sup>7</sup> In (7), for example, =*na*/*na* is attached to a first person plural inclusive pronoun. According to a native speaker, the clitic emphasizes that the speaker is referring to the community members present in the immediate surroundings of the utterance situation. A realization of the pronoun without the demonstrative clitic would be possible, but would imply that the first person pronominal form refers to all Tima speakers, i.e., also to those who are not present in the utterance situation.<sup>8</sup>

- (7)    *með=na*                      *a = tintiiliŋ = ʌ*  
 1PL.INCL = DEM1      SOUR = Tintiiling = FOC
- i-tulu-uŋ = neð*  
 PL-leave.together-VENT = 1PL.INCL  
 ‘This us, from Tintiiling, we came out (i.e., we all came out from Tintiiling).’ (03\_AliTia\_2 067)

A final note should be added. Whereas all morphosyntactic contexts presented so far are productive, the three demonstrative roots are also part of several lexicalized temporal or spatial adverbs, such as *aduweeŋ* ‘since’, exemplified in (8).<sup>9</sup> These constructions will not be discussed in the present analysis.

- (8)    *aduweeŋ*            *i-di-y-ʌŋ-aa*                      *ŋ = ihina*  
 since                      P-walk-EP-VENT-INS      ERG = PRON3PL  
 ‘Since (that time) they came here.’ (09\_Hamad\_2 001/002)

### 1.3 The analysis of demonstratives

Previous research has established a wide variety of theoretical constructs for analysing demonstratives. This section briefly addresses which of these will be used to describe the functions of *weeŋ* in the following sections.

A classification already used above is the distinction between exophoric and endophoric reference. While the referential domain of exophoric demonstratives is within the utterance situation, the referential domain of endophoric demonstratives is within a discourse (Finkbeiner 2018: 192). This distinction is valuable for the analysis of demonstratives in Tima, as it serves to differentiate *weeŋ* from the other two demonstratives. While *na/na* and *yaa* can have

<sup>7</sup> Note that the third person singular and plural pronouns are supposed to be connected to demonstrative pronouns, as argued by Schneider-Blum (2013b: 290f.).

<sup>8</sup> HKD\_20230122\_metalinguistic-comment\_01

<sup>9</sup> The other two are *adəna* (with its variant *adaana*) ‘since’ and *adiyaa* ‘ever since’ (Schneider-Blum 2013a: 28).

exophoric reference, *weej* cannot. We can thus narrow down the range of theoretical approaches to those that deal with the analysis of endophoric demonstratives to investigate *weej*.

The functions of endophoric demonstratives have been addressed by a large number of studies from different perspectives. While some research has looked at the use of endophoric demonstratives for structuring discourse (Cornish 2018; Næss et al. 2020), others have focused on the ability of demonstratives to help addressees to identify the correct referents, thereby describing information-structural properties (Ariel 1990; Gundel et al. 1993). Information-structural approaches are well suited to explaining two uses of *weej* (see SECTION 2.1). In particular, several variables serving to describe the information-structural status of referents introduced by Ariel (1990) will be presented in SECTION 2.1.2, as they help to determine the function of *weej* for disambiguating references.

In addition, Himmelmann's (1996) taxonomy of demonstrative uses in narrative corpora will serve as an important basis for analysis. This study proves to be valuable as it examines linguistic data similar to those in the present investigation, i.e., recordings of monolingual narratives (Himmelmann 1996: 207), and thus identifies several functions that deviate from the often described exophoric reference of demonstratives. Specifically, Himmelmann (1996) conducts a qualitative analysis of demonstrative functions in narratives of five languages, resulting in the description of four potentially universal uses: the *situational*, the *discourse deictic*, the *tracking* and the *recognitional use* of demonstratives (Himmelmann 1996: 240).<sup>10</sup> While the *situational use* describes the function of demonstratives to point exophorically to entities in the immediate surroundings of the narrative (Himmelmann 1996: 219-224), the *discourse deictic use* outlines the property of some demonstratives to summarize previously mentioned events or propositions into a single linguistic unit, thereby creating new discourse referents (Himmelmann 1996: 224ff.).<sup>11</sup> The other two potentially universal uses of demonstratives, i.e., *tracking* and *recognitional use*, will be presented in more detail later, where they will be shown to be applicable to several functions performed by *weej*.

Finally, Peeters and colleagues' (2021) more recent approach to the analysis of endophoric demonstratives deserves a mention. By proposing a top-down model of the factors that influence the choice of demonstrative category in discourse,

---

<sup>10</sup> Himmelmann (1996: 207ff.) studied narratives of English, Ik (Kuliak, Uganda), Nunggubuyu (non-Pama-Nyungan, Northern Australia) Tagalog (Austronesian, Philippines) and Indonesian (Austronesian, Indonesia).

<sup>11</sup> The situational use includes what has been labelled as *Deixis am Phantasma* by Bühler (1934: 121ff.): the notion of the physical distance of a referent from the perspective of a fictitious protagonist (Himmelmann 1996: 222).

Peeters et al. (2021) assign importance to a function that has rarely been considered: the use of demonstratives as a reflection of the interactional space of speaker, topic and addressee. According to the authors, speakers use demonstratives to psychologically move a topic within the interactional space of interlocutors. While proximal demonstratives reflect a close psychological space between topic and speaker and a greater distance between topic and addressee, distal demonstratives psychologically move the topic away from the speaker toward the addressee (Peeters et al. 2021: 422). As a result, this model is able to account for quantitative differences in demonstrative distribution across discourse genres: while some genres, such as scientific articles, use more proximal demonstratives to reflect a greater psychological distance between topic and addressee, other genres, such as narratives, use more distal demonstratives to reflect a close psychological distance between topic and addressee, thereby encouraging interaction by the addressee (Peeters et al. 2021: 420-424).

Interactional space may also influence the choice of demonstrative form in Tima. It is apparent that the texts in this corpus vary considerably in the number and categories of demonstratives used. For example, the retelling of the Pear Story (145 words) contains seven instances of *weej*, while other narrative stories, e.g., the monologue *011007\_11\_AdlaanMisiria\_Myth* (223 words), with an equal number of protagonists, contain no instances of *weej* at all. Thus, it can be hypothesized that different communicative settings contribute to these quantitative differences.

This study focuses on the information-structural properties of *weej*. However, it will be useful as a next step to critically reflect on the results of this study in follow-up research, focusing on quantitative differences regarding the distribution of demonstratives in different genres and settings. As a result, it will be possible to investigate whether speakers of Tima use different demonstrative categories to move referents in their interactional space, as postulated by Peeters et al. (2021).

#### 1.4 Data and method

To identify the functions of *weej*, a corpus consisting of 12 monologues by six mother-tongue speakers of Tima was examined. All narratives were gathered during fieldwork between 2007 and 2019 by a team of linguists from Khartoum and Cologne. These monologues are narrative stories, all involving multiple protagonists, and can be grouped into the following types: stories about anthropomorphic animal characters, mythical stories about the origins of the Tima people, stories involving local community members and a retelling of the Pear Story (Chafe 1980). Audio and ELAN (Max Planck Institute for Psycholinguistics 2022) files were available for analysis. The ELAN files

contained transcriptions, glosses, translations, GRAID annotations (Haig & Schnell 2014) and RefIND annotations (Schiborr et al. 2018).<sup>12</sup> On the basis of these files, additional annotations were performed to provide quantitative evidence. Specifically, all words containing *weej*, i.e., demonstrative pronouns or noun phrases, were automatically extracted and integrated into a spreadsheet containing a total of 54 tokens of *weej*.<sup>13</sup> Of these, four are roots of independent demonstrative pronouns and 50 are clitics attached to other hosts. Additional information was manually annotated within the spreadsheet. The variables and their variants are shown in TABLE 4 in the appendix. Finally, this spreadsheet was imported into RStudio (RStudio Team 2020), where the R programming language (R Core Team 2023) was used to compute and graph the distributions, as discussed in the following sections.

On the basis of this data, the functions of *weej* are identified and described with individual corpus examples. In addition, information and elicitations from a mother-tongue speaker of Tima are used to test the formulated hypothesis.<sup>14</sup> Finally, quantitative evidence is occasionally provided to test or emphasize the assumptions made on the basis of the qualitative analysis.

## 2 Qualitative analysis

In the following sections, the functions of *weej* will be described. While, in SECTION 2.1, two uses will be introduced that relate to anaphoric distance, the ability of *weej* to refer to entities known outside the discourse will be shown in SECTION 2.2.

### 2.1 Functions related to anaphoric reference

The two functions presented in this section have in common that the referents marked by *weej* have been mentioned in the previous discourse. First, the function of *weej* in marking long anaphoric distances will be elaborated (SECTION 1.2.1), followed by a description of its use in resolving ambiguous references, where it is argued to select the textually more distant of several

---

<sup>12</sup> GRAID annotations mainly provide information about the syntactic functions of constituents, the basic semantic profile of referents and the morphological structures of words. RefIND annotations index discourse referents. These indexes allow the tracking of referents across narratives.

<sup>13</sup> Lexicalized adverbs including demonstrative roots (see SECTION 1.2.2) have been excluded.

<sup>14</sup> At this point, I would like to thank Hamid (HKD), a mother-tongue speaker of Tima, whose information and elicitations were extremely valuable for this study. I would also like to thank Gertrud Schneider-Blum, who provided the linguistic data and metatextual information used in this analysis and shared her evaluation of several issues discussed in this paper with me.

potentially denoted referents (SECTION 1.2.2). Throughout this analysis, individual instances of *weeŋ* are assigned to only one of these functions. However, the two functions may overlap, since in some cases *weeŋ* is attached to a referent that, taken individually, has a long distant antecedent and can potentially refer to multiple referents simultaneously. In these cases, instances were assigned to referential disambiguation when the semantic-pragmatic context of the sentence in question allowed for several competing referents to be referred to.

### 2.1.1 Referring to long distant antecedents

The morpheme *weeŋ* is often attached to anaphoric elements that have long distance antecedents. The textual distance of all instances where referents marked with *weeŋ* have textual antecedent averages 11.52 clauses. FIGURE 1 displays the distribution of the measured textual distances in more detail.

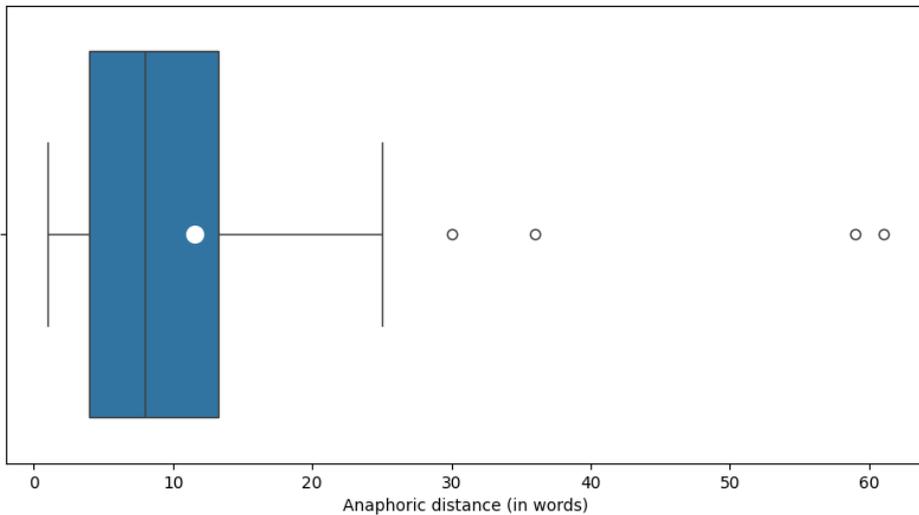


FIGURE 1: Textual distances (in words) from anaphoric forms including *weeŋ* to their antecedents

An example of a long-distance anaphora marked by = *weeŋ* is given in (9), where the nominal phrase *ıhaamweeŋ* ‘that honey’ takes up the referent *ıhaam* ‘honey’ that was last mentioned 36 clauses ago.

- (9) a. *ı-cl*    *tuh-uŋ*        *ı-haam*  
 P-go    pull-VENT    PL-honey  
 ‘They went to get honey.’ (08\_Hamad\_1 010)  
 [...]

- b. *i-ci hundʔno-w-aa i-haam = weeḡ*  
 P-go sit.down-EP-INS PL-honey = DEM3  
*i-kʌl-uk = a = ʔaḡ n = ihinʌ*  
 P-chew-CAUS = SOUR = LOC3P ERG = PRON3PL  
 ‘They went to sit down with that honey and they ate it.’  
 (08\_Hamad\_1 048)

Note that, in this example, *ihaamweeḡ* ‘that honey’ has no competing referents, i.e., there are no other referents of the same semantic category (honey) introduced into the discourse universe. Therefore, it can be excluded that = *weeḡ* in this case serves to help the listener to choose between several possible referents of the same kind. Rather, it seems to remind the addressee that the denoted entity should be known to the hearer, as it was mentioned in the previous discourse. In other words, the speaker seems to have added = *weeḡ* in order to make sure that the listener connects the anaphora with its antecedent and thus does not consider *ihaam* ‘honey’ as a newly introduced referent. In this way, *weeḡ* performs an essential function in creating coherence in the narratives under study: it indicates the coreferentiality of two nominal elements separated by a long anaphoric distance.

Note that the function described above is the most frequently performed function of *weeḡ* in this corpus. A total of 28 tokens (52%) of *weeḡ* have a function similar to the one shown in (9).

### 2.1.2 Resolving ambiguous reference

The previous section has introduced a function of *weeḡ* in which referents can be described as merely accessible, as they refer to textually distant antecedents. This section will show that referents marked with *weeḡ* may not be individually difficult to recall, but rather less present in the listener’s memory than other competing referents. I will argue that, in these cases, *weeḡ* serves to resolve an ambiguous reference by selecting the referent that is more unexpected, or, in other words, less present in the listener’s memory.

Before providing evidence for this use of *weeḡ*, it seems necessary to clarify which parameters potentially determine which of the competing referents is less present (or less prominent) in the listener’s memory and can thus be used to predict which one of the competing referents is indicated by *weeḡ*. Ariel (1990) discusses the issue of parameters that influence the cognitive accessibility of referents in detail, as I will briefly summarize below.

In her study, Ariel (1990) examines the anaphoric forms used in Hebrew and English texts, focusing on the former. Essentially, she identifies four factors that influence the accessibility of discourse referents: *distance*, *saliency*, *unity* and

*number of competing referents* (Ariel 1990: 28f.). The parameter *distance* distinguishes whether antecedents of anaphora are located within the same clause, in the previous clause, in the same paragraph or in another paragraph (Ariel 1990: 18f.). The *saliency* criterion evaluates whether a referent assumes the function of a main character in the discourse or not (Ariel 1990: 24f.). The parameter *unity* specifies the relationship between the clauses containing anaphora and their antecedents, i.e., whether they are contained in a single narrative frame or not (Ariel 1990: 26f.). Finally, the factor *number of competing referents* indicates the number of discourse entities that can potentially be designated by a given referential form (Ariel 1990: 28). On the basis of these four parameters, Ariel (1990) gradually distinguishes between referents of low and high accessibility. The shorter the distance to its antecedent, the more salient a referent, the closer the structural connection between anaphora and antecedent and the smaller the number of competing referents, the more accessible a discourse referent is (Ariel 1990: 18-30).

In the following, I will consider two of Ariel's (1990) parameters as potentially determining the referent chosen by *weeŋ*, namely the *distance* and *saliency* criteria.<sup>15</sup> Note that the distance between the anaphora and its antecedent is counted in words, in contrast to Ariel (1990) (who chose the clause), to account for more fine-grained differences. In addition, I will consider a third parameter, i.e., whether or not the referent takes on the role of subject in the preceding clause. As Diessel (1999) shows, demonstrative pronouns in German, which, from a grammatical point of view, can potentially denote several referents of a preceding sentence, denote a discourse unit that did not function as the previous subject but, for example, as a verbal object (Diessel 1999: 96).

In the following, three examples from the corpus are described and discussed, all of which contain either a demonstrative pronoun or a noun phrase containing *weeŋ* that can potentially denote multiple referents. After first describing the context and the competing referents of the three examples, in a second step the accessibility parameters will be applied to the competing referents. This will finally allow us to suggest which parameter(s) determine which referent is chosen by a form that is marked by *weeŋ*. The first example is shown in (10).

---

<sup>15</sup> The number of competing referents is irrelevant at this point, since this criterion cannot serve to compare the accessibility of referents potentially denoted by the same referential expression. The criterion of unity, on the other hand, is not applied, since a study on narrative boundaries is still pending. Currently, Hellwig & Schneider-Blum (in preparation) are working on this topic.

- (10) *u-kut-i*      *ɲ = ihinΛ*,      *pinΛ*      *u-pul-i-y = ii*  
 P-take-TR      ERG = PRON3PL      PRON3SG      P-blow-TR-EP = APP
- ki-ŋɛ*      *ii = c-ibΛ = yaa*      *mak*      *pinΛ*      *u-du-ul*,  
 SG-mouth      APP = SG-child = DEM2      then      PRON3SG      P-stop-MID
- u-hweel = ii*      *mak*      *pinΛ*      *u-du-ul*,  
 P-whistle = APP      then      PRON3SG      P-stop-MID
- kicimbari = weeŋ***      *ə-daa-w-aa = ʔaŋ = ʔ*      *tunkwiyΛΛk*  
 young.child = DEM3      P-run-EP-INS = LOC3P = APP      SG.hat
- ʔ = waʔŋ*  
 APP = SG.owner
- ‘They took [it] and one (of them) (child<sub>2</sub>) whistled for that child (child<sub>1</sub>), and then he (child<sub>1</sub>) stopped. [He] (child<sub>2</sub>) whistled for [him] (child<sub>1</sub>) and he (child<sub>1</sub>) stopped. That young child (child<sub>2</sub>) ran with the hat to its owner (child<sub>1</sub>).’ (20190108\_HamidPearFilm 022-024)

In (10), two children act as agents of the string of action. While one child, labeled ‘child<sub>1</sub>’, lost his hat without noticing, the other child, labeled ‘child<sub>2</sub>’, found it, together with other children. To return the hat, child<sub>2</sub> whistles for child<sub>1</sub>, who has already left. Child<sub>1</sub> hears the whistle and stops. In the last sentence of this example, child<sub>2</sub> acts as the agent of the action again, as the return of the hat to its owner is described. In this clause, the noun phrase *kicimbariweeŋ* ‘that child’ could in principle refer to both children. However, = *weeŋ* signals that child<sub>2</sub> is referred to. The accessibility criteria of both potential referents of *kicimbariweeŋ* ‘that child’ can be seen in TABLE 2 and will be discussed later.

- (11) *pinΛ*      *du-duwa*      *yaya = yaŋ*  
 PRON3SG      FUT-descend      go.repeatedly = LOC3P
- i = k-Λhunən = weeŋ*;      ***ku-weeŋ***      *ə-dɛɛk-aa-y = ʔ*  
 DIR = SG-woman = DEM3      SG-DEM3      P-scoop-INS-EP = APP
- mɪnΛ*      *yaya = yaŋ*  
 PRON.ERG3SG      go.repeatedly = LOC3P
- ‘He later went repeatedly to that woman. That one (lit.: that one he) scooped water for [her] and went repeatedly to her.’ (11\_Hamad\_4 154/155)

In (11), two protagonists are involved: the main protagonist of the narration, a boy, and a less salient female protagonist. In the first clause, the boy is referred to with a personal pronoun and described as repeatedly visiting the woman, who in turn is referred to with the external noun phrase *ikΛhunənweeŋ* ‘to that woman’. The second clause begins with the demonstrative pronoun *kuweeŋ* ‘that one’ and refers to the boy, although either protagonist, i.e., the boy or the woman, could be referred to. Again, the accessibility criteria applied to both protagonists that could possibly be denoted by *kuweeŋ* are shown in TABLE 2.

- (12) *u-kuna = a = ʔaŋ*                      *a = y-ihwaa;*                      *ihwaa = de!*  
 P-ban = SOUR = LOC3P      SOUR = EP-people      [INTERJECTION]
- pinΛ*                      *maʔe*                      *ci*                      *rih-il-iŋ = de,*                      *aaah*  
 PRON3SG                      and.then                      go                      turn-MID-VENT = REP                      aaah
- ihwaa = weeŋ***                      *ihinΛ*                      *an-da-y-iŋ,*                      *an-kaμuh*  
 people = DEM3      PRON3PL                      3PRF-run-EP-VENT                      3PRF-give.up
- pinΛ;*                      *pinΛ*                      *tim*                      *twak*  
 PRON3SG                      PRON3SG                      ONLY                      [IDEOPHONE]
- ‘[He] protected [them] from the people (i.e., the Wale); hey, people [addressing his audience]! he returned; ah, those people (Tima) they had run away, [they] left him behind, he is all alone.’ (09\_Hamad\_2 032/033)

In example (12), the main protagonist, mentioned by name several clauses before, protects his kin from another ethnic group, the Wale people, as described in the first clause. Hereafter, this protagonist is referred to by the personal pronoun *pinΛ* ‘he’, while the following term *ihwaa* ‘people’ could essentially refer to either the Wale or the Tima people. In order to clarify that it is the protagonist’s kin and not the recently mentioned Wale people who are being referred to, = *weeŋ* is attached to the noun. The accessibility criteria of both groups of referents can be seen in TABLE 2.

In TABLE 2, two parameters of accessibility (*distance* and *saliency*), as identified by Ariel (1990), as well as a third variable, i.e., whether a given referent fulfilled the role of the subject in the preceding clause, are applied to the competing referents potentially referred to by the noun phrases or pronouns in bold in examples (10) to (12). The referents to which the speakers actually refer are highlighted in grey. Which parameter (or parameters) seems to determine the identity of a form marked by *weeŋ* is discussed below.

EXAMPLE	COMPETING REFERENT	DISTANCE (IN WORDS)	SALIENCY	SUBJECT OF THE PRECEDING CLAUSE?
(10)	child_1	2	main character	yes
	child_2	5	side character	no
(11)	boy	4	main character	yes
	woman	1	side character	no
(12)	protagonist's people	16	side characters	no
	hostile people	6	side characters	no

TABLE 2: Accessibility criteria applied to the protagonists in (10)-(12)

First, the saliency of the referent is not considered to influence which of the competing referents is chosen. In both (10) and (11), one of the two referents is a main character in the narrative, while the other has to be categorized as a minor character. However, while, in (11), the main character, i.e., the boy, is referred to by the demonstrative pronoun *kuweeŋ* ‘that one’, in (10) the secondary character, i.e., child\_2, is referred to by the noun phrase *kicimbariweeŋ* ‘that young child’. In example (12), both competing protagonists are side characters, and neither of them was the subject of the preceding clause. Thus, the saliency of referents does not seem to influence which referent is denoted.

Second, the choice of referent does not depend on whether the referent functions as the subject of the preceding clause or not. This is shown again in examples (10) and (11). In both examples, one of the two referents potentially denoting the noun phrase or pronoun containing *weeŋ* fulfilled the role of the subject in the immediately preceding clause. However, whereas in (10) the referent that did not previously function as the subject is selected by the noun phrase *kicimbariweeŋ* ‘that young child’, in (11) the referent indicated by the demonstrative pronoun *kuweeŋ* ‘that one’ is the subject of the preceding clause. In example (12), none of the competing protagonists has functioned as subject before. Thus, the realization of *weeŋ* does not necessarily indicate a change of subject.

Finally, distance is the only parameter that can be used in all three examples to predict which referent is indicated. That is, noun phrases and pronouns containing *weeŋ* in all examples take up the referent that is textually more distant (and hence less accessible and prominent) than its competing referents, as can be seen in TABLE 2.

The function of *weej* of resolving ambiguous references is attested 16 times (30%) in this corpus.

To conclude this section, it can be noted that the function of *weej* presented above provides evidence for one of the potentially universal uses of demonstratives identified by Himmelmann (1996): the *tracking use* (Himmelmann 1996: 226). Demonstratives performing this function help the listener to “keep track of what is happening to whom” (Himmelmann 1996: 226). Specifically, noun phrases or pronouns that contain *weej* were shown to refer to the textually more distant of several potential referents.

## 2.2 Marking referents known by personal knowledge

Another function of *weej* can be described as the reference to entities that both interlocutors know outside the frame of the current discourse. As a result, these forms marked by *weej* do not refer to textual antecedents. Three examples will be presented to illustrate this function. Before presenting an example from the narrative corpus, two elicited examples will be described. Evidence from elicited examples seems necessary because corpus examples that refer to extra-textually known referents cannot be identified unambiguously for two reasons. First, there is no certain proof that the interlocutors actually knew the referents marked with *weej* outside the frame of the discourse. Although in most cases this can be easily determined from the narrative context (see the explanation of corpus example (15) below), the interpretation of the interlocutors’ extratextual information about the referents remains somewhat speculative. Second, the corpus examples that seem to provide evidence for the marking of referents known by personal knowledge, and were thus exclusively assigned to the function presented here, often denote referents that have already been introduced in the text. Thus, in these cases, it cannot be ruled out with certainty that *weej* actually serves to signal coreference to these textual antecedents, a function described in SECTION 2.1. We turn now to the evidence from elicitation.

In (13), a mother-tongue speaker of Tima was asked how the meaning of the noun phrase *ikihina ukwaləŋ* ‘this mountain (place)’ changed if the proximate demonstrative clitic =*na* was replaced by =*weej*. The speaker then produced the clause shown in (13), explaining that the addition of =*weej* implies that the referent, i.e., the ‘mountain’, is known by both interlocutors, which in turn would not be implied if one of the other two demonstrative clitics were added.<sup>16</sup>

---

<sup>16</sup> HKD\_20230129\_metalinguistic-comment\_01

- (13) [...] *i=k-ihɪ=weeŋ*                      *ʊ=k-waləŋ=lɛɛy=ɪ*  
 DIR = SG-place = DEM3      DIR = SG-mountain = POSS1PL = SEL  
*ɪ-hɪɪ=nɛɛy=ɪ*  
 PL-know = 1PL.INCL = SEL  
 ‘[...] to the place of our mountain which we (incl.) know.’  
 (HKD\_20230129\_elicitation\_01)

Similarly, in (14), the speaker refers to a man with a noun phrase marked with = *weeŋ* who has not been mentioned in the previous discourse. The demonstrative clitic is apparently added to express that the referent is known to both interlocutors.

- (14) *wɔɾtəmaadəh=weeŋ*    *nɔŋ*    *ʦawʊ*    *dɔŋ=ʌ*                      *k-ʌhu*  
 SG.man = DEM3                      here      Thawu      like.this = FOC      SG-name  
 ‘The man (who was) here is called Thawu.’ (no recording)

Having shown that *weeŋ* serves to mark referents known through personal knowledge in the above elicitation, I will conclude by describing an example from the corpus to show how this function of the demonstrative is manifested in narratives. In (15), the entity *ihiyaa əkarkaman* ‘to the places of the Karkaman’ is referred to three times. First, the noun phrase *ihiyaa əkarkaman* ‘the places of the Karkaman’ introduces the location into the discourse.<sup>17</sup> Second, the location is referred to by *yaanʊŋ* ‘there’. Third, the locative referent is taken up by the demonstrative pronoun *kuweeŋ* ‘that (one)’, which in turn introduces the relative-like clause *ɪyɔwaa pampaŋ mihi* ‘(where) we danced the drum dance in former times’.<sup>18</sup> The function of *kuweeŋ* ‘that (one)’ can be described as follows: it leads the addressee to identify the designated referent (the places of the Karkaman) on the basis of shared knowledge of an ancient tradition that took place at this location, i.e., a former dance place.

- (15) *ɪ-ci*      *i=i-hɪ=yaa*                      *ə=karkaman*                      *yaanʊŋ*  
 P-go      DIR = PL-place = DEM2      DIR = Karkaman                      there  
  
*ku-weeŋ*      *ɪ-yɔw-w-aa*                      *pampaŋ*      *mihi*  
 SG = DEM3      1PL-dance-EP-INS                      SG.drum      ancient  
 ‘He went to the places of the Karkaman there, that one (where) we danced the drum dance in former times.’ (11\_Hamad\_4 142)

<sup>17</sup> The distal demonstrative clitic = *yaa* is seemingly attached to highlight the physical distance of the place referred to in relation to the speaker. It thus has exophoric reference.

<sup>18</sup> See Schneider-Blum’s contribution to this volume for a discussion of whether Tima has relative clauses.

The function of *weej* to refer to entities known outside the frame of the discourse is only attested three times (6%) in this corpus. This is probably related to the non-interactive nature of the narrations under study. One may hypothesize that *weej* more frequently indicates personal knowledge of a referent when being used in spontaneous conversations. This remains to be investigated.

This use of *weej*, i.e., the identification of a referent on the basis of personal knowledge, resembles the *recognitional use* of demonstratives, one of the demonstrative functions identified by Himmelmann (1996: 230-240). Himmelmann states that demonstratives in several languages fulfil this function as they draw on “knowledge that is assumed to be shared by the communicating parties due to a common interactional history or to supposedly shared experiences” (Himmelmann 1996: 233) in order to enable the identification of the referent by the addressee.

### 3 Discussion

In the following sections, I discuss the findings of the present study. Specifically, I will first give an overview of how the contexts of use of *weej* resemble Himmelmann’s (1996) potentially universal uses of demonstratives, followed by a discussion of what semantic-pragmatic feature the three uses of *weej* have in common.

#### 3.1 Consistencies and deviations from Himmelmann’s (1996) taxonomy

This paper has examined the functions of the demonstrative *weej*, identifying three uses: its function to signal the coreference of a noun phrase with a textually distant antecedent (SECTION 2.1.1), its contribution to the resolution of ambiguous references by marking the textually more distant of several competing referents (SECTION 2.1.2) and its function of marking that the referent denoted is known to interlocutors outside the frame of discourse (SECTION 2.2). These three uses of *weej* provide evidence for two functions identified by Himmelmann (1996) as potentially universal uses of demonstratives, namely the *tracking use* and the *recognitional use*.

TABLE 3 shows which use of *weej* corresponds to which of Himmelmann’s potentially universal uses; specifically, the marking of entities known by personal knowledge corresponds to the recognitional use, while the marking of long anaphoric distance and the disambiguation of reference both correspond to the tracking use. TABLE 3 also shows how frequently these uses were attested in the present corpus. Note that only 47 of the 54 forms of *weej* examined in the corpus are included in TABLE 3. This is because the remaining seven

instances performed functions not covered by those presented. What function they perform remains to be investigated.

FUNCTION OF <i>weej</i>	NUMBER OF TOKENS	CORRESPONDING FUNCTION DESCRIBED BY HIMMELMANN (1996)
Marking of entities known by personal knowledge	3	recognitional use
Anaphoric long distance marking	28	tracking use
Marking the less activated of several possible referents	16	

TABLE 3: Functions of *weej*

### 3.2 Common pragmatic profile

Regardless of whether *weej* denotes referents that have textual antecedents or signals reference to entities known outside the frame of discourse, a common pragmatic profile can be observed, i.e., the marked referents are known to the addressee, but their identification is marked as difficult or, in other words, as requiring mental effort. Specifically, *weej* always marks referents that either have low activation status in the listener’s memory or have low activation in relation to other referents.

This proposed common pragmatic profile is supported by a common formal property: noun phrases or pronouns containing *weej* are often realized in addition to other coreferential nouns. This tendency relates to the proposed common pragmatic profile. Since *weej* qualifies referents as difficult to identify, further descriptions are provided to facilitate their identification. This link has already been described by Himmelman (1996), who observes the tendency of demonstratives performing the recognitional use to “incorporate anchoring or descriptive information [...] to make the intended referent more accessible” (Himmelman 1996: 230).

To be specific, one third of the elements marked with *weej* function as appositions or dislocated topics; noun phrases or pronouns containing *weej* are

used as appositions 20% of the time and as dislocated topics 13% of the time.<sup>19</sup> An example of a noun phrase containing = *weeŋ* and annotated as an apposition is shown in (16).

- (16) *i-tibi-y-aa = ʔaŋ*      *yala*      *u-wot-i*      *miŋa*  
 P-fill-EP-INS = LOC3P    come.on    P-take-TR    PRON.ERG3SG
- ŋ = kulala = weeŋ*      *y-amuh = ε = ye*  
 ERG = comrade = DEM3    PL-flour = FOC.PL = REP
- ‘She filled it and then she, that comrade, took (it) as if (it were) flour.’ (031007\_Daldum\_ClanDividing 015)

In (16), two sisters act as agents of the action. While one sister pours ashes into a pot, the other sister takes them. Since the reference of the personal pronoun *miŋa* ‘she’ in the second clause is ambiguous, i.e., it could refer to either protagonist, the narrator adds the appositional noun phrase *ŋkulalaweŋ* ‘that comrade’, which clarifies the identity of the chosen referent by pointing to the textually more distant antecedent.

Similarly, demonstrative pronouns whose root is *weeŋ* are attested as introducing relative-like clauses that help the addressee to identify a referent. Specifically, three of the four demonstrative pronouns containing *weeŋ* occur as arguments within a relative-like clause. An example is given in (17), where the demonstrative pronoun *iweeŋ* is an apposition of the preceding noun phrase *ibarimbariweeŋ* and serves as the subject of the relative-like clause *ukunεʔaŋu*.

- (17) *ibarimbari = weeŋ*      *i-diik,*      *i-weeŋ*  
 young.children = DEM3    P-walk.away    PL-DEM3
- u-kunε = ʔaŋ = u*  
 P-ban:TR = LOC3P = APP
- ‘Those young children went (away), those (who had) helped him collecting.’ (20190108\_HamidPearFilm 020)

In (17), the narrator describes the action of a group of children who have already been introduced in the narrative. In the sequence immediately preceding (17), however, several other children were the protagonists of the action. The speaker

---

<sup>19</sup> For the purposes of this study, dislocated topics were identified as such if they fit one of the following two descriptions: either they are nominal elements realized within an intonation unit before the one containing their predicate, or they are coreferential with another nominal element closer to the predicate. Appositions, on the other hand, have been marked as such when they are realized in an intonation unit after the one containing the predicate on which they depend, or when they are realized after a nominal element with which they are coreferential.

thus uses the noun phrase *ibarimbariweeŋ* ‘those young children’ to refer to the textually more distant group of children. However, the narrator apparently found it necessary to additionally realize a relative-like clause in which he specifies which children are being referred to. The demonstrative pronoun *iweeŋ* ‘those (who)’ introduces this relative-like clause, herewith specifying the semantically specified group of referents.

#### 4 Conclusion

This paper investigated the functions of the demonstrative *weeŋ* in Tima. Based on a qualitative corpus analysis of staged narratives, it was shown that three functions can be distinguished. First, the demonstrative marks referents that have textually distant referents (SECTION 2.1.1). Second, the demonstrative is used to resolve ambiguous references, where it picks up the textually most distant out of several competing referents (SECTION 2.1.2). Third, speakers use *weeŋ* to signal that a referent is known to the interlocutors outside the frame of the discourse (SECTION 2.2). Finally, it was shown that these functions have in common that referents marked with *weeŋ* are known to the addressee, but their identification is marked as difficult or, in other words, as requiring mental effort (SECTION 3.2).

#### Abbreviations

1	first person	INCL	inclusive
2	second person	INS	instrumental
3	third person	LOC	locative
AP	antipassive	LOG	logophoric
APP	applicative	LOW.TR	low transitivity
CAUS	causative	MOD	modifier
COND	conditional	OPT	optative
COP	copula	P	person
DEM1	first demonstrative ( <i>na/na</i> )	REP	reported
DEM2	second demonstrative ( <i>yaa</i> )	PL	plural
		PLUR	pluractional
DEM3	third demonstrative ( <i>weeŋ</i> )	POSS	possessive
		POT	potential
DIR	directional	PRF	perfect
EP	epenthetic element	PRON	pronoun
ERG	ergative	SEL	selective
EXCL	exclusive	SG	singular
FOC	focus	SOUR	source
FUT	future	TR	transitive
IMPFV	imperfective	VENT	ventive

## References

- Alamin, Suzan. 2012. *The Nominal and Verbal Morphology of Tima*. Cologne: Rüdiger Köppe.
- Ariel, Mira. 1990. *Assessing Noun-Phrase Antecedents*. London: Routledge.
- Bashir, Abeer. 2010. *Phonetic and Phonological Study of the Tima Language*. Khartoum: University of Khartoum dissertation.
- Bühler, Karl. 1934. *Sprachtheorie. Die Darstellungsfunktion der Sprache*. Jena: Fischer.
- Becker, Laura & Gertrud Schneider-Blum. 2020. Morphological marking of contrast in Tima. *Glossa: A Journal of General Linguistics* 5(1). 1-35. <https://doi.org/10.5334/gjgl.1098>
- Chafe, Wallace L. 1980. *The Pear Stories: Cognitive, Cultural, and Linguistic Aspects of Narrative Production*. Norwood, NJ: Ablex.
- Cornish, Francis. 2018. Anadeixis and the signalling of discourse structure. *Quaerens de Filologia: Estudis Lingüístics* 23. 33-57.
- Diessel, Holger. 1999. *Demonstratives: Form, Function and Grammaticalization*. Amsterdam: John Benjamins. <https://doi.org/10.1075/tsl.42>
- Dimmendaal, Gerrit J. 2009. Tima. In Gerrit J. Dimmendaal (ed.), *Coding Participant Marking: Construction Types in Twelve African Languages*, 338-355. Amsterdam: John Benjamins. <https://doi.org/10.1075/slcs.110>
- Dimmendaal, Gerrit J. 2014. The grammar of knowledge in Tima. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *The Grammar of Knowledge: A Cross-Linguistic Typology*, 245-259. Oxford: Oxford Academic. <https://doi.org/10.1093/acprof:oso/9780198701316.003.0012>
- Dimmendaal, Gerrit J. 2018. Reconstructing Katloid and deconstructing Kordofanian. In Gertrud Schneider-Blum, Birgit Hellwig, & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 383-416. Cologne: Rüdiger Köppe.
- Dimmendaal, Gerrit J. & Gertrud Schneider-Blum. In preparation. *A Grammar of Tima*. Leiden/Boston: Brill.
- ELAN (Version 6.4). 2022. Nijmegen: Max Planck Institute for Psycholinguistics, The Language Archive. <https://archive.mpi.nl/tla/elan>
- Finkbeiner, Rita. 2018. Deixis und Anapher. In Frank Liedtke & Astrid Tuchen (eds.), *Handbuch Pragmatik*, 186-197. Stuttgart: Metzler. [https://doi.org/10.1007/978-3-476-04624-6\\_18](https://doi.org/10.1007/978-3-476-04624-6_18)
- Gundel, Jeanette K., Nancy Hedberg & Ron Zacharski. 1993. Cognitive status and the form of referring expressions in discourse. *Language* 69(2). 274-307. <https://doi.org/10.2307/416535>

- Haig, Geoffrey & Stefan Schnell. 2014. *Annotations Using GRAID (Grammatical Relations and Animacy in Discourse): Introduction and Guidelines for Annotators*. Version 7.0.  
<https://multicast.aspra.uni-bamberg.de/>
- Hellwig, Birgit & Gertrud Schneider-Blum. In preparation. Split ergativity and larger discourse units in Tima (Niger-Congo, Sudan).
- Heusinger, Klaus von. 2002. Specificity and definiteness in sentence and discourse structure. *Journal of Semantics* 2002 (3). 245-274.  
<https://doi.org/10.1093/jos/19.3.245>
- Himmelmann, Nikolaus P. 1996. Demonstratives in narrative discourse: A taxonomy of universal uses. In Barbara A. Fox (ed.), *Studies in Anaphora*, 205-244. Amsterdam: John Benjamins.  
<https://doi.org/10.1075/tsl.33.08him>
- Meerpohl, Meike. 2012. *The Tima of the Nuba Mountains (Sudan) – A Social Anthropological Study*. Cologne: Rüdiger Köppe.
- Næss, Åshild, Anna Margetts & Yvonne Treis (eds.). 2020. *Demonstratives in Discourse (Topics at the Grammar-Discourse Interface 6)*. Berlin: Language Science Press. <https://doi.org/10.5281/zenodo.4054814>
- Peeters, David, Emiel Kraemer & Alfons Maes. 2021. A conceptual framework for the study of demonstrative reference. *Psychonomic Bulletin & Review* 28. 409-433. <https://doi.org/10.3758/s13423-020-01822-8>
- R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria.  
<https://www.R-project.org/>
- RStudio Team. 2020. *RStudio: Integrated Development for R*. RStudio, PBC, Boston, MA. <http://www.rstudio.com/>
- Schiborr, Nils N., Stefan Schnell & Hanna Thiele. 2018. *RefIND — Referent indexing in natural language discourse*. Unpublished.
- Schneider-Blum, Gertrud. 2013a. *A Tima-English Dictionary*. Cologne: Rüdiger Köppe. Online version: <http://tima-dictionary.mine.nu/>
- Schneider-Blum, Gertrud. 2013b. Personal pronouns in Tima. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 281-296. Cologne: Rüdiger Köppe.

## Appendix

VARIABLE	DESCRIPTION	VARIANTS
dt_app	Does the noun phrase, including the demonstrative root, function as an apposition or as a dislocated topic?	no dislocated topic apposition
sel	Is the noun phrase, including the demonstrative root, marked by the selective clitic?	no selective marker
rel	Is the noun phrase, including the demonstrative root, further specified by a relative clause or itself part of a relative clause?	no followed by a relative-like clause inside a relative-like clause
ds	Is the noun phrase, including the demonstrative root, part of direct or indirect speech?	no direct speech indirect speech
endo_exo	Does the noun phrase, including the demonstrative root, refer to an entity on an exophoric or endophoric level?	endophoric exophoric unclear
distance	How far apart are the demonstrative marked anaphoric element and its antecedent?	number of clauses
ant_new	Was the antecedent of the demonstrative marked anaphoric element newly introduced?	no new antecedent old antecedent

TABLE 4: Variables and variants of the annotation

# Biclausal or monoclausal? On focus constructions in Tima

*Gertrud Schneider-Blum*

## 1 Introduction

Tima, a Niger-Congo language spoken in the north-west of the Nuba Mountains, has morphological constituent focus marking. The issue of constituent focus has already been addressed in several publications, starting with Dimmendaal (2009: 343ff.), who was the first to mention a set of constituent focus markers expressing assertive or contrastive focus. In Schneider-Blum (2018), constituent focus marking and selective marking are shown to be two distinct pragmatic strategies, the latter being employed for showing contrast most often on modifiers of nouns. Becker & Schneider-Blum (2020) discuss both marking options in more depth and describe their relationship to the notion of contrast. In their contribution, Becker & Schneider-Blum (2020) also briefly address the question of whether focus constructions in Tima should be considered cleft constructions. They argue that this is not the case and, in this contribution, I will elaborate on the background to this claim.

Before presenting and discussing Tima data, some basic information on certain aspects of the Tima grammar and on constituent focus marking, including cleft constructions, which are “the most explicit way of marking the focus” (Lehmann 2015: 123), are given in order to be able to place the Tima examples in the appropriate context. Thus, this paper is structured as follows. In SECTION 2, some general information on the Tima grammar is presented. In SECTION 3, an excursion into the domain of different kinds of clefts paves the ground for the subsequent analysis. Thereafter, in SECTION 4, detailed information necessary for understanding the discussion of focus marking in Tima is given. That is, nonverbal predication is introduced, as well as a discussion of relative-like clauses. SECTION 5 zeroes in on focus constructions with the specific question of whether we are dealing with cleft constructions or a canonical sentence in Tima. The contribution is concluded with a short summary, presented in SECTION 6.

## 2 Linguistic background information on Tima

Tima has a rather unspectacular consonant system consisting of 21 consonants and a typologically unusual 12-vowel ATR harmony system. The vowels are separated into two groups depending on the presence of the [ATR] feature (see Dimmendaal 2009; Bashir 2010, Chapter 3.2; Tabain & Schneider-Blum 2023; Tabain et al. 2024). Since the vowels of most affixes and clitics harmonize with the [ATR] feature of the root vowels and, additionally, may show rounding or fronting harmony, also referred to as ‘color harmony’ (see Padgett 1995, 2002), a lot of allomorphy can be observed in the language.

The basic constituent order in Tima is SV/AVO, with both subject and object unmarked for case. However, as described in several articles (see, e.g., Dimmendaal 2009, 2010; Schneider-Blum 2018, 2023), the constituent order of transitive sentences may be reversed so that we find OVA. In that case, A is precliticized by a homorganic nasal which assimilates to the following sound regarding its place of articulation.

The reasons for a modified constituent order going together with ergative marking of the subject have been described in considerable detail in Schneider-Blum & Hellwig (2018), as well as in Schneider-Blum (2023). Essential for the choice of the ergative construction is the linkage of the attentional centre (for the terminology see Himmelmann & Primus 2015) with subject vs. object. When the subject is the attentional centre we find the AVO construction, whereas we find the OVA construction when the object is centred upon. That is, in Tima, the sentence-initial position is reserved for the attentional centre. Attentional centring is “influenced by factors including the animacy of the participants, the identifiability of the agent, and the givenness of either A or O participant” (Schneider-Blum 2023: 87).<sup>1</sup>

## 3 What do we know about clefts?

Focus constructions can be divided into three kinds, that of predicate focus, that of constituent (or argument) focus and that of sentence focus (see Lambrecht 2001: 18, and, in more detail, Lambrecht 1994, Chapter 5). Our concern here is the constituent-focus structure. As Lambrecht (1994: 224) states: “The term ‘argument-focus structure’ applies in principle to any sentence in which the

---

<sup>1</sup> Very early in the research on Tima, Dimmendaal suggested dynamicity as a factor influencing the prominence status of an argument and hence the sentence-structure. However, as Dimmendaal & Schneider-Blum (in preparation) argue, there are contexts in which the speaker has no choice and where ergative marking is obligatory. The influence of discourse factors, in particular the function of SHIFT, but also the interplay of episode boundaries and ergative marking, is currently being scrutinized in Compensis et al. (under review); see also Schneider-Blum et al. (2022: 214).

focus is an argument rather than a predicate or an entire proposition.” Pragmatically, constituent focus exists when answering *wh*-questions (i.e., assertive or open focus) and to convey the notion of contrast (hence contrastive focus), e.g., in the context of correction. Thus, focus marking “conveys the information that is not yet asserted or part of the Common Ground” (as Becker & Schneider-Blum (2020: 8) describe for Tima, following Chafe (1976) and Vallduví & Vilkuna (1998)). As Lambrecht (1994: 228) points out, it is the noun phrase rather than a noun that forms the focused constituent.

Cleft constructions are a subtype of argument focus. They are considered to consist of two clauses, as opposed to the monoclausal focus construction. Thus, though conveying the same proposition with the focus on ‘snake’ (both sentences are possible answers to ‘What frightened him?’), the structures in (1) and (2) differ. While (1) exemplifies a monoclausal sentence, (2) is a biclausal one.

- (1) A *snake* frightened him.  
 (2) It was a *snake* that frightened him.

The structure of (1) can be captured by the abstract form AFOC V O, while (2) consists of two parts, a copular construction and a relative(-like) clause, resulting thus in COP AFOC – COMP<sub>REL</sub> V O. Hence, Lambrecht (2001: 467) presents the following definition (bold marking added): “A CLEFT CONSTRUCTION (CC) is a complex sentence structure consisting of a **matrix clause headed by a copula and a relative or relative-like clause** whose relativized argument is coindexed with the predicative argument of the copula. Taken together, the matrix and the relative express a logically simple proposition, which can also be expressed in the form of a single clause without a change in truth conditions.”<sup>2</sup>

Example (2) represents such a cleft construction. It should be noted, though, that this is but one type of cleft, generally called the *it*-cleft. Other types are the *wh*-cleft (also known as the *pseudo*-cleft) and the reverse *wh*-cleft (see, e.g., Gundel 1977; Delin 1989; Lambrecht 2001; Hartmann & Veenstra 2013; Lafkioui et al. 2016; Caron 2016; Creissels 2021; Malcher 2021). All three are illustrated with the examples Lambrecht (2001: 468) presents, with all three being variations of clefts on the canonical sentence ‘I like champagne’. Note that in the English *it*-cleft, we may find the relative marker or complementizer ‘that’ referring to the nominal of the matrix clause, i.e., ‘champagne’.

---

<sup>2</sup> Malcher (2021) calls the relationship between cleft clause and subordinate clause ‘oriented nominalization’, corresponding to Lambrecht’s definition in which he says that the “relativized argument is coindexed with the predicative argument of the copula” (Lambrecht 2001: 467).

<i>it</i> -cleft:	<i>It is champagne (that) I like.</i>
<i>wh</i> -cleft:	<i>What I like is champagne.</i>
reverse <i>wh</i> -cleft:	<i>Champagne is what I like.</i>

The discussion on Tima clefts in SECTION 5 will be confined to *it*-clefts, because thus far, there is no evidence for the other types. However, as already indicated, even the existence of *it*-clefts is questionable and I will try to prove that we are dealing with constituent fronting rather than clefts in Tima.

#### 4 Tima copulae and relative-like clauses

As copulae and relativizing clauses are considered essential parts of the *it*-cleft construction, both are discussed in the following two subsections, starting with the former.

##### 4.1 Copulae

As described in more detail in Dimmendaal & Schneider-Blum (2024, SECTION 2), Tima has different kinds of copulae, basically *ɨkɔ* ‘COP.SG’ / *ɨcɛ* ‘COP.PL’ and *ɨkwɨyɔ* ‘COP’. They all have a stative meaning and are not inflected for tense/aspect, but differ regarding their functions. The number-sensitive pair *ɨkɔ/ɨcɛ* are typically used in locative constructions relating a FIGURE to a certain GROUND, such as ‘the basket is underneath the table’ or ‘the Tabaq (people) are to the west of Tima’. The copula *ɨkwɨyɔ*, not differentiated for number, generally indicates “the existence or availability of a generic referent” (Dimmendaal & Schneider-Blum 2024: 52), as in ‘there is tea’.

All three copulae have grammaticalized in different directions. For the purpose of the present paper, the function adopted by *ɨkɔ* ‘COP.SG’ and *ɨcɛ* ‘COP.PL’ is of interest, namely that they may be used together with a verb to express predicate focus, as exemplified by (3) for the singular and by (4) for the plural copula (note also the different tone marking of the copulae in this function).

- (3) *c-árhátà*                      *ɨkɔ*              *hól-àk*              *y-ántì*  
 SG-winnowing.shovel      COP.SG      stay-AP      LOC-inside  
*y-éèh*  
 PL-sorghum  
 ‘The winnowing shovel is stuck in the sorghum.’ (12.04.09-04-01)
- (4) *àʔà,*    *í-bɔ̀ = nɔ̀*                      *ì-máádóh = í*              *ɨcɛ̀*  
 no      PL-child = DEM.PROX      PL-male = SEL      COP.PL

*ù-kwáár-àk*    *ì-tùŋkwíyálák*    *ì=y-áàh*  
 P-carry-CAUS    PL-hat    DIR = PL-head  
 ‘No, (only) the male children are wearing hats on their heads.’  
 (20170108\_32)

The erstwhile plural copula *ɲcɛ* has been further grammaticalized into an imperfective aspect marker which procliticizes to the verb. “[I]t is no longer restricted to plural referents [as in (4)], but may occur with singular referents as well [as in (5)]” (Dimmendaal & Schneider-Blum 2024: 56). Also, as can likewise be seen in (5), it may occur in a phonologically reduced form (indicated by the bracketed *ɲ*, which is more often than not omitted), and the vowel takes part in the vowel harmony of the language.

(5)    *kì-néè*    (*ɲ*)*cɛ*=*ń-dúp-ùk*    *kì-néè*<sup>3</sup>    *ɲ*=*kúláŋkúlá*  
       SG-sun    3IPFV = P-descend-CAUS    SG-sun    INS = evening  
       ‘The sun sets in the evening.’ (04.10.07-62)

Furthermore, Tima has a variety of markers which are in complementary distribution, functioning as copulae in equative sentences (i.e., they link two referential expressions) and also serving as focus markers. Because of this latter function, the exponents are glossed as FOC: =*li*/*li* ‘FOC.SG’; =*(y)e*/*(y)e* ‘FOC.PL’; =*(G)ʌ*/*(G)a* ‘FOC’. The first pair, =*li*/*li*, indicates the singularity of the referent and is used with unmarked subjects and objects. The second pair, =*(y)e*/*(y)e*, indicates the plurality of a referent. The third exponent, =*(G)ʌ*/*(G)a*, consists of a glide (*w* or *y* depending on the environment) and the low central vowel. It is used with singular referents if they are expressed as proper names, oblique referents, ergative subjects or first and second person singular pronouns. See TABLE 1 for an overview.

FOCUS MARKER	USAGE CONTEXT
= <i>li</i> / <i>li</i>	singular referent with unmarked S/A or O
= <i>(y)e</i> / <i>(y)e</i>	plural referent
= <i>(G)ʌ</i> / <i>(G)a</i>	singular referent with proper names, oblique referents, ergative subjects, first, second and third person singular pronouns

TABLE 1: Focus allomorphy

Examples (6) and (7) exemplify =*li* ‘FOC.SG’ and =*e* ‘FOC.PL’, respectively; (6) also illustrates that the marker attaches to the last element of the noun phrase.

<sup>3</sup> The term *kìnéè* is polysemous and may refer to ‘sun’, ‘time’ and ‘weather’.

- (6) *k-wàà̀n*<sup>4</sup>      *lè̀èn = íí = lí*                      *‘cííŋ*  
 SG-sibling    POSS1SG = SEL = FOC.SG      SG:DEM.PROX  
 ‘He/She is *my sibling* (of the same gender).’ (2011\_06\_28\_02\_03)
- (7) *ì-túk = é*                      *í-nǎ*                      *ni-tán*  
 PL-mash = FOC.PL    PL-DEM.PROX      INS:PL-sauce
- ù = kù-múdùŋ*  
 DIR = SG-crops  
 ‘This is *sorghum mash* with a sauce of ground crops (like simsim or groundnuts).’ (12.04.09-02-01)

As outlined in Schneider-Blum (2018: 263f.), these predicate markers are used synchronically in equative constructions (including classifying, identifying and specifying functions).<sup>5</sup>

In non-verbal predication, these markers are ambiguous between their copular and focus functions, i.e., (6) may be uttered when introducing somebody or it may be the answer to the question ‘Who is this?’. There is no formal difference, including in tonal and prosodic features, between the predicative and the focus functions. Thus, the context determines which function is relevant (see Schneider-Blum 2018: 265; Becker & Schneider-Blum 2020: 10). There is no such ambiguity in the verbal context. Here, the marker exclusively conveys the focus function (see Schneider-Blum 2018: 265), as will be elaborated upon in SECTION 5.

Cross-linguistically, homonymy between the copula and the focus marker and the development from the former to the latter has been addressed in numerous publications on grammaticalization and on focus marking in different languages (see, e.g., Heine & Reh 1984: 177ff.; Heine & Kuteva 2002: 95f.; Hartmann & Veenstra 2013: 7; Creissels 2021: 27).

#### 4.2 Relative-like clauses

Relative or relative-like clauses are said to be an essential part of cleft constructions (see, e.g., the definition of Lambrecht (2001: 467), quoted here in SECTION 2). Thus, the question arises as to whether Tima has relative clauses and, if any, what the formal criteria are. The following examples (8), (9) and

<sup>4</sup> With regard to kinship terminology, meanings and usage, see Veit & Schneider-Blum (2024).

<sup>5</sup> Predicative adjectives, unlike in the Bantu language Kirundi (see Lafkioui et al. 2016: 75), cannot be used with focus markers; instead they are prefixed by a stative marker differentiated for singular and plural, i.e., *a-* vs. *i-/i-*, respectively.

(10) are possible candidates. The potential relative clauses (hereafter consistently labelled ‘relative-like clause’) appear in square brackets.

- (8) *c-íbal = 'ná*                      [*n̄-táán = nà = ná*]                      *céηúdánà*  
 SG = child = DEM.PROX    P-beat = ERG:1SG = DEM.PROX    3IPFV:P:cry  
 ‘The child [(that) I beat] is crying.’ (15.02.07-20a.wav)

- (9) *wáyén = 'ná*                      *ś = kábáác = í*                      *l-ájáj = í*  
 SG.father = DEM.PROX    DIR = Kabaac = SEL    LOC-Ajang = SEL

[*k-lhúnén*    *ú-kúún = á = táη = í*]  
 SG-woman    P-give.birth = SOUR = LOC3P = SEL

*í-díyáη = táη ...*

P-come = LOC3P

‘The father of Kabaac of Ajang, [to whom the wife had given birth], came ...’ (08\_Hamad\_1 001-004)

- (10) *ihìnl*    *í-cí,*    *í-cí*    *kúmùn*    *kì-bééy = wééη*  
 PRON3PL    P-go    P-go    find    SG-person = DEM.REF

[*ś-táà*    *y-lcùk*                      *tù?àη*]    [*n̄-dúp-ùk-îη*]  
 P-pick    PL-baobab    up                      P-descend-CAUS-VENT

‘They went and found that person [who had been picking baobab fruits up (in the tree)] [coming down].’ (20190108\_HamidPearFilm 026)

In (8) and (9), the subject of the complex sentence (*cíbal'ná* / *wáyén'ná*) is the object of the relative-like clause; in (10), it is the object (*kìbééywééη*) of the matrix clause which is modified (functioning as subject of the relative-like clause). That is, either the subject or the object of the whole proposition can be the head of a relative-like clause. As a general rule, the head precedes the modifying element and, as other examples prove, is clause-external. Example (11) serves to illustrate the point. The head of the relative clause is the prepositional phrase ‘to the proper language’. If the ‘proper language’ were the internal head of ‘the proper language (from which) we had left’, it would have to appear in the form indicating the source; however, it is marked by the directional preposition which indicates its semantic role in the main clause. Similarly, in the Tima sentence ‘they went to this place (where) they wanted to settle’, the phrase ‘to the place’ is an oblique participant as external head which would have to appear in the unmarked object form if it were clause-internal (see also Dryer 2013, example (7a) and the accompanying explanation).

- (11) *ààŋ ɲkɔ màk ìn-pə̀lâ-wáá = 'ná kùhùnλŋ mé = yè*  
 well COP.SG then P-want-INS = ERG:1SG now OPT = REP
- ì-tún-él = yàŋ ì = y-àmáá = 'ná*  
 PL-return-MID = LOC3P DIR = PL-talk = DEM.PROX
- í = kálí = tɛh [ì-kálmúh = á = táj = i]*  
 DIR = SG:truth = EMPH PL-leave = SOUR = LOC3P = SEL
- ‘well, this is then why I want to return now to the proper language  
 [(from which) we had left]’ (07\_MusaBukur 005)

I would like to come back to examples (8)-(10) and take a closer look at them, since there are certain differences to be observed between them. In (8), the demonstrative clitic =*ná*/=*ná* is not only attached to the head noun *cíbal*, but also to the verb *̀n̄táánnà* of the relative-like clause, the alternation between =*ná* and =*ná* being determined by ATR harmony rules. See Dimmendaal (2023: 266) for a discussion of a similar construction characterized as an ‘adjoined clause’. We find a similar distribution of demonstratives with nouns and adjectival modifiers, for instance with ‘two people’ in (12). Thus, the phrase *̀n̄táánnàná* in (8) may in fact be participle-like and the whole sentence may translate better as ‘the by me punished child is crying’. However, considering its function, one can still subsume such a construction under relative-like clauses (see also Dryer 2013 on nonfinite participial relative clauses, such as ‘the man reading the book’).

- (12) *ìhwáá = nà íhí'ík = ná*  
 people = DEM.PROX two = DEM.PROX
- án-tìkìhìt-λk í-dì*  
 3PRF-arrange.secret.meeting:PLUR-AP PL-body
- ‘These two people have arranged to meet secretly (now they are sitting together).’ (07.04.09, 2\_01-04)

Certainly, demonstratives (both free pronouns and clitics) bear the notion of definiteness. This becomes obvious when comparing (13) and (14). The number expressing ‘two’ in the noun phrase *ìhìná íhí'ík* in (13), unlike the phrase *ìhìná íhí'íkná* in (14) (or *ìhwáánnà íhí'íkná* in (12)), does not have the demonstrative clitic attached. The meaning thus alters from indefinite (though indicating specificity), ‘two of them’ to the definite ‘the two of them, the two, these two’ (for a discussion on definiteness vs. specificity see von Heusinger 2002).

- (13) *ìhìná íhí'ík ...*  
 PRON3PL two
- ‘two of them ...’ (01.10.07-14 Adlaan Misiria, horsequarrel, AR:30)

- (14) *ihìná*      *íhík = ná ...*  
 PRON3PL    two = DEM.PROX  
 ‘the two of them ...’ (no recording)

Example (9) has its potential relative-like clause *kλhúnén úkúúnátájí*, translated as ‘to whom the wife had given birth’. Here, the selective marker =*í* appears. The selective marker usually signals the existence of alternatives on the modifying level (see Becker & Schneider-Blum 2020, SECTION 3.3); that is, here, that the wife had given birth to other children. The selective marker generally occurs with phrasal modifiers, i.e., with adjectives or modifying nouns. Note that in (9) the marker also attaches to *ékábáác* and *lájájí* in the same sentence, both being nominal modifiers. The occurrence of the selective marker with different kinds of modifiers seems to make sense: a relative-like clause like *kλhúnén úkúúnátájí* serves as a modifier just like the phrasal modifiers *ékábáácí* and *lájájí*. Although Becker & Schneider-Blum (2020: 22f.) acknowledge that “[t]he use of the selective marker, especially in clause-final position in relative clauses and the other two types of adverbial clauses, is reminiscent of the backgrounding marker in Chadic, [...], and of clausal determiners in Kwa and Gbe languages [...]”, they provide evidence of the selective marker being “a nominal determiner rather than a clausal one” in Tima (Becker & Schneider-Blum 2020: 23).<sup>6</sup>

In (10), neither the demonstrative clitic nor the selective marker shows. That is, neither the presence of a demonstrative pronominal nor of the selective marker is indispensable for the formation of relative-like clauses functioning as attributes in Tima. Aside from that, the clause *étáá yácùk tò?àŋ* ‘he was/had been picking baobab fruits’ can stand by itself, i.e., it is not necessarily a modifying or subordinate clause.

Furthermore, considering tense/aspect marking does not really help determine whether we are dealing with a relative-like clause. While the verbs *n̄táánnà* in (8) and *n̄dúpùkîŋ* in (10) exhibit a reduced form in that the root-preceding tense/aspect marker is absent, this type of syncretism, or reduction in the number of paradigmatic distinctions used, is not unique to relative-like clauses. Consider example (15), which represents a possible answer to the question ‘Did you meet Ithang at the market yesterday?’ (in the context that the enquirer knew that the addressee was at the market).

<sup>6</sup> The other two types of clausal modifiers are certain temporal clauses and reason clauses. Both kinds of subordinate clause begin with a subordinator that has a nominal base (for details see Becker & Schneider-Blum 2020: 22).

- (15) *ððŋ, ɨ́-kú'mún = nÁ*  
 yes P-find = ERG:1SG  
 'Yes, I saw her.' (20190206\_08)

The answer *ɨ́kú'mún nÁ* 'yes, I saw her' has the same structure as *n̄táánnà* in (8). That is, a reduced tense/aspect form also occurs in contexts where its analysis as a relative-like clause is excluded. By way of contrast, the verb *úkúúnááj* of (9) is not reduced and can occur (while ignoring the selective marker) in a main clause, as is also true for *é́táà* in (10).

Taken together, we have three different constructions which might qualify as relative-like clauses. There seem to be no hard criteria for their formation. They have in common that the argument which they modified precedes the modifying part. The head occurs outside the relative-like clause. Also obvious is that the Tima construction has no relativizer (particle or pronoun, like 'that' or 'who' in English).

Although the questions around relative-like clauses in Tima remain to some extent unclear, the assumption that such clauses exist in Tima can still be maintained even if only by keeping the definition relatively broad, as in the definition by Dryer (2013): "A construction is considered a relative clause [...] if it is a clause which, either alone or in combination with a noun, denotes something and if the thing denoted has a semantic role within the relative clause. If there is a noun inside or outside the relative clause that denotes the thing also denoted by the clause, that noun will be referred to as the head of the relative clause." In this definition, neither a relative pronoun or complementizer nor a finite verb is a mandatory component of the clause. What remains is rather a semantic criterion, namely that the clause we are talking about modifies a noun.

We will now have a look at Tima focus constructions and try to answer the question of whether they should be considered cleft constructions consisting of a matrix clause and a relative-like clause.

## 5 Focus constructions with verbal (and non-verbal) predication

As has been outlined in SECTION 4.1, with non-verbal predication a variety of markers (labelled for practical reasons as FOC and henceforth also called 'focus markers') are ambiguous between predicate markers and focus markers. The ambiguity is resolved by the context.

In verbal predication, the same marking options exclusively single out a constituent to focus on it. Compare (16) with (17).

- (16) *k-àybələl = lī*            (*ù-kóyò*        *ì-hàṅkàréṅ*)  
 SG-smith = FOC.SG    P-do            PL-bed  
 ‘The/A *smith* (is making beds).’ (20220102\_02)
- (17) (*k-àybələl*)    *ú-kòyò*        *ì-hàṅkàréṅ*        *kúlá*  
 SG-smith            P-do            PL-bed            yesterday  
 ‘(The smith) made the beds yesterday.’ (20220102\_02)

Example (16) serves as the answer to ‘Who is making beds?’, thus occurring in a typical focus context (see, e.g., Gundel & Fretheim 2006; Krifka 2007; van Putten 2014); (17) answers the question ‘Did the smith make the beds?’. The presupposed part of the answers, serving as common ground, is within brackets, indicating that it is an optional part of the answer. (Of course, the answer to the latter question could also just be ‘yes’.)

Examples (18) and (19) are answers to the polar question ‘Did you meet Ithang somewhere yesterday?’ versus the *wh*-question ‘Where did you meet Ithang yesterday?’, respectively.

- (18) *ḡ-kú‘mún = ná*            *l-é‘ḡédí*  
 P-find = ERG:1SG    LOC-waterhole  
 ‘I saw her at the waterhole.’ (20190120\_17)
- (19) *l-é‘ḡédí = yá*                    *ḡ-kú‘mún = ná*  
 LOC-waterhole = FOC    P-find = ERG:1SG  
 ‘I saw her at the *waterhole*.’ (20190120\_17)

While the English answers read the same, although they can be distinguished by intonation, there is a difference with regard to the Tima structure. Due to the fact that focus-marked constituents need to be preverbal (see Schneider-Blum 2018: 259f.), word order has changed from the unmarked order in (18) to the marked order in (19) with the focus-marked participant – in this case the oblique one – being promoted. While (19) is a focus construction answering a *wh*-question, (18) is not. In both sentences the direct object ‘Ithang’ is not overt, but would be expected in sentence-initial position, which is reserved for the attentional centre; see (33) and (34) (see Hellwig & Schneider-Blum, in preparation). Accordingly, we find the ergative construction with both sentences.

We now consider the following two sentence pairs (with (4) being repeated here as (20) for convenience); (20) and (21) refer to plural participants (‘male children’), (22) and (23) to a single participant (‘calabash’). That is, we expect the copulae/focus markers to occur in their plural vs. singular forms respectively.

Examples (20) and (21), triggered with a stimulus picture (Task 24, Condition A, Item 1, in Skopeteas et al. 2006), express, in principle, the same proposition: (20) is an appropriate answer to the question ‘Are those people wearing hats?’, while (21) is appropriate when the question is ‘Who is wearing hats?’, the latter again being a *wh*-question. (Note that the answer to ‘Are those people wearing hats?’ could also be expressed with a focus construction, as shown in Schneider-Blum (2018: 269). In that case, females and males are contrasted and the appropriate answer would translate as ‘the *males* have hats on their heads, the females do not wear hats’.)



FIGURE 1: Stimulus for (20) and (21)

- (20)  $\acute{a}?\acute{a}$ ,  $\acute{í}\text{-}b\lambda = n\lambda$   $\acute{í}\text{-}m\acute{a}\acute{a}d\acute{s}h = \acute{í}$   $\acute{j}nc\acute{e}$   
 no PL-child = DEM.PROX PL-male = SEL COP.PL  
 $\acute{u}\text{-}kw\acute{a}\acute{a}\acute{t}\text{-}\acute{\theta}k$   $\acute{í}\text{-}t\acute{u}\eta kw\acute{í}y\lambda\acute{\lambda}k$   $\acute{í} = y\text{-}\acute{a}\acute{a}h$   
 P-carry-CAUS PL-hat DIR = PL-head  
 ‘No, (only) the male children are wearing hats on their head.’  
 (20170108\_32)

- (21)  $\acute{í}\text{-}b\lambda = n\lambda$   $\acute{í}\text{-}m\acute{a}\acute{a}d\acute{s}h = \acute{í} = y\acute{e}$   
 PL-child = DEM.PROX PL-male = SEL = FOC.PL  
 $\acute{u}\text{-}kw\acute{a}\acute{a}\acute{t}\text{-}\acute{\theta}k$   $\acute{í}\text{-}t\acute{u}\eta kw\acute{í}y\lambda\acute{\lambda}k$   $\acute{í} = y\text{-}\acute{a}\acute{a}h$   
 P-carry-CAUS PL-hat DIR = PL-head  
 ‘The *male children* are wearing hats on their head.’ (no recording)

Examples (22) and (23) were triggered with a photo taken in the area and illustrate non-focus and focus constructions, respectively, with the singular copula/focus marker.



FIGURE 2: Stimulus for (22) and (23)

(22) *kù-dùléh ñkò túúh-ùk tòʔàŋ*  
 SG-calabash COP.SG hang.up-CAUS high  
 ‘The calabash is hanging high.’ (20180130\_26)

(23) *kù-dùléh = lí túúh-ùk ù = kù-dùwà*  
 SG-calabash = FOC.SG hang.up-CAUS DIR = SG-pole  
 ‘A/The calabash is hanging on the pole.’ (16.04.09-16-09)

As expected, we only find the focus marker with (21) and (23), since they are the answers to the appropriate *wh*-question. Recall now that the focus marker in fact originates from a copula as well (see SECTION 4.1). Thus, we find the same complementary distribution in the non-verbal context. While the copulae *ñkò* ‘COP.SG’ and *ñcé* ‘COP.PL’ are used when the question is ‘Where is/are X?’, the focus marker appears when the question is ‘Who is/are at GROUND?’. The interested reader is referred to Dimmendaal & Schneider-Blum (2024) for examples.<sup>7</sup>

<sup>7</sup> Some few examples in our database seem to contradict the assumption of mutual exclusiveness on the different kinds of markers, but only on first sight. In fact, we are dealing here with two clauses but, unlike in a cleft construction, these two clauses are independent of each other and answer two different implicit questions.

*kì-mínà = lí; ñkò ð-káʔám-úŋ á = ló, ...*  
 SG-snake = FOC.SG COP.SG P-leave-VENT SOUR = far  
 ‘It is the snake; it came out from there, ... (03\_AliTia\_2 070f.)

Ignoring the (implicit) question behind the utterances and considering that, according to Lambrecht's definition (2001: 467), a cleft sentence has a "matrix clause headed by a copula", all constructions (20)-(23) might be candidates for cleft constructions, with the rest of the sentences possibly representing the relative-like clause (bearing in mind that relative-like clauses do not have an overt relativizer in Tima). Consequently, when addressing the issue of whether we are dealing with a monoclausal or a biclausal construction, we would have to take into account that both constructions, those with *ɲkɔ́/ɲcɛ́* as well as those with *=li/=li*, *=(y)e/=(y)e* and *=(G)ʌ/=(G)a*, have essentially the same structure, since they only differ with regard to the choice of the copula/focus marker. That is, either both of these two construction types should be considered clefts or none of them. Thus, the mere existence of a copula/focus marker is not a convincing indication of the existence of a cleft construction.

In their discussion of focus constructions in Yucatec Maya, Verhoeven & Skopeteas (2015: 10) point out that there is a crucial difference between a cleft with a headless relative clause and a canonical focus construction. That is, in the former, "the verb of the headless relative clause is not necessarily cross-referred by the clefted constituent; for instance, consider *it's you who is responsible*". By contrast, constituent fronting, as in canonical focus constructions, "implies that the agreement relations of the basic configuration must be preserved [...] [o]bject cross-reference markers show the same pattern" (Verhoeven & Skopeteas 2015: 10-11). (See also Creissels 2021, SECTION 4.3.)

Although most of the examples in our database have third person participants (which are not cross-referenced at all, and therefore cannot be used for an agreement check), we find a few examples which let us assume that we are dealing with a canonical focus construction and not a cleft, though the data in that respect are not sufficient to come to a definite conclusion. Example (24) shows agreement regarding number between the focus-marked subject and the verb in form of a prefixed *i-*.

- (24) *inín = ʌ*                      *kúllú*      *i-dí-yáŋ*                      *w-ùròkwáy*  
 PRON|PL.EXCL = FOC      all                      PL-walk-VENT      LOC-passage

*kʌhʌtùn = í*

[proper\_name] = SEL

'All of *us* (excl.) came to the passage of Kʌhʌtun.'

(310108\_31\_AdlaanWayExplaining 022)

Future research may allow us to elicit clearer examples of cross-referencing as clues for determining whether we are dealing with clefts or constituent fronting. For the time being, we have to be content with the fact that the examples we



*céwúr = á = táŋ*      *á = y-éèh*  
 rake = SOUR = LOC3P      SOUR = PL-sorghum  
 V      OBL

‘This woman is raking the *remainders* from sorghum.’ (12.04.09-02-07)

- (28) *ihwáá = ná*      *ìtíŋkìk = è*      *móðk*      *ŋ = k-ðlbíl*  
 people = DEM.PROX      mariisa = FOC.PL      drink      INS = SG-bowl  
 A      OFOC      V      OBL

‘These people are drinking *sorghum beer* out of a bowl.’

(12.04.09-06-06)

- (29) *wǎřtúkólóŋ-‘ə = ná*      *ì = hłkálłr = ł*      *hòndòŋó*  
 SG.elder-EP = DEM.PROX      DIR = sitting.stick = FOC      sit  
 S      OBL:FOC      V

‘This elder is sitting on a *sitting stick*.’ (12.04.09-07-01)

- (30) *k-łhúnén = ná*      *ì = plřntłŋ*      *y-łwùh = ł*      *ś-dúłl*  
 SG-woman = DEM.PROX      DIR = gap      PL-stone = FOC      P-stand:MID  
 S      OBL:FOC      V

‘This woman is standing at the *stone gap*.’ (13.04.09-01-29)

- (31) *kì-bèéy = ná*      *ŋłtútúk = wł*      *ú-kút-ì*      *k-włnłŋ*  
 SG-person = DEM.PROX      on.shoulders = FOC      P-take-TR      SG-comrade  
 A      OBL:FOC      V      O

‘This person took his comrade on his *shoulders*.’ (13.04.09-01-22)

- (32) *cìbóónín*      *ŋ = kóló = ‘wł*      *kłłúk*  
 girl      ERG = shame = FOC      eat  
 O      AERG:FOC      V

‘The girl is ashamed.’ (literal translation: ‘*shame* eats the girl’)

(06.04.09\_05-15)

Consider also examples (33) and (34) which are constructed answers to the questions ‘Did you meet Ithang somewhere yesterday?’ and ‘Where did you meet Ithang yesterday?’, respectively (cf. the natural answers presented in (18) and (19)).

- (33) *ìtłŋ*      *ŋ-kú‘mún = ná*      *l-é‘ŋédí*  
 Ithang      P-find = ERG:1SG      LOC-waterhole  
 O      V = AERG      OBL

‘I saw Ithang at the waterhole.’ (no recording)

- (34) *ìṭáṭṭ*    *l-é'ṭṭédí=yá*                      *ṭṭ-kú'mún=ná*  
 Ithang    LOC-waterhole=FOC                  P-find=ERG:1SG  
 O            OBL:FOC    V=AERG  
 'I saw Ithang at the *waterhole*.' (no recording)

Note that in some of the previous transitive sentences, we see that either the object of the ergative construction, as in (19), or the subject, as in (26), is not overtly mentioned. If they were, they would appear – unmarked for case – before the focus-marked constituent, as is the case in (27)-(34), or A – marked for ergative case – may come after the verb (as in (33)) if not at the same time marked for focus (as in (32)). Also, only focus-marked S/A (as in (24) and (21), respectively) and O in the ergative construction maintain their position while at the same time being the attentional centre (i.e., occurring in sentence-initial position, as in (35) below); in all other cases, the focus-marked participant has to be moved to a position before the verb, as mentioned earlier.



FIGURE 3: Stimulus for (29)

- (35) *y-àntúṭ* = 'é                      *díṭlák*    *ṭṭ=k-ḷhúnén=ná*                      *yàdìr*  
 PL-rattle=FOC.PL    tie:AP    ERG=SG-woman=DEM.PROX    LOC:leg  
 'This woman tied *rattles* to her leg.' (12.04.09-02-10)

If we now assume that we are dealing with a cleft construction whenever a constituent is focus-marked, we get into trouble if this constituent does not occur in an edge position. Creissels (2021), discussing plain clefts as opposed to grammaticalized clefts and placing them in paradigmatic contrast with non-cleft focus constructions, addresses this problem: "Some languages have focus constructions involving a focus marker homonymous with an identificational predicator, but in which the focused constituent does not occur systematically in clause-initial or clause-final position, as expected in focus constructions resulting from the grammaticalization of plain clefts" (Creissels 2021: 24). He further concludes that focus marking, though homonymous with predicate markers, must not necessarily evolve via cleft constructions, as, for instance, Heine & Reh (1984: 181ff.) suggest. Creissels (2021: 24) presents the case of

Ivorian Jula with homonymous focus and identificational predicate markers as an example. He points out that the focus-marked constituent maintains its original position in the sentence, which makes an evolution from a cleft construction dubious.

How exactly the development in Tima took place remains, at least for the time being, an open question.<sup>9</sup> It is, however, not rare in this language for existing material to find other functions than the original one; this is true on both the lexical level (see Schneider-Blum 2012; Schneider-Blum & Dimmendaal, to appear) and the grammatical level (see Dimmendaal 2010; Casaretto et al. 2020).

## 6 Summary

The focus marker in Tima is homonymous with one of the predication markers, namely the copula used in equative non-verbal predication. Cross-linguistically, this fact points to the focus construction as being a cleft or as having originated from a cleft. However, in this contribution, I have argued that the focus construction we find in Tima is monoclausal. While I ruled out that we are dealing with a cleft construction synchronically, the question on the origin of the construction as a cleft remains open.

One argument for treating the focus construction as monoclausal is based on the position of the focus-marked constituent. A sentence-initial position, as we would expect if dealing with a cleft, is not required; the relevant constituent only has to be preverbal. Cross-referencing on the verb and flagging of the focus-marked constituent (such as to indicate source or direction) also point to a monoclausal construction.

Relative-like clauses, said to be an essential part of a cleft, can only be defined by their function in Tima as modifying elements; they do not share generally valid formal criteria. Even their subordinating character is questionable, so that, along with Dimmendaal (2023: 266), I prefer to regard the relevant clause as adjoined rather than subordinated, since “[...] the clause following the relativized noun (phrase) is dependent, because it shares an identical argument (the relativized head noun), but syntactically this clause is adjoined, as there is no relative clause marker [...]”.

---

<sup>9</sup> In his in-depth study on Kikuyu focus constructions, Schwarz (2003, 2007) comes to the conclusion that in Kikuyu too, the construction containing the particle *ne* is not a cleft construction, considering “the different behavior of *ne*-focus constructions and biclausal constructions” (Schwarz 2003: 82). Future research, depending on peace in Sudan, may allow a similar systematic study, including collecting negative evidence, to be conducted for Tima.



## References

- Bashir, Abeer. 2010. *Phonetic and Phonological Study of the Tima Language*. Khartoum: University of Khartoum dissertation.
- Becker, Laura & Gertrud Schneider-Blum. 2020. Morphological marking of contrast in Tima. *Glossa: A Journal of General Linguistics* 5(1): 125. <https://doi.org/10.5334/gjgl.1098>
- Caron, Bernard. 2016. Cleft sentences and beyond: identification, specification and clause structures in Zaar: Sans 'it', sans 'COP', sans 'REL', sans everything. *hal-01370125*
- Casaretto, Antje, Gerrit J. Dimmendaal, Birgit Hellwig, Uta Reinöhl & Gertrud Schneider-Blum. 2020. Roots of ergativity in Africa (and beyond). *Studies in African Linguistics* 49(1). 111-140. <https://doi.org/10.32473/sal.v49i1>
- Chafe, Wallace L. 1976. Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In Charles N. Li (ed.), *Subject and Topic*, 25-55. New York: Academic Press.
- Compensis, Paul, Marco García García, Birgit Hellwig, Sonja Riesberg & Gertrud Schneider-Blum. Under review. Discourse prominence and differential argument marking. *Studies in Language*.
- Creissels, D. 2021. Remarks on the grammaticalization of identificational clefts. *Faits de Langues* 52(1). 13-31. <https://doi.org/10.1163/19589514-05201002>
- Delin, J. L. 1989. *Cleft Constructions in Discourse*. Edinburgh: University of Edinburgh dissertation.
- Dimmendaal, Gerrit J. 2009. Tima. In Gerrit J. Dimmendaal (ed.), *Coding Participant Marking: Construction Types in Twelve African Languages*, 338-355. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/slcs.110>
- Dimmendaal, Gerrit J. 2010. On the origin of ergativity in Tima. In Frank Floricic (ed.), *Essais detypologie et de linguistique générale, Mélanges offerts à Dennis Creissels*, 233-239. Paris: Presses Universitaires de l'École Normale Supérieure.
- Dimmendaal, Gerrit J. 2023. Review article: messages from (not so distant) relatives in the Nuba Mountains: on how (not) to reconstruct Proto-Bantu. *Journal of African Languages and Linguistics* 44(2). 241-281. <https://doi.org/10.1515/jall-2023-2012>
- Dimmendaal, Gerrit J. & Gertrud Schneider-Blum. 2024. Locative expressions and their semantic extensions in Tima. In James Essegbey & Enoch Oladé Aboh (eds.), *Predication in African Languages*, 44-73. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/slcs.235>

- Dimmendaal, Gerrit J. & Gertrud Schneider-Blum. In preparation. *A Grammar of Tima*. Leiden/Boston: Brill.
- Dryer, Matthew S. 2013. Order of relative clause and noun. In Matthew S. Dryer & Martin Haspelmath (eds.), *WALS Online* (v2020.3) [Data set]. Zenodo. <http://wals.info/chapter/90> (accessed 2023-12-19).  
<https://doi.org/10.5281/zenodo.7385533>
- Gundel, Jeanette K. 1977. Where do cleft sentences come from? *Language* 53(3). 543-559.
- Gundel, Jeanette K. & Thorsten Fretheim. 2006. Topic and focus. In Laurence Robert Horn & Gregory Ward (eds.), *The Handbook of Pragmatics*, 175-196. Oxford: Blackwell. <https://doi.org/10.1002/9780470756959.ch8>
- Hartmann, Katharina & Tonjes Veenstra. 2013. Introduction. In Katharina Hartmann & Tonjes Veenstra (eds.), *Cleft Structures* (Linguistik Aktuell/Linguistics Today 208), 1-33. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/la.208.01har>
- Heine, Bernd & Mechthild Reh. 1984. *Grammaticalization and Reanalysis in African Languages*. Hamburg: Buske.
- Heine, Bernd & Tania Kuteva. 2002. *World Lexicon of Grammaticalization*. Cambridge: Cambridge University Press.
- Hellwig, Birgit & Gertrud Schneider-Blum. In preparation. Zeroes.
- von Heusinger, Klaus. 2002. Specificity and definiteness in sentence and discourse structure. *Journal of Semantics* 19. 245-274.  
<https://doi.org/10.1093/jos/19.3.245>
- Himmelman, Nikolaus P. & Beatrice Primus. 2015. Prominence beyond prosody. A first approximation. In Amedeo De Dominicis (ed.), *pS-prominenceS. Prominences in Linguistics*, 38-58. Viterbo: DISUCOM.
- Krifka, Manfred. 2007. Basic notions of information structure. In Caroline Féry, Gisbert Fanselow & Manfred Krifka (eds.), *The Notions of Information Structure*, 13-56. Potsdam: Universitätsverlag Potsdam.
- Lafkioui, Mena B., Ernest Nshemezimana & Koen Bostoen. 2016. Cleft constructions and focus in Kirundi. *Africana Linguistica* 22. 71-106.
- Lambrecht, Knud. 1994. *Information Structure and Sentence Form: Topic, Focus, and the Mental Representations of Discourse Referents*. Cambridge: Cambridge University Press.  
<https://doi.org/10.1017/CBO9780511620607>
- Lambrecht, Knud. 2001. A framework for the analysis of cleft constructions. *Linguistics* 39(3). 463-516. <https://doi.org/10.1515/ling.2001.021>
- Lehmann, Christian. 2015. *Thoughts on Grammaticalization* (Classics in Linguistics 1). Berlin: Language Science Press.
- Malcher Moreno, Kurt. 2021. *Clefts. A Cross-Linguistic Investigation*. Cologne: University of Cologne dissertation. <https://kups.ub.uni-koeln.de/71050/>

- Padgett, Jaye. 1995. Feature classes. In Jill Beckman, Suzanna Urbanczyk & Laura Walsh (eds.), *University of Massachusetts Occasional Papers in Linguistics (UMOP)* 18, 385-420. Amherst, MA: GLSA.
- Padgett, Jaye. 2002. Feature classes in phonology. *Language* 78(1). 81-110.
- van Putten, Saskia. 2014. *Information Structure in Avatime*. Nijmegen: Radboud University dissertation.  
<https://repository.ubn.rur.nl/handle/2066/131822>
- Schneider-Blum, Gertrud. 2012. Don't waste words – perspectives on the Tima lexicon. In Mathias Brenzinger & Anne-Maria Fehn (eds.), *Proceedings of the 6th World Congress of African Linguistics Cologne, 17-21 August 2009*, 515-522. Cologne: Rüdiger Köppe.
- Schneider-Blum, Gertrud. 2018. Constituent focus and selective marking in Tima. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 255-279. Cologne: Rüdiger Köppe.
- Schneider-Blum, Gertrud. 2023. The impact of attentional centering on ergative marking in Tima. *STUF (Language Typology and Universals)* 76(1). 87-112. <https://doi.org/10.1515/stuf-2023-2001>
- Schneider-Blum, Gertrud & Gerrit J. Dimmendaal. To appear. The lexicography of endangered languages in Africa. In Patrick Hanks & Gilles-Maurice de Schryver (eds.), *International Handbook of Modern Lexis and Lexicography*. New York: Springer.
- Schneider-Blum, Gertrud & Birgit Hellwig. 2018. Reference tracking in Tima and its interplay with split ergative marking. *Studies in Language* 42(4). 970-993. <https://doi.org/10.1075/sl.17030.sch>
- Schneider-Blum, Gertrud, Sonja Riesberg, Birgit Hellwig & Nikolaus P. Himmelmann. 2022. On resolving prominence conflicts – exceptional case marking in Tima and Yali. In Chiara Gianollo, Łukasz Jędrzejowski & Sofiana I. Lindemann (eds.), *Paths Through Meaning and Form – Festschrift Offered to Klaus von Heusinger on the Occasion of his 60<sup>th</sup> Birthday*, 211-215. Cologne: USB Monographs.  
<https://doi.org/10.18716/omp.3>
- Schwarz, Florian. 2003. Focus marking in Kikuyu. *ZAS Papers in Linguistics* 30. 41-118. <https://doi.org/10.21248/zaspil.30.2003.180>
- Schwarz, Florian. 2007. Ex-situ focus in Kikuyu. In Enoch Oladé Aboh, Katharina Hartmann & Malte Zimmermann (eds.), *Focus Strategies in African Languages: The Interaction of Focus and Grammar in Niger-Congo and Afro-Asiatic*, 139-160. Berlin/New York: De Gruyter Mouton. <https://doi.org/10.1515/9783110199093.3.139>

- Skopeteas, Stavros, Ines Fiedler, Sam Hellmuth, Anne Schwarz, Ruben Stoel, Gisbert Fanselow, Caroline Féry & Manfred Krifka. 2006. *Questionnaire on Information Structure: Reference Manual*. Potsdam: Universitätsverlag Potsdam.
- Tabain, Marija & Gertrud Schneider-Blum. 2023. Tima. *Journal of the International Phonetic Association* 2023. 1-25.  
<https://doi.org/10.1017/S0025100323000257>
- Tabain, Marija, Jaye Padgett, Gertrud Schneider-Blum, Adele Gregory & Richard Beare. 2024. An acoustic study of ATR in Tima vowels: vowel quality, voice quality, and duration. *Phonology* 41:e2. 1-28.  
<https://doi.org/10.1017/S0952675724000125>
- Vallduví, Enric & Maria Vilkuna. 1998. On rheme and kontrast. In Peter Culicover & Louise McNally (eds.), *The Limits of Syntax* (Syntax and Semantics 29), 79-106. New York: Academic Press.  
[https://doi.org/10.1163/9789004373167\\_005](https://doi.org/10.1163/9789004373167_005)
- Veit, Nataliya & Gertrud Schneider-Blum. 2024. Kin-relational expressions of the Tima (Nuba Mountains, Sudan). In Andrea Hollington, Alice Mitchell & Nico Nassenstein (eds.), *Anthropological Linguistics – Perspectives from Africa*, 223-252. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/clu.23.09vei>
- Verhoeven, Elizabeth & Stavros Skopeteas. 2015. Licensing focus construction in Yucatec Maya. *International Journal of American Linguistics* 81(1). 1-40. <https://doi.org/10.1086/679041>



In the Tima area (photos: Gertrud Schneider-Blum, 2010/2011)

# Insects, kitchen items, rituals and place names: Some results of a workshop to collect Lumun words

*Heleen Smits*

Dedicated to Hassan El-Nour Osman Alope

## 1 Introduction

Around the mid-1990s, some members of the Lumun ethnic group living in the greater Khartoum area began studying their language and developing an orthography for it, so that writing in the Lumun language would become possible. They had migrated to the capital a few years earlier, after their home area in the southern Nuba Mountains became a war zone during the Second Sudanese Civil War (1983-2005). Supported by linguistic consultants and others from abroad, and by the Episcopal Church of Sudan, they produced literacy booklets and simple reading and maths materials. They also set up a translation team dedicated to the translation of parts of the Bible. In 2014, there were an estimated 15,000 Lumun speakers, of whom about 9,500 lived in their home area in the Nuba Mountains (Eberhard et al. 2024). Some of the Lumun speakers are Christian, some follow traditional religious practices and a small proportion are Muslim.

Before language development was taken up in the mid-1990s, virtually nothing had been written down in the Lumun language, which is classified as belonging to the Talodi language group within Kordofanian. 18 Lumun words were collected and published in 1910/1911 by British anthropologist Brenda Seligman(n); a few Lumun words, gathered in 1930/1931 by missionary couple Phoebe and Donald McDiarmid from New Zealand, found their way into Stevenson's *Survey of the Phonetics and Grammatical Structure of the Nuba Mountain Languages* (1957).<sup>1</sup>

---

<sup>1</sup> Lumun words are found on pages 121, 138, 142, 145, 147 and 148.

The Lumun Language Development Committee (or the Lumun team) was initially led by Youhanna Kusadi and later by John Shakir. The Lumun team (initially split into a literacy team and a translation team) produced several booklets in the Lumun language. The oldest one in my possession dates from September 1998. It is called *Atham wöthö nganto – Wöroküt* ‘Book of counting – Part 1’ and is the “First trial edition of a Lumun basic counting book (Math 1)”. It presents the numbers 1 to 10 through numbers, drawings and the names of the numbers in the Lumun language and includes simple addition and subtraction sums and multiplication tables from 1 to 8. It is written by Löccö Thömas Kukku Alaki (Thomas Kuku) and Lötti Youhanna Kusadi Simaan Kukku (Youhanna Kusadi), with pictures drawn by Thüththü Lükka Kamccur Amynca (Luka Kamsur).<sup>2</sup>

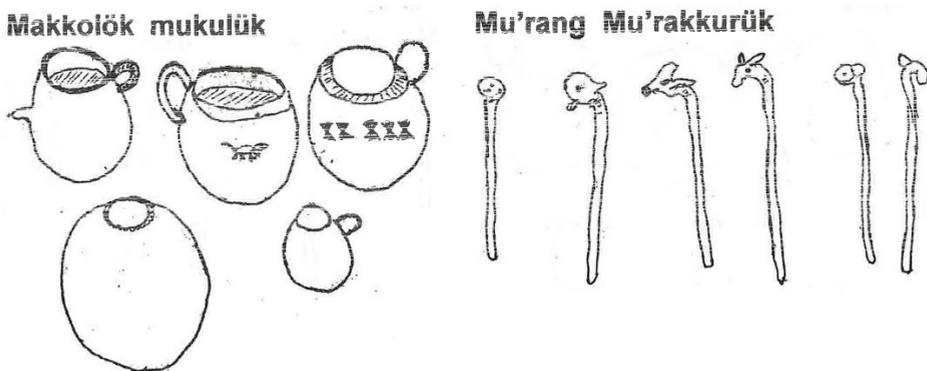


FIGURE 1: Drawings by Luka Kamsur from the counting booklet: ‘five calabashes’ and ‘six ritual sticks’<sup>3</sup>

The next oldest booklet in my collection is the first edition of the Lumun Bible Translation Committee’s translation of the Bible book of Ruth, dated May 2001. This edition had been preceded by a first trial edition in December 1999. 20 years later, in 2019, the Lumun translation of the entire New Testament and of the Old Testament books of Genesis, Exodus, Ruth and Jonah was completed and published by the ECS Literacy and Bible Translation Department Diocese of Khartoum under the title *Lon iloporot loKapik, natham n'rek noNatham noma'rot*, which, literally translated, means ‘Good news from God, some books

<sup>2</sup> Names are used in longer or shorter form and in different spellings. For example, Thüththü Lükka Kamccur Amynca is the same person as Luka Kamsur; Lötti Youhanna Kusadi Simaan Kukku is the same person as Youhanna Kusadi and Löccö Thömas Kukku Alaki is the same person as Thomas Kukku Alaki (or Thomas Kuku). In current spelling, the name of the counting booklet would be *Atham wothonganto – Woroküt*.

<sup>3</sup> In current spelling: *makklok mükülük* ‘five calabashes’ and *mu'rang m'rakkuruk* ‘six ritual sticks’.

of the Books from long ago', i.e., the New Testament and some books of the Old Testament. After postponement due to Covid-19, this milestone was celebrated on 23 October 2020 at St Matthew's Cathedral in Khartoum.

Apart from the Bible translation, the Lumun team's production includes alphabet and reading books, maths books, booklets with folk and animal tales, booklets with different kinds of practical knowledge, such as about edible roots (Kamsur 2009a, Kamsur et al. 2016) and the cultivation of sesame (Kamsur 2009c) and booklets about customs and traditions, such as *Oconto* 'Wrestling' (Kamsur 2009b) and *Thomeko* 'Scarification' (Tager 2009). The team's production also includes word lists, such as a trial edition of a Lumun-English dictionary containing 697 items (Kuku et al. 2006) and a Lumun noun list containing some 350 items with English translations (Shakir et al. 2009).<sup>4</sup>

In the course of the 2010s the activities increasingly focused on Bible translation, but the wish to compile a Lumun dictionary remained. When news came in October 2022 that the fourth Nuba Mountain Languages Conference was indeed going to be held in Khartoum after all, the decision to organise a Lumun dictionary workshop ahead of it was quickly made.

In this contribution, I report on this workshop and present some of the results, even though the original plan was different and the data I present are not complete, as I explain in SECTIONS 2 and 3.3. The war that broke out less than three months after the workshop changed everything and made me decide to write this report, even though, at the time, I could not discuss it with the workshop's organisers. I regained (sporadic) contact with each of the organisers only months after the outbreak of the war, and in some cases after more than a year. Then came the terrible news that Hassan El-Nour, teacher at Comboni Sisters' School in Khartoum and participant in the workshop, had been beaten up and taken away, after which he died in captivity on 6 December 2023.

I dedicate this contribution to Hassan El-Nour. I do not have information about all participants, but if there are others among them who have not survived the catastrophic developments in Sudan since 15 April 2023, this contribution is also in their memory.

---

<sup>4</sup> Several Lumun materials at my disposal are trial editions. Due to limited resources, there are probably no later editions in some cases. Some of the Lumun materials mentioned in this contribution are available in the library of the African Studies Centre Leiden (the African Library), Leiden University, Netherlands.

## 2 A dictionary workshop in Omdurman

On 20, 21 and 23 January 2023, prior to the fourth Nuba Mountains Languages Conference (NML 4), Lotti Tager, Okkapi Ibrahim, John Shakir and Luka Kamsur organised a Lumun dictionary workshop at the Translation Department of the Episcopal Church of Sudan (ECSTD) in Omdurman. The goal of the workshop was to collect as many Lumun words as possible around a number of themes that had been selected beforehand: trees, insects, birds, mammals and other animals, body parts of humans and animals, movements of the body, diseases and disorders, kitchen items, place names in the home area, clan names, rituals and traditions, including rituals related to hunting, and idioms and ideophones. To support the collection of words around some of the themes, I had brought some English-language guidebooks from the Netherlands: a tree book, a bird book and two mammal books. I had also brought some poster-sized copies of the Lumun area, downloaded from GoogleMaps. An encyclopaedia of the human body was already at hand.



FIGURE 2: Participants at the three-day Lumun Dictionary Workshop in Omdurman, January 2023

Apart from myself, but including the organisers, there were 21 participants: Abdu Hassan, Aiman Hassan, Ali Kandi, Amboni Abdurahman, Amira Ibrahim,

Awatif Amdalali, Hassan El-Nour † (front row, second from left in FIGURE 2), Ibrahim Mohammed, Jacklin Mohammed, John Shakir, Kuku Kalu, Lotti Tager, Luka Abdalla, Luka Kamsur, Musa Suleiman, Nadia Hamdan, Okkapi Ibrahim, Rumbek Markub, Santo Kulupathe, Yagoub Kumandan and Zacharia Abdalla. In age, the participants ranged from some in their twenties to some in their seventies or eighties. Since one of the planned themes was to name places in the Lumun homeland (Torru), care had been taken to ensure that the participants, almost all of whom had been living in or around the capital for many years, came from different parts of the Lumun area.

In the three days available, we could not cover all the topics selected. Finding idioms and ideophones proved difficult in the context of the workshop and without ample time to explain the concepts and give examples. Collecting words for diseases and disorders, too, needed more time than was available. Moreover, it seemed better to discuss diseases and disorders in a smaller group, with a few people who were particularly knowledgeable about them. In the context of the workshop there was no opportunity to do so. The collection of words for movements of the body was skipped altogether for lack of time. Around the other themes, however, the participants gathered many terms.

Nevertheless, I do not report here on all the topics addressed. This contribution contains only the names gathered around the themes of insects, kitchen items, clans, rituals (including an elaboration of the ritual steps taken when convening a hunting party) and places in the home area. I am able to report on these topics because, as we discussed these subjects, the words were written on the blackboard. I copied them into my notebook and also took some photos of the blackboard.

To collect names of trees, birds, mammals and body parts, on the other hand, participants worked in smaller groups and wrote the words in notebooks and in the picture books. It had been the organisers' intention to later type the collected items into the computer and add singular or plural counterparts and English translations. Overnight, this work became impossible due to the war that broke out on 15 April 2023. It must be assumed that most if not all data and materials from the workshop have been lost, except for those that I took back to the Netherlands: my own notebook, one of the copies of the map of the Lumun area with place names written on it, and the pictures on my camera.<sup>5</sup>

Before presenting the names of insects, kitchen items, clans, rituals and customs, including ritual steps to prepare a hunting party, and places in the Lumun area

---

<sup>5</sup> News came in the course of 2023 that the ECSTD building where the workshop had taken place had been looted, with computers and other equipment and materials taken or destroyed.

(in SECTION 4), I now first address some issues relating to the representation of the data.

### 3 Representation of the data

In this section, I discuss the spelling I use and make some remarks on the phonology of Lumun (SECTION 3.1). I then give some information about the morphology of nouns, in particular the formation of singulars and plurals (SECTION 3.2) and explain about the absence, in some cases, of singular counterparts of the nouns listed. In SECTION 3.3, I address the absence, in some cases, of English translations.

#### 3.1 Remarks on spelling and phonology

Most of the data here were collected during the workshop, but some come from my own database, which I built up in earlier years in collaboration with various speakers. A few additions were made during later contact with some of the organisers. During the workshop, the words were written down in the Lumun spelling as currently used by the Lumun team. This spelling was developed by the Lumun team, with the help of linguistic consultants, from the late 1990s onward and agreed upon, in various stages, by community members during community checks.<sup>6</sup>

Unlike in Smits (2017), I largely follow the Lumun spelling in this contribution. The Lumun spelling has <th> for the dentally articulated obstruent (which, depending on its environment, is realised as a voiceless plosive [t̥], a voiced plosive [d̥] or a voiced fricative [ð]), <'r> for the retroflex rhotic [ɽ], <ny> for the palatal nasal [ɲ] (unless when preceding c: though pronounced as a palatal, it is written n in such cases), and <ng> for the velar nasal [ŋ].<sup>7</sup>

<sup>6</sup> The current Lumun spelling is applied in the 2019 translation of the New Testament and some books of the Old Testament (*Lon iloporot loKapik, Natham n'rek noNatham noma'rot*). I have some early versions of the Lumun spelling rules, notably from 2005, 2006, 2008 and 2010.

<sup>7</sup> Lumun has series of allophonic obstruents at the bilabial, dental, alveolar, palatal and velar places of articulation, which are represented, respectively, by the phonemes /p/, /t̥/, /t/, /c/ and /k/. These phonemes have the following realisations: 1. between vowels, including very short automatic vowels which are omitted in the spelling, as voiced fricatives/approximants (and at the alveolar place of articulation as a tap/flap); 2. after nasals, as voiced stops; 3. in utterance final position, as unreleased voiceless stops; and 4. elsewhere (including in geminations), as (short!) voiceless stops. The (phonemic) spelling uses <p>, <th>, <t>, <c> and <k>, respectively, with actual realisations following from the environment. Thus, <apa> is realised as [aβa]; <alpa> is realised as [al'βa]; <ampa> is realised as [amba]; <pa> is realised as [pa] and <appa> is realised as [apa]. For further details, see Smits (2017).

Contrastive tongue root position in the high vowels, that is, a ‘light’ versus a ‘heavy’ vowel, as the Lumun describe the difference between –ATR and +ATR vowels in their language, is expressed in the Lumun spelling through the absence or presence of double dots on the vowel: –ATR <i> ([ɪ]) versus +ATR <ï> ([i̥]), and –ATR <u> ([ʊ]) versus +ATR <ü> ([u̥]). Phonetically, ATR differences also exist in the mid vowels, but these vowels are just written as <e> and <o>, because here the differences are not phonemic. The –ATR realisations ([ɛ] and [ɔ]) are the default realisations, while the +ATR variants ([e] and [o]) are only produced – automatically – in cases where the root contains a +ATR high vowel. For a phonological analysis of Lumun, including ATR, see chapter 2 of Smits (2017).

Consonant clusters other than nasal + stop (in that order) do not exist in Lumun. In any cluster other than nasal + stop, there is actually a vowel in between, which counts as a mora for tone. In Smits (2017), I analyse this vowel as a phonemic schwa (/ə/), which, depending on its environment, is realised as very short to (virtually) inaudible and is typically co-articulated with a following high or mid root-internal vowel. The Lumun spelling, however, has no representation for this vowel; in certain environments it is omitted altogether, in others it is represented by one of the vowels <a, e, o, i, u, ï, ü>. In this contribution, I omit this vowel when it is adjacent to a rhotic or a lateral, following Lumun spelling. This is unproblematic, since speakers will automatically produce it. Thus, for example, in *ngapri*, the name of an ant species, <pr> is not actually a consonant cluster: there is a very short vowel in between, which is coarticulated with the following root-internal high vowel: [ŋaβ̥rɪ]. On the other hand, contrary to the practice in Lumun spelling, I use <ə> when the very short vowel is in the initial position of the word preceding a rhotic or a lateral. I do this to avoid the suggestion that the word begins with a consonant. Thus, I write the plural of *krī* *krī* [kʰrɪu̥rɪ] ‘large wasp-like insect’ as *əri* *əri* ([ʔrɪrɪ]), not as <rī rī> (as it would be in Lumun spelling).

There are also environments where I analyse /ə/, but where the Lumun spelling does not use a zero representation but one of the vowels <a, e, o, i, u, ï, ü>. In such cases, I deviate from Lumun spelling, using <ə> in order to disambiguate the vowels. So, I write the plural of *kəpa* [kʰβ̥à] ‘very large clay bowl’ as *əpa* [ʔβ̥à], not as <apa> (as it would be in Lumun spelling).

Some speakers tend to write automatic glides, but I have omitted them, so *akku* *akku* [aku̥<sup>w</sup>aku] (plural form of an insect species, tones unknown), not *akkuwakku*.

An important difference between the Lumun spelling and the spelling I use in Smits (2017) is the writing of tone. In Lumun spelling, tone is not written. In this contribution, I provide a separate tonal representation between brackets in

those cases where I had the item with tones in my database.<sup>8</sup> Tone representations may sometimes be longer than perhaps expected. This is because the unwritten schwa (ə) carries a tone, as do both vowels in a diphthong. For example, *kri kri*, ‘large wasp-like insect’ has a L.H H.HL tone pattern [k<sup>1</sup>ri<sup>1</sup>ɥ<sup>1</sup>rî], while *cəmaun* ‘caterpillar, sp.’ has a L.L.H tone pattern [c<sup>ə</sup>màún]. An analysis of tone in Lumun can be found in chapter 3 of Smits (2017).

### 3.2 Remarks on morphology

In Lumun, the opposition between singular versus plural nouns is expressed by means of noun class prefixes. Such prefixes are typically consonants, but noun class may also be marked by the absence of an initial consonant, i.e., by a zero (Ø) prefix. Noun classes typically come in fixed pairs. Examples of noun class pairings are *c-/k-*, *c-/m-*, *p-/Ø* and *k(w)-/Ø* and there are still others. Within the above-mentioned pairs, *c-*, *p-* and *k(w)-* mark singular reference of the noun, while *k-*, *m-* and *Ø* mark plural reference of the noun. Nouns with certain semantics have a tendency to form singulars and plurals in specific class pairs. Nouns referring to roundish items, for example, have a tendency to belong to the *c-/m-* class pair. The list of items used for food preparation and consumption in SECTION 4.2 contains a number of such objects, but at the same time makes it clear that roundish objects do not always belong to this class pair. A discussion of Lumun noun classes and noun class pairings can be found in chapter 4 of Smits (2017).

When collecting nouns, workshop participants usually gave only one form – in some cases the singular, in other cases the plural. In the lists below, I provide both the singular and the plural form in most cases. This was possible because in some cases I had the forms in my database, while in others they are predictable with sufficient certainty. Wherever the singular or plural counterpart cannot be predicted with sufficient certainty, I have left a question mark. This is the case for plural nouns with the Ø prefix: some have their singular counterpart in the *k(w)-* class, others in the *p-* class.

The forms provided during the workshop are underlined in TABLE 1 and TABLE 2 in SECTION 4. When neither the singular nor the plural is underlined in these two tables, the item comes from my database.

---

<sup>8</sup> I use the following notation: H=high tone, L=low tone, HL=falling tone and LH=rising tone. The rising tone is always in word final position and is realised, in isolated words, as a level pitch that is somewhat higher than low pitch and that extends over all preceding L tones in the word.

### 3.3 English translations

Since the purpose of the workshop was the collection of Lumun words, and because meanings were, in most cases, known to the participants, English (or Arabic) translations were not written down, nor, in many cases, mentioned or discussed. Several translations I give here are based on data that I collected earlier. In some cases, the English translation was added later after consulting Okkapi Ibrahim or Luka Kamsur.

## 4 Datasets

In the next sections, I present the words and information collected around the following topics: insects (SECTION 4.1), kitchen items (SECTION 4.2), clans (SECTION 4.3), rituals, including rituals around organising a group hunt (SECTION 4.4), and place names (SECTION 4.5).

### 4.1 Insects (arthropods)

We used the English term ‘insects’ during the workshop, but names collected also include other living creatures in the phylum of arthropods, such as spiders, millipedes, centipedes and scorpions. In the context of this contribution, I just refer to all these names as ‘insect names’. A number of insect names involve reduplication; in such cases the class prefix also reduplicates. I have written the reduplicated names here as two words and added the phonetic transcriptions of some of these terms to show the sound effects across word boundaries. The sound effects are completely regular: they occur similarly between non-reduplicated adjacent words.

In some cases, I do not know whether the given term refers to a species (sp.) or is a generic term. As far as I know, there is no Lumun term that is (more or less) equivalent to ‘insects’ or ‘arthropods’.

TABLE 1 gives the terms in alphabetical order according to the singular form; n/a stands for ‘not available’. The list ends with a few items whose singular form I am not sure about. In those cases, I have put a question mark.

INSECT NAMES	TONES	ENGLISH TRANSLATION
<i>cakura/makura</i>	L.L.L	bug sp., brown, square-shaped, edible (both raw and fried); its body fluids taste hot (spicy) and stain the skin yellow
TO BE CONTINUED		

INSECT NAMES	TONES	ENGLISH TRANSLATION
<u>carin carin</u> / <u>marin marin</u> [carɪŋjarɪn], [marɪmarɪn]	L.L L.LH	millipede
<u>cəmaun</u> / <u>məmaun</u> or: <u>cəmoun</u> / <u>məmoun</u>	L.L.H	caterpillar sp.
<u>ciccaru</u> / <u>miccaru</u>	L.L.L	cockroach
<u>cipit</u> / <u>mipit</u>	L.HL	ant
<u>cirrit</u> / <u>mirit</u>	L.H	tick sp., grey, bites animals
<u>crot crot</u> / <u>mrot mrot</u> [cʰrɔcʰrɔtʰ], [mʰrɔmʰrɔtʰ]	n/a	n/a
<u>kai'ri</u> / <u>ai'ri</u>	L.L.HL	louse
<u>kara</u> / <u>ara</u>	L.L	tick
<u>karong karong</u> / <u>arong arong</u> [karɔŋgarɔŋ], [arɔŋarɔŋ]	L.L L.LH	dung beetle, feeds on dung and rolls dung balls; pretends to be dead if you touch it
<u>kat</u> (SG and PL)	L	locust, edible
<u>kathuk kathuk</u> / <u>athuk athuk</u> [kaðɔkaðɔkʰ], [aðɔqaðɔkʰ]	L.L.H.L	grasshopper sp., small, green, looks like a leaf and fights; the word is related to <i>kathuk</i> 'spear', because the insect has something sharp on its head
<u>kathuren</u> / <u>athuren</u>	n/a	n/a
<u>kaun</u> / <u>au</u>	L.HL	bee
<u>kri kri</u> / <u>əri əri</u> [kʰriɥʰri], [ʰri:ri]	L.H H.HL	large wasp-like insect; the body is divided into two parts
<u>kunu</u> / <u>unu</u> , or: <u>künü</u> / <u>ünü</u>	L.HL	scorpion
<u>kwalilin</u> / <u>alilin</u>	L.H.H	centipede
<u>kwaththang</u> / <u>aththang</u>	n/a	n/a
<u>kwo'rek</u> / <u>o'rek</u>	L.H	ant sp., black
TO BE CONTINUED		

INSECT NAMES	TONES	ENGLISH TRANSLATION
<i>ngalkottong/nyalkottong</i> also: <i>ngarkottong/nyarkottong</i>	L.L.L.HL	ant sp., small
<i>ngangan/nyangan</i>	<i>n/a</i>	<i>n/a</i>
<i>ngapri/nyapri</i>	L.L.L	ant sp., white
<i>ngathrenteng/nyathrenteng</i>	<i>n/a</i>	<i>n/a</i>
<i>ngimiththi/nyimiththi</i>	L.H.L	fly sp., lives on chickens
<i>ngo're/nyo're</i>	<i>n/a</i>	<i>n/a</i>
<i>pa'rak/a'rak</i>	L.H	fly
<i>pa'rono/a'rono</i>	L.L.L	ant sp.
<i>peren peren/eren eren</i> [pe're'me'ren], [e're'ne'ren]	L.H H.HL	fly sp., red colour on head, lays eggs in meat
<i>pi'riman pi'riman/</i> <i>i'riman i'riman</i>	L.L.L H.L.L	spider
<i>pit pit</i> (same for SG and PL) or: <i>pit pit</i> [pipit'] ([pipit'])	L L	flying insect, small and black, bites
<i>takkicece/nakkicece</i>	<i>n/a</i>	<i>n/a</i>
<i>tapimpiong/napimpiong</i>	L.L.L.L	ant sp., big and black
<i>tarungkwang/narungkwang</i>	L.L.L	grasshopper sp.
<i>tloun/nloun</i> . or: <i>tloun/nlloun</i>	L.L.H	caterpillar sp., big and hairy
<i>tokkun takkung/nokkun</i> <i>nakkung</i> , also: <i>takkun takkung/nakkun</i> <i>nakkung</i>	L.L H.L	mosquito
<i>t'rikiang/n'rikiang</i>	L.L.L.H	larva of caterpillar sp., green, looks like a worm, edible
<i>tukungkieng/nukungkieng</i>	L.L.H.L	<i>n/a</i>
<i>tupa/nupa</i> . or: <i>tüpa/nüpa</i>	L.L	caterpillar
<i>thakk'ruk thakk'ruk/</i> <i>lakk'ruk lakk'ruk</i> [tak <sup>u</sup> ɾutak <sup>u</sup> ɾuk'], [lak <sup>u</sup> ɾulak <sup>u</sup> ɾuk']	L.L.L H.L.L	butterfly
TO BE CONTINUED		

INSECT NAMES	TONES	ENGLISH TRANSLATION
<i>thunthut/lunthut</i>	<i>n/a</i>	<i>n/a</i>
<i>thura thura/lura lura</i> [turaðura], [luralura]	L.L L.L	insect sp., very small, does not bite, does not fly
?/akku akku [aku <sup>w</sup> aku]	<i>n/a</i>	<i>n/a</i>
?/ere	<i>n/a</i>	<i>n/a</i>
?/icit icin [iɟiriɟin]	<i>n/a</i>	<i>n/a</i>
?/ithithi	<i>n/a</i>	<i>n/a</i>
?/ocen	<i>n/a</i>	<i>n/a</i>

TABLE 1: Insects and other arthropods

#### 4.2 Kitchen items

A Lumun house (or compound) in the home area in the Nuba Mountains consists of several buildings (see, e.g., FIGURE 3), including a one-room building for storing (larger) pots, pans and bowls for food preparation. This room has a built-in grinding table (*cəna*) and cooking can be done inside it. Since this room has no dedicated name in Lumun, collecting words for ‘kitchen items’ gave rise to a discussion about what it could be called. Searching for an appropriate descriptive term, participants put forward *man mothu'rit* ‘room of food’, *man imakkəttat thu'rit tit* ‘room in which food is made’ and *noppān toco'rot* ‘in the room of the cooking stones’. The first one, *man mothu'rit*, was considered the best, as it reflects both the storage function of the room and the fact that food can be prepared inside it.

A Lumun house has not only a grinding table inside but also one outside in the compound, in a suitable location preferably somewhat sheltered from the wind. Whenever possible, grinding is done here, in the open air. Grinding is women’s work and is done every day to obtain the flour needed to make *ngü'rü* ‘asida’ (from Sudanese Arabic عَصيدة), the stiff porridge that is the staple food in the Lumun diet. The *cəna* ‘grinding table’ is also used to prepare other foods, such as paste and oil from groundnuts and sesame seeds.

Lumun kitchen items are typically made of calabash, clay or wood, but today items made of metal, plastic, glazed pottery and glass are also present, often referred to by the same terms. Spoons for eating (*app'ri*) are now usually made of metal instead of wood and a *caththak* ‘bowl’ is still typically made of calabash, but can also be made of metal or sometimes plastic.



FIGURE 3: Compound in the To'rmathon area

In the past, people used a large type of calabash vessel for fetching water, but nowadays almost everyone uses a plastic jerrycan. A plastic jerrycan has its own word, *paka*, a loan from Sudanese Arabic باغة (but the jerrycan was not mentioned by the participants). Hot tea is drunk from small glasses, but *ngəpak* (sorghum beer), is drunk from a calabash bowl and water is kept in a clay pot (*kummuk*). Stools are traditionally made of wood and rope, but nowadays they are also made of plastic; both are referred to by the word *prrok*. Various types of baskets are used when moving food (e.g., from the field to home, from the storage area to the cooking area or to and from the market), but they were not mentioned. Probably they are not primarily seen as ‘kitchen items’. This also applies to the word for knife (*k'rittang*), but since this is an important item in food preparation I added it in TABLE 2 below.

Cooking is done on a fire built within a construction of three stones (*c'rot*) and, like grinding, can be done inside (in the *man mothu'rit*) or outside in the compound. Where the outside cooking place is located in the compound varies from one house to another, just as the composition of the house as a whole varies depending on the needs of the family and on the rocky and hilly conditions of the terrain. FIGURE 4 shows a *c'rot* placed against the stone outer wall of the

compound, next to the granary (*pri*). A *pri*, with a small high opening, standing on stones to protect the food stored inside from rodents, is present in every Lumun compound.



FIGURE 4: *c'rot* 'cooking place made of three stones'

The names of the kitchen items mentioned follow here. They are not given in the precise order in which they were brought up by participants, but are more or less thematically arranged. The first item mentioned by participants was, however, the grinding table (*cəna*).

OBJECTS	TONES	ENGLISH TRANSLATION
<i>cəna/kəna</i>	L.L	grinding table
<i>ce/ke</i>	H	tool stone for grinding
<i>c'rot/m'rot</i>	L.H	set of three stones for building a fire for cooking (lit. 'stone')
<i>kəpa/əpa</i>	L.L	very large clay bowl for preparing sorghum beer
<i>thukkwa/lukkwa</i>	L.HL	sieve for preparing sorghum beer
<i>kapi/api</i>	L.H	cooking pot
TO BE CONTINUED		

OBJECTS	TONES	ENGLISH TRANSLATION
<u>kapi koü'rü</u>		cooking pot for porridge ( <i>asida</i> )
<u>kapi komait</u>		cooking pot for beans
<u>cakra/makra</u>	L.L.H	small pot
<u>cakra concul</u>	L.L.L H.L	small pot for soup/sauce (eaten with porridge ( <i>asida</i> ))
<u>we</u> (SG and PL)	L.HL	calabash or clay pot for fermenting a mixture of flour and water (the result is called <i>poun</i> and is used for cooking); the calabash or pot cannot be used again for something else
<u>kummuk/ummuk</u>	L.L	clay pot
<u>cakin/makin</u>	L.H	small calabash bowl with wide opening, typically used for water or soup (sauce) served together with <i>asida</i>
<u>caththak/maththak</u>	L.L	calabash bowl with wide opening; bigger ones are used for serving porridge ( <i>asida</i> )
<u>ngaththokkol/nyaththokkol</u>	L.L.HL	calabash container, smallest type; women carry a <i>ngaththokkol</i> with them so that they can drink when they pass a waterplace
<u>cakklok/makklok</u>	L.H.H	calabash container, bigger than <i>ngaththokkol</i> , typically with big opening on top
<u>cakkong/makkong</u>	L.HL	calabash container, same as <i>cakklok</i>
<u>cuthung/muthung,</u> or <u>cüthüing/müthüing</u>	L.HL	calabash container, medium-sized, bigger than <i>cakklok</i> (or <i>cakkong</i> ), with small opening on top, used for beer or water (Water, unlike beer, cannot be kept in a calabash vessel for a longer time because the calabash gives off a taste. Water for drinking is stored in a <i>kummuk</i> .)
<u>parantang/arantang</u>	L.L.H	calabash container, bigger than <i>cuthung</i> , smaller than <i>c'roki</i>

TO BE CONTINUED

OBJECTS	TONES	ENGLISH TRANSLATION
<i>c'roki/m'roki</i>	L.L.L	calabash container, biggest type
<i>karuk/aruk</i>		calabash container with big opening on the side, medium-sized, used in Tha'ru
<i>thontrro/lontrro</i>	L.L.L	calabash container with long neck
<i>cu'ru/mu'ru</i>	L.L	calabash container with long neck; term is also used for a plastic or glass bottle
<i>thongku'rong/ longku'rong</i>	L.L.LH	deep calabash container, used only for dry foods such as beans and sesame
<i>kuru/uru</i>	L.H	colander: a <i>caththak</i> in which holes were made, used for making traditional salty soup/sauce, <i>ngucul iira</i> , from ashes of the wood of <i>pe</i> , a gum tree, and water
<i>cit/miit</i>	H	calabash chip for scooping
<i>cit cou'rii</i>	L H.L.HL	calabash chip used for scooping porridge ( <i>asida</i> ) from the cooking pot into the <i>caththak</i> in which it is served (lit. 'calabash chip of <i>asida</i> ').
<i>cit corikapi</i>	L L.L.L.H	calabash chip used for scooping porridge ( <i>asida</i> ) from the cooking pot into the <i>caththak</i> in which it is served (lit. 'calabash chip of in the pot').
<i>kapp'ri/app'ri</i>	L.L.H	spoon
<i>k'rittang/ə'rittang</i>	L.L.LH	knife
<i>app'ri wo'ren</i>	L.L.L H.L	wooden spoon
<i>k'reke/ə'reke</i>	L.L.HL	wooden tool for stirring porridge ( <i>asida</i> )
<i>cinya/minya</i>	<i>n/a</i>	<i>n/a</i>
<i>prrok/ərrrok</i>	L.L	stool
<i>thar/lar</i>	L.H	rope net hung to store things in
<i>pung/ung</i>	LH	rack or shelf for storage

TABLE 2: *A'ɬpu woriman mothu'rit* 'kitchen items' (lit. 'things of in the room of food')

### 4.3 Clans

All participants immediately agreed that there are ten Lumun clans. For ‘clan’, participants used the word *kuthuk* (L.L), plural *uthuk*. The first meaning of *kuthuk* is ‘fenced place or shelter for cows or goats where they spend the night’. In addition, *kuthuk* refers to a group or clan of people who are related to each other, but family relationships do not need to be close. Other words that were mentioned during the discussion about the term for ‘clan’ or ‘clans’ are *məntok*, singular *cəntok*, and the reduplicated form of *məntok*: *məntoməntok*. However, participants preferred *uthuk* or *uthuk wArru* ‘clans of the Arru (=Lumun people)’.<sup>9</sup> Reduplicated forms of this word also came up as alternatives: *uthuk uthuk wArru* and *kuthtuk kuthuk kArru*, the latter a reduplication of the singular form with plural reference. Bigger clans, such as *Pa'ria* and *Cəmore*, are made up of several smaller *uthuk*.

The names of the Lumun clans are most often formed in the (singular) *p*- class; just one clan name is formed in the (singular) *c*- class. These are the ten *uthuk wArru* ‘Lumun clans’:

*Pa'ria; Cəmore; Pammu; Pepian; Pallok; Pacu'rol; Parat; Pacu'ri; Pacencen; Pau'reng*

It would be interesting to have more information about the clans, such as, for example, the origins/meanings of the clan names, ritual and other specialisations of specific clans, famous persons and histories within the clans, (historical) areas of residence and historical relations between the clans. It would also be interesting to know what determines clan membership and whether and how clans still play a role today.<sup>10</sup>

### 4.4 Rituals and customs

Participants brought up *thathuma* as a general term for ‘rituals, customs, traditions’. For their own (Lumun) rituals and customs, they agreed on *thathuma thArru* (lit. ‘rituals/customs of the Lumun’), or alternatively, *thathuma thArru thomai* (lit. ‘rituals/customs of the Lumun of the past’). The latter expression indicates that some of the rituals are no longer practised, or are no longer practised in their entirety or by everyone. Whether and to what extent the various traditions mentioned by participants are still adhered to today was not discussed during the workshop. However, *thap'reththa* ‘being beaten while running’, the

<sup>9</sup> In Lumun spelling, proper names are capitalised. If there is a prefix or proclitic marker, the capital letter is not in the initial position of the word.

<sup>10</sup> For the clan system of the Tima ethnic group in the Nuba Mountains, see Meerpohl (2012) and Veit & Schneider-Blum (2024).

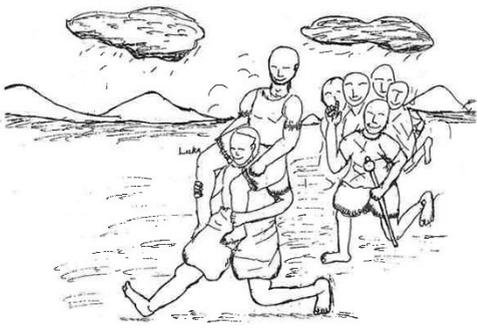
first ritual mentioned by participants, was most recently organised in 2010 after decades of not taking place because of the war. Those who had missed the ritual could still undergo it this way, but not everybody seized the opportunity.

TABLE 3 presents the *thathuma thArru* ‘rituals, customs, traditions of the Lumun’ in the same form and order as they were put forward during the workshop. Some terms, such as *thap'reththa* ‘being beaten while running’ and *thomeko* ‘scarification’, are names of rituals, while others rather denote events and actions to which rituals are attached, such as *thora* ‘cultivating’ and *kəmel* ‘group hunt’. In some cases, I give the literal translation of the Lumun expression but do not know what the ritual or custom entails, nor to what kind of event it is linked; in such cases I put a question mark. TABLE 3 certainly does not provide a comprehensive list of rituals. Comprehensiveness is not possible simply because what constitutes a ritual, custom or tradition is not something clearly defined, but also because in the out-of-context situation of the workshop and in the limited time available, participants will not have thought of everything. Moreover, participants may have been reluctant, for various reasons, to bring to the fore each and every ritual or tradition that came to mind.

I added three rituals/customs which were not discussed during the workshop, but which I had in my database: *thoccie ukul k'ran* ‘naming a child’ (lit. ‘making a child receive its name’), the initiation rite of *thopokot icəpu* ‘being beaten on the ground’ and *ngu'ruṭəne* ‘adult male circumcision’. Like *thap'reththa*, *thopokot icəpu* is a beating ritual, but now the person undergoing it is not running and trying to escape from it, but has to sit on the ground or stand and take the beating. The word *cəpu* (contained in *thopokot icəpu*) refers to a shallow hole in the ground. The ritual of *ngu'ruṭəne* can be performed only if all the previous steps to becoming a full-fledged member of the community have been completed. Circumcision is something that must be requested from the elders and the elders decide whether a man has qualified for this last step (Shakir 2003).

Several terms mentioned in this context are verbal nouns. Verbal nouns are formed in the *th-* noun class, do not display singular/plural opposition and have a L\*.LH tone pattern (Smits 2017: 161-162).

RITUAL, CUSTOM	TONES	ENGLISH TRANSLATION (EXPLANATION)
<i>thap'reththa</i>	L.L.L.LH	being beaten while running (initiation ritual to become a fully respected member of the community)
TO BE CONTINUED		

RITUAL, CUSTOM	TONES	ENGLISH TRANSLATION (EXPLANATION)
<i>thomeko</i>	L.L.LH	<p>scarification (initiation ritual to become a fully respected member of the community)</p>  <p>(Drawing by Luka Kamsur in <i>Thomeko</i>, written by Lotti Tager)</p>
<i>thocinto</i>	L.L.LH	<p>wrestling</p>  <p>(Drawing by Luka Kamsur in <i>Oconto</i>, written by Luka Kamsur)</p>
<i>thothatto</i>	L.L.LH	fighting
<i>thukkwo</i>	L.LH	dancing (this possibly refers to the dancing done during the period of composing and singing songs, which was a stage (for men?) to become a fully respected member of the community)
<i>thokkwe calle</i>		? lit. 'hitting the ball'
<i>thokwot pæthok</i>		? lit. 'igniting the stone'
<i>thipitto</i>	L.L.LH	? lit. 'asking, greeting, visiting'
TO BE CONTINUED		

RITUAL, CUSTOM	TONES	ENGLISH TRANSLATION (EXPLANATION)
<i>carəmakka</i>		<i>n/a</i>
<i>thipa</i>	L.L	marriage
<i>thocikkaro</i>	L.L.LH	burial The deceased is put in the grave on the same day as he or she dies, preferably within hours, but a brother must be present and the family can wait for the brother to arrive. Traditionally, the burial was delayed if the person was believed to have died from a curse that could affect others in the family as well. Such a curse had to be dealt with first. For example, if the deceased had stolen a goat and eaten from it, he or she was believed to have fallen victim to <i>thokkwo mio</i> 'putting a spell on somebody'.
<i>thokkwo mio</i> , also: <i>thokwo mio</i>		swearing an oath, putting a spell on somebody
<i>thorrikot ng'ri</i>		? lit. '...ing water'
<i>kəmel</i>	L.L	group hunt
<i>thora</i>	L.LH	? lit. 'cultivating'
<i>thothukkwo thu'rit</i>		? lit. 'throwing out food'
<i>thoccokot kapik</i>	L.L.L H.L	? lit. 'catching the rain'
<i>thokko nti ittāk</i>		? lit. 'move from/out of the field'
<i>thucung</i>		probably a ritual to remedy infertility in a woman The term appears to be related to <i>pucung</i> (L.LH) 'barren woman'.
<i>thonyirikko</i> , or: <i>thonyi'rikko</i>	L.L.L.LH	performing a ritual at the grave three days after burial On the third day after the funeral, someone from the deceased's family, but not a child, would go to the grave very early in the morning, the last few metres on his/her knees, to hear from the deceased what the cause of death was.
TO BE CONTINUED		

RITUAL, CUSTOM	TONES	ENGLISH TRANSLATION (EXPLANATION)
<i>ngəpak ngoung(w)e</i>		lit. ‘beer of mourning’: seven days after the burial, beer is served to all people who come by
<i>thokelekot lo'rək</i>		gathering held a year after the burial, marking a closure of bonds to the deceased (lit. ‘untie the ropes/strings’)
<i>kikkillan</i> , or: <i>kikilan</i>	L.L.LH	traditional ceremonial/ritual objects
<i>thoccie ukul k'ran</i>	L.L.L H.L L.L	naming ceremony, lit. ‘making a child receive its name’
<i>thopokot icəpu</i>	L.L.HL	being beaten on the ground (while sitting or standing): initiation ritual to become a fully respected member of the community
<i>ngu'ruṭəne</i>	L.L.H.L	adult male circumcision This used to be (is?) the final step for men in becoming fully respected members of the community.

TABLE 3: *Thathuma thArru* ‘rituals, customs, traditions of the Lumun’

Ritual steps in initiating a group hunt

One of the elder participants in workshop, Santo Kulupathe, was asked by the group to give the sequence of ritual acts to be performed upon initiating a *kəmel*, a ‘group hunt’. These are the steps to initiate a group hunt as Santo described them:

*Thipo kəmel* ‘initiating a group hunt’<sup>11</sup>

- (1) *pul p-o-kəmel p-i'riko*  
 person C-of-group\_hunt C-pass\_entrance.INCOMPL  
 ‘The leader of the group hunt arrives.’
- (2) *kw-akwot thik ikkilan*  
 3.C-ignite.INCOMPL fire in.ceremonial\_objects  
 ‘He ignites a fire between the ceremonial objects.’

<sup>11</sup> The same labels are used for glossing the verbal inflection as in Smits (2017).





- (23) *amma ul w-opettakothaik*  
 when people C-scatter.COMPL  
 ‘When the people have scattered,’
- (24) *ana ok-kwi i-p-immat pa-p-'rek*<sup>13</sup>  
 and 3-this REL-C-see.COMPL thing-C-some  
 ‘the one who sees an animal (lit. ‘a thing’)
- (25) *a-kw-i're itti*  
 CONJ-C-say.DEPINCOMPL that  
 ‘he must say:’
- (26) *arro<sup>14</sup>-p-en to-kit ana itti*  
 CONJ.thing-C-REF at-eyes and that  
 ‘“The animal is in front of us”, or,’
- (27) *arro-p-en tho-cæken ana itti*  
 CONJ.thing-C-REF at-lower\_back and that  
 ‘“The animal is behind us”, or,’
- (28) *arro-p-en opa'ro ana itti*  
 CONJ.thing-C-DEM go\_level.DEPINCOMPL and that  
 ‘“The animal is going level (neither up nor down)”, or,’
- (29) *arro-p-en uo ana itti*  
 CONJ.thing-C-DEM descend.DEPINCOMPL and that  
 ‘“The animal is descending”, or,’
- (30) *arro-p-en opakkot tho-cæken*  
 CONJ.thing-C-DEM return.DEPINCOMPL at-lower\_back  
 ‘“The animal is turning back”.’

I do not know if group hunts are still organised occasionally. There are certainly fewer wild animals than there were in the past.

## 5 Place names

The most special part of the workshop was perhaps the gathering of place names in the Lumun homeland. In the Lumun language, the home area is called *Torru* (*to* + *Arru*), literally ‘(up) at the Arru’, with Arru being the autonym of the

<sup>13</sup> *pa* is short for *papu* ‘thing’, which is also used for animals.

<sup>14</sup> *arro* might come from *a'rpū* ‘things’ (plural of *papu* ‘thing’), although *arropen* was translated with a singular, namely as ‘the animal’ (i.e., the animal the speaker spotted).

Lumun people. In Arabic, the home area is called *Jebel Lumun* ‘Lumun Mountain’. We used a projector to show a map of the Lumun area (taken from GoogleMaps) to participants on a canvas screen. This made for very lively discussions about how to walk from one place to another and which places you pass by when you do so. Many names of places were brought forward.

As a next step, participants were split into two groups, based on their knowledge of specific areas. Both groups were given a 90x50cm paper map of the Lumun area and surroundings downloaded from GoogleMaps. One group wrote place names on the map in the northern part of the Lumun area (including *To'rmathon*), while the other group wrote place names in the southern part of the Lumun area (including *Toumang* and *Tha'ru*). Okkapi Ibrahim finally completed each of the maps with the place names of the other one and with a list of place names on the side. One of these copies I took with me to the Netherlands; it is included in this contribution (see Appendix: Map of the Lumun area, p. 284).

The Lumun language has no dedicated words for ‘village’, ‘town’ or ‘hamlet’. Place names refer to bigger or smaller patches of land that may or may not be inhabited. Houses are scattered, closer together in areas where water can easily be reached and further apart in more difficult terrain. Bigger areas include the valley of *Tho'ri* (‘At the water’), which has a riverbed which is dry in the dry season but contains water in the wet season, and the plateau of *Tha'ru*, where there is a swampy area that remains wet throughout the year and where lemon trees grow and even banana plants. *To'rmathon* is a larger hill area on the mountain, part of which, the so-called inner *To'rmathon*, is especially remote. *To'rmathon* is considered the heartland of the Lumun people, from where people later moved to areas such as *Tha'ru* when the water place was found there, and to *Tho'ri* which, as a valley at the side of the Lumun area, is more easily connected with the ‘outside world’, including a larger market place.

The names mentioned on the map are listed below. I have grouped them together in, I hope, more or less geographically natural groups, in order to make them easier to find on the map. The groups do not reflect administrative or other boundaries, though I have tried to keep larger areas such as *Tho'ri*, *Toumang*, *Tha'ru* and *To'rmathon* more or less together, even if I do not always know which places are considered to belong to which larger area. Apart from places in the Lumun area, the map also mentions some places in the Tocho area (south of the Lumun area), as well as places on the plains to the north and north-east of the Lumun area and in the area to the west of the Lumun land. These places are populated by other peoples or have a mixed population with people belonging to different ethnic groups. Notably, several places in the eastern part of the Lumun area have a Tira Lumun or a mixed Lumun and Tira Lumun

population. Tira Lumun are speakers of the Tira language who, having fled from their own area, were allowed to settle there in the past. They are considered part of the larger Lumun community, though, increasingly, the younger generation no longer speaks or understands Lumun, only Tira.

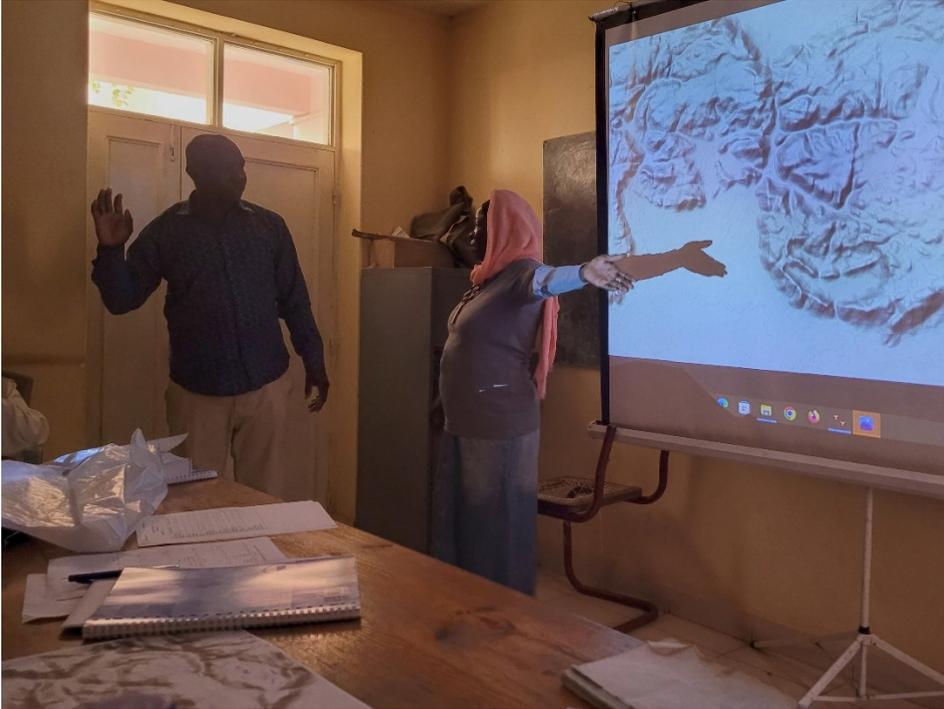


FIGURE 5: Zacharia Abdalla and Nadia Hamdan discussing place names

Lumun place names typically begin with one of the four prepositional clitics in the language: *i-* ‘in, between’, *no-* ‘at, on’, *tho-* ‘(down) at’ and *to-* ‘(up) at’. *Iarr* (or *Iar*), for example, translates as ‘in the mud’, *Icu’rol* as ‘in the cave’ and *Toththok Popimom* as ‘on the stone/the land of the porcupine’. The prepositional clitics *tho-* and *to-* in place names tend to relate to the altitude of the place. Places with *tho-* tend to be further down the mountain, places with *to-* further up the mountain (see also Smits 2017). Vanderelst (2016) reports the same for the cognate locative markers in the related language Dagik. He also mentions a tendency for Dagik place names with the marker that is cognate with Lumun *tho-* to be located to the south of the Dagik area, and for those with the marker cognate with Lumun *to-* to be located to the north of the Dagik area (Vanderelst 2016: 187-190). I am not aware of a north-south meaning element in Lumun *tho-* and *to-*.

I added the literal translations of place names in the lists below, as far as they were available to me. They include references to such things as the presence of water, certain trees or animals, the flat or rocky nature of the terrain and the people living there. Not all place names, however, have a clear etymology.

The places mentioned on the map follow here; the map itself is included in this contribution as an appendix.

Places north of Lumun Mountain, in the plains (with population of Lumun and other ethnic groups):

*Topon Kethipar* (or: *Topon Kothipar*) ‘At the field of Thi-par’; *Thok’ral* ‘At the depression in the rock’; *Tocau*; *Nolampang Ilo’re* ‘On the red plains’ (there are two different places with this name); *Ithakek*; *Thocor*; *Iarr* (= *Iar*) ‘In the mud’; *Immu*; *Thaperi*; *Thontri*; *Antrpa*; *Thopangka*

Places at the foot or against the north side of Lumun Mountain:

*Ciperingka*; *Thellung*; *Thopau*; *Ithu’ru*; *Icu’rol Comana* ‘In the cave of?’; *Nolper* (there are two different places with this name); *Tho’riman*

Places on the mountain, in the northern part of the area north-east of *Tharun* (this area, or at least part of this area, is called *To’rmathon*):

*Toperrek*; *Nokuru*; *Tokin*; *Tongkun*; *Icang*; *Totharangkang* (or: *Tothrangrang*); *To’ran*; *Thoumu*; *Thop’ra*; *Ipurang*; *Icapu* ‘In the ground’; *Thoce’re*; *Thorok* ‘At the well’; *Thou’ruccu* ‘At the feathers’; *Top’e’rung*; *Toththok* ‘On the stone’; *Toke’ri*

Places in the southern part of the area north and north-east of *Tharun*, east of the valley of *Ithuttu*. This area comprises the inner *To’rmathon* area, including the actual place called *To’rmathon*. *Ithuttu* separates the Acheron area from the Lumun area. Places in this area, roughly from west to east, are:

*Ithuttu*; *Toththok Popimon* ‘On the stone (land) of the porcupine’; *Thothullut*; *Touwang* (or: *Touang*); *Therepe*; *To’rmathon*; *Nolampang Ilo’re* ‘On the red plains’ (there are two different places with this name); *Topurat*; *Topi’riman* ‘At the spider’; *Tothrang*; *To’rkeni*; *Toce*; *Tocithin*; *Tho’rpu*; *Top’rincin* ‘At the tree sp.’; *Tho’rmu*; *Thomothi*; *Thokkeppa*; *Tokkwe’ri*; *Tho’ruun* (or: *Tho’run*)

Places to the north-east on Lumun Mountain tend to have a mixed Lumun and Tira Lumun population; places down from the mountain on the north-east side tend to have a predominantly Tira Lumun population. Places in these areas are:

*Thoppe; Nolper* (there are two different places with this name);  
*Thompore* (also called *Luge*); *Kwia; Thope'rong* 'At the palm tree';  
*Thopumpung; Tother; Thorungkun; Tothellung; Thocü'rü; Tora; Icat;*  
*Tocu*

Immediately to the south-east of *Tharun* lies the *Toumang* area. Probably, like *To'rmathon*, *Toumang* denotes both a specific place called *Toumang* and the larger area. Places here are:

*Toukkwa; Tothungkun; To'ron; Topian; To'rimal; Tha're; Topa'ro;*  
*Toporo; Tothunang; Toumang; Thocong; Tue Tapero* 'River of ?'

The area east of *Toumang* comprises *Tha'ru*, a relatively large flat area, where there is abundant water. The name *Tha'ru* is probably used for both a smaller place and the larger area that includes it. Place names in this area, which lies east of *Toumang*, are, roughly from north to south:

*Tho'rmu; Topithong; Toruang; Tha'rkek; Tha'ru; Topo're; Thou; Tholpi;*  
*Thocauthin*

Places in the area east of *Tha'ru* tend to have a mixed Lumun and Tira Lumun population, and in some cases a predominantly or exclusively Tira Lumun population. *To'rono* is the former living place of the A'rono people, whose (virtually) extinct language is known in the literature as Torona (see, amongst others, Norton & Alaki 2015). As far as I know, *To'rono* and surroundings are today deserted. Place names in this area, roughly from north-west to south-east, are:

*Nomantit* 'At the *mantit* (edible, luck-bringing, snake-like animals)';  
*Tharong; Tomaca; Tottue; Tokki; Kili; Thaccal; Tonthuruk; To'rono* 'At  
 the A'rono (Torona) people'; *Thocoro; Therpung; Thomiat*

At the south-western and southern edge of Lumun Mountain, the places *Tocau*, *Tho'ri* 'At the water' and *Tocurak* border to the west on the Acheron area, and to the south-west and south on the Tocho area. Place names on the south-western and southern edge of Lumun Mountain are:

*Tocau; Tho'ri; Tocurak; Thorok thaape* (or: *Thorok thape*) 'At the water  
 place of fish'

South of *Tocurak* lies the Tocho area, which in the Lumun language is called *Thoppo* 'At the Appo (Tocho) people'. Place names mentioned in the Tocho area are:

*Topra* 'At the grass sp.'; *Iciththinik*

*Tou* lies west of Tocho Mountain and most probably has a mixed population.

## 6 Closing remarks

In the sections above, I presented the results of the Lumun dictionary workshop held in January 2023 as far as they were available to me, even though the data are sometimes incomplete. In these closing remarks, I would like to thank the organisers, participants and all the others who were involved in the workshop for making it possible and a success. *Loprot kannan!*

The workshop showed just how much fun it is to do word collection together in a group, and how fruitful. Participants contributed their knowledge or asked questions of others with more experience in a particular field; they gave each other ideas and complemented each other. Animated discussions sometimes ensued, for example about places you pass by when walking certain routes. It was useful to have several topics prepared, so that when a topic proved difficult – like ideophones – or was perhaps of less interest to the participants, it was not difficult for the organisers leading the discussions to switch to another topic.

Apart from the place names, the word collection reported on here was done without the aid of pictures. In the case of trees and animals (not reported on here), I am not sure if the picture books actually helped, apart perhaps from sometimes finding the translation for a Lumun term that had come to mind. Picture books were in any case better used in small groups so that everyone could see the pictures clearly. Large projections of the map of the Lumun area enabled participants to explain to each other how to understand the map. The outline of Mount Lumun and the contour lines on the mountain enabled several participants to precisely imagine routes through the mountainous terrain. The use of poster-sized maps on which participants could draw the places in smaller groups led to animated collaborations.

But, as mentioned earlier, the workshop results need to be supplemented with English (and/or Arabic) translations, with singular forms in some cases and preferably also with tone patterns where these are lacking. I hope very much that this contribution will encourage further work on a dictionary in the Lumun community. Additional terms can certainly still be found and many other topics are waiting to be explored.

## Abbreviations

3	third person SG	INCOMPL	incompletive
ABS	absolute form	lit.	literally
	of preposition	k.o.	kind of
C	concord	n/a	not available
CONJ	conjunctive	PL	plural
	particle	POSS	possessive pronoun
COMPL	completive	PR	present
DEM	demonstrative	PRO	common noun
DEPINCOMPL	dependent		pronominal clitic
	incompletive	REL	relative marker
DEPPRFV	dependent	SG	singular
	perfective	sp.	species

## References

- Eberhard, David M., Gary F. Simons & Charles D. Fennig (eds.). 2024. *Ethnologue: Languages of the World*. 27th edition. Dallas, Texas: SIL <http://www.ethnologue.com> (accessed on 05/05/2024).
- Kamsur, Luka. 2009a. *Laka lokira: Roots*. Trial edition. Khartoum: Sudan Workshop Programme.
- Kamsur, Luka. 2009b. *Oconto: Wrestling*. Trial edition. Khartoum: Sudan Workshop Programme.
- Kamsur, Luka. 2009c. *Thora makal: Cultivation of sisimi*. Trial edition. Khartoum: Sudan Workshop Programme.
- Kamsur, Luka, Lotti Tager, Markos Lalu & John Shakir. 2016. *A'rupu iartta: Lumun Roots and Fruits Book*. First edition/trial edition. Khartoum: Sudan Workshop Programme.
- Kukku Alaki, Löccö Thömas, & Lötti Youhanna Kusadi Simaan Kukku. 1998. *Atham wöthö nganto – Wörokīt*. First trial edition. Khartoum: Khartoum Workshop Programme.
- Kuku, Thomas, John Shakir, Luka Kamsur & Lotti Tager Arkatha. 2006. *Lumun-English Dictionary*. Trial edition. Khartoum. Typescript.
- Lon iloporot loKapik, natham n'rek noNatham noma'rot*. 2019. Khartoum: ECS Literacy and Bible Translation Department Diocese of Khartoum.
- Meerpohl, Meike. 2012. *The Tima of the Nuba Mountains (Sudan). A Social Anthropological Study*. Cologne: Rüdiger Köppe.
- Norton, Russell & Thomas Kuku Alaki. 2015. The Talodi languages: A comparative-historical analysis. *Occasional Papers in the Study of Sudanese Languages* 11. 31-161.

- Orouth*. 1999. First trial edition. Khartoum: Lumun Bible Translation Committee.
- Orouth*. 2001. First edition. Khartoum: Lumun Bible Translation Committee.
- Seligman, Brenda Z. 1910/1911. Note on the language of the Nubas of Southern Kordofan. *Zeitschrift für Kolonialsprachen* 1. 167-188.
- Shakir, John. 2003. *Thothakka pul ipocura iarru: To become a (full-fledged) Lumun man (or elder)*. Typescript.
- Shakir, John, Luka Kamsur, Lotti Tager, Markos Lalu & Thomas Kuku. 2009. *Lumun noun list*. Trial edition. Khartoum: Sudan Workshop Programme.
- Smits, Heleen. 2017. *A Grammar of Lumun: A Kordofanian Language of Sudan*. Vol. 1 and 2. Utrecht: LOT.
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimaṅ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Tager Arkatha Chaman, Lotti. 2009. *Thomeko: Cultural rank*. Trial edition. Khartoum: Sudan Workshop Programme.
- Vanderelst, John. 2016. *A Grammar of Dagik: A Kordofanian Language of Sudan*. Cologne: Rüdiger Köppe.
- Veit, Nataliya & Gertrud Schneider-Blum. 2024. Kin-relational expressions of the Tima (Nuba Mountains, Sudan). In Andrea Hollington, Alice Mitchell & Nico Nassenstein (eds.), *Anthropological Linguistics – Perspectives from Africa*, 223-252. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/clu.23.09vei>



# Changes to Talodi nouns in Lafofa

*Russell Norton*

## 1 Introduction

Lafofa shares many basic nouns with the Talodi languages, although they are generally shorter in Lafofa, and it is difficult to decide whether they were borrowed into Lafofoid or whether they are a shared inheritance from a common ancestor of the two families. In this study, the processes affecting these nouns are described: consonant and vowel fronting, final consonant loss, final  $V_2$  changes (loss, metathesis, and lowering), strong consonant loss and second syllable truncation. I also consider whether there is evidence as to whether these changes happened during internal evolution or loanword adaptation, finding that the latter two processes are adaptive.

A contact scenario will also be supported by bilingual compound nouns, a trilled plural class prefix *r-* and final velar nasal *ŋ*, secondary Lafofoid glosses in the Talodi language Daloka and the *Wanderwort* ‘knife’. The borrowing analysis is surprising because most of the nouns affected are animal body parts, which are usually very stable historically, but there appear to be social considerations here that override the usual constraint against the borrowing of body parts.

We begin with an overview of the two language families as currently understood, and the problems of describing their connection to each other.<sup>1</sup>

### 1.1 Lafofoid languages

There are two Lafofoid languages spoken in the far south-east Nuba Mountains. First, the Lafofa language (also called Tegem in the literature; see below for discussion of the latter term) is spoken in Lafofa village on Jebel El Liri and in eight more villages around Jebel El Liri (Manger 1994: 35-36), with another dialect spoken at Jebel Tekeim further east (Stevenson 1956:

---

<sup>1</sup> List of abbreviations used: AGR agreement marker, CL class marker, DERI derivational marker, FEM feminine, NEUT neuter, PL plural, SG singular.

102). Sosal (2018: 28) finds that the phoneme /n/, pronounced [n]~[ŋ] in the Jebel Tekeim dialect, has a newer pronunciation [l] in the El Liri dialect. There are 1,500 speakers in the Lafofa-speaking area, with the same number living elsewhere in urban centres, although as with other Nuba Mountain languages, many of the diasporan urban youth do not speak the language proficiently.<sup>2</sup> The existing linguistic data on Lafofa consists of a number of wordlists (Seligman 1911, McDiarmid & McDiarmid 1931, Stevenson mss., Schadeberg 1981, Thelwall in Schadeberg 1981, Sosal as described in Sosal 2018: 15) and descriptive notes (Stevenson 1956-1957, 1962-1964, Tucker & Bryan 1966, Schadeberg 1981), plus a more recent M.A. thesis on the phonology (Sosal 2018).

The second Lafofoid language, Amira, is spoken at Jebel El Amira to the south of the Lafofa-speaking villages, by a smaller community of not more than 500 people.<sup>3</sup> It is worth highlighting that the linguistic data available for this language is extremely limited so far, consisting only of what was collected by the MacDiarmids in their survey of the Nuba Mountains in 1930-1931. There is a sample 20-word list published in MacDiarmid & MacDiarmid (1931: 155), a 70-word list found in Stevenson's notes and circulated by Blench (2013b), and some pronominal paradigms and a few phrases shown in Stevenson (1957: 44-45). Authors familiar with the Lafofa and Amira data have asserted that Amira is a distinct language (Stevenson 1962-64, Greenberg 1963, Blench 2013a), and I concur after finding 65% lexical similarity to Lafofa in the available word lists (13/20 and 47/70). The Amira lexicon is also distinguished by the suppletive singular/plural pairs *kejo/ela* 'man/men' and *pinembo/ninon* 'woman/women', where curiously, none of these four roots are reported in Lafofa (*k-/amée* 'man/men', *pu-máá-bu/a-máá-ḍu* 'woman/women'; Schadeberg 1981). The paucity of Amira data means it plays only a minimal role in the analysis in this paper ('belly' in SECTION 2.3).

Another term, Tekem (Tekeim, Tegem), needs to be distinguished from the names of the Lafofa and Amira languages, as it is an ethnonym that covers speakers of both languages. 'Tekem' is the basic form, with an Arabicised variant 'Tekeim' employing an iambic CVCVVC word shape, and an indigenous variant 'Tegem' due to variable intervocalic voicing. Lafofa speakers use Tekem (Tekeim, Tegem) as their autonym,<sup>4</sup> and identify Jebel

<sup>2</sup> Source: Omar Ali Kunja, Khartoum State Deputy Mek of Tekeim.

<sup>3</sup> Source: Omar Ali Kunja, Khartoum State Deputy Mek of Tekeim. This also matches the estimate of 300 (Norton & Alaki 2015: 63) implied by the 60 taxpayers earlier reported by Stevenson (1956: 102).

<sup>4</sup> Source: Omar Ali Kunja, Khartoum State Deputy Mek of Tekeim. Schadeberg (1981: 15) likewise has *teḡem* as an "ethnic name", which also occurs as a modifier in a

Tekeim as their former home before many moved to Jebel El Liri in the 1880s,<sup>5</sup> but Amira speakers are counted among the Tekem people as well.<sup>6</sup>

The extension of the ethnonym Tekem (Tekeim, Tegem) to Amira speakers means that it does not have exclusive reference to the first of the two language communities in this cluster, as it has sometimes been used. The name Lafofa, on the other hand, is the name of the central village of the first language community and thus properly distinguishes it from the Amira language community. We can then employ the term Lafofoid for the language cluster consisting of Lafofa and Amira, derived from the more populous of the two languages (Norton 2018b).

## 1.2 Talodi languages

I have compared the available Lafofoid data with my own work on the Talodi languages (Norton & Alaki 2015, Norton 2018a), which builds on Schadeberg (1981). Talodi languages are spoken by nine communities living near the road from Kadugli through Talodi and Tunguru in the south-east Nuba Mountains (Stevenson 1956: 101-102). Lumun-Torona is found to be a separate branch from the Narrow Talodi branch known from Schadeberg (1981), but closely related to it, distinguished by lists of lexical and grammatical isoglosses. The seven languages of the Narrow Talodi branch itself display a chain pattern of overlapping forms consistent with a former dialect cluster that has dispersed to new sites in the area. The Nding language, in particular, is spoken in Dayo [t̥ayɔŋ] village on Jebel El Liri, where it has been in contact with the Lafofa language for over a century (Seligman 1911).

The Talodi languages with their ISO 639-3 identifier codes are as follows:

- Lumun-Torona branch
  1. Lumun [lmd]
  2. Torona [tqr]
- Narrow Talodi branch
  3. Tocho [taz]
  4. Acheron [acz]
  5. Dagik [dec]

---

phrase referring to the language, *ri-degém rwaŋ* (AGR-Tekem word), which therefore means ‘language of Tekem people’. The latter, however, is imprecise because there are actually two Tekemic languages indigenous to Tekem peoples, Lafofa and Amira.

<sup>5</sup> Seligman (1911: 168), Manger (1994: 47).

<sup>6</sup> Source: Omar Ali Kunja, Khartoum State Deputy Mek of Tekeim.

6. Tuwal [jle]<sup>7</sup>
7. Daloka-Aheimar [jle]
8. Tasomi-Tata [tlo]
9. Nding [eli]

### 1.3 Lafofoid's relationship to Talodi

Certain sources place Lafofa and Amira within Talodi (Greenberg 1950, 1963, Schadeberg 1981, 1989), while others treat Lafofa and Amira as a distinct group (McDiarmid & McDiarmid 1931, Stevenson 1956-57, 1962-64, Tucker & Bryan 1966, Hammarström 2013, Blench 2013a, 2013b, Norton & Alaki 2015, Norton 2018a, 2018b). General observations that all authors contend with when classifying the Lafofoid languages are that the Lafofoid noun class prefix inventory is closer to that of Talodi than to any other group, that Lafofoid is lexically remote from the cohesive cluster of nine uncontroversial Talodi varieties, and that Talodi cognates are shorter in Lafofoid, as this chapter will investigate in detail.

It is increasingly clear that Lafofoid has considerable differences from Talodi lexically, phonologically and grammatically, as listed below. Lafofoid lacks multiple grammatical features that unite Talodi with three other Nubaic families, Heiban, Rashad and Katloid, and some of Lafofoid's differences resemble the Ijoid languages of the Niger Delta in southern Nigeria instead. Ijoid resemblances, taken from Jenewari (1989) and Williamson (2004) unless otherwise stated, are indicated in square brackets [ ] below. One can also notice particular matches with Mande (the article *ɲ*) and Nilo-Saharan (the genitive postposition *m*).

#### DIFFERENCES FROM TALODI IN LEXICON

- Different hunting vocabulary (Blench 2013a), e.g., *bebuí/eruí* 'dog/s' [Ijoid: \**ebiri*]
- Few Talodi verbs, e.g., *ɲa* 'hear' [Ijoid: *naa*]
- Few Talodi numerals, e.g., *-daad-* 'three' [Ijoid: *taato*]
- No Talodi polysemy (Norton & Alaki 2015: 69) [Ijoid: 'leaf' = 'ear']
- No Talodi suppletive plurals or suppletive imperatives (Norton & Alaki 2015: 69)
- No Talodi 'bone' etymology for familial and tribal kinship terms (see Norton & Alaki 2015: 115)

---

<sup>7</sup> Tuwal shares a 3-letter language identifier code with Daloka-Aheimar, but there is phonological and morphological evidence that they are independent Narrow Talodi varieties that have lexically converged (Norton & Alaki 2015).

- No Talodi  $\varepsilon/u$  ablaut in antonyms or general nouns (see Norton & Alaki 2015: 140)
- Lexical similarities skew lower than Talodi with the other Nubaic families, Katloid, Rashad, and Heiban (Norton 2018b) [Ijoid: no skewing, 30% similarity to both Defaka and Ijò, Norton (2016)]

## DIFFERENCES FROM TALODI IN PHONOLOGY

- Implosives (Schadeberg 1981: 77), e.g., *dʒi* ‘breast’ [Ijoid: *ĩdõũ*]
- Extensive *Cw* sequences (Sosal 2018) vs. Talodi *kw* only (Norton & Alaki 2015)
- Extensive free variation in consonants (Schadeberg 1981) [Ijoid: fewer consonants, see SECTION 2.1 below]
- Vowel length contrast (Sosal 2018: 48) [Ijoid: vowel length contrast]
- Morphophonemic vowel lengthening before a second stem (Schadeberg 1981: 83)
- HLH tone melody (Schadeberg 1981: 79) [Ijoid: HLH is tone class “3”]
- Consonant skeleton restriction against strong consonants after weak consonants (see below) [Ijoid: same, Williamson 1978]

## DIFFERENCES FROM TALODI IN GRAMMAR

- No Nubaic *\*t/\*n* inclusive/exclusive pronoun distinction (Norton 2018b)
- No Nubaic inclusive-dual/inclusive-plural distinction (Norton 2018b)
- No Nubaic glossonym (language) or toponym (homeland) noun class prefixes (Schadeberg 1981: 15; on Talodi see Norton 2018a)
- No Nubaic plural enclitic for kinship terms (Tucker & Bryan 1966: 276-277)
- No Nubaic noun class agreement on postnominal modifiers (Tucker & Bryan 1966: 288; Schadeberg 1981: 83)
- OV word orders (Tucker & Bryan 1966) vs. Talodi strictly VO (Norton 2018a) [Ijoid: OV]
- Sex gender (Stevenson 1964: 84), e.g., 3SG.FEM/NEUT *a-ci/li* ‘she/it’ [Ijoid: *a-ri/ani*] 3SG.FEM/NEUT *a-Ø-* [Ijoid: *a-Ø-*] (see Norton 2018b)
- Article *-í* (Schadeberg 1981: 83) [Mande: *í*, Ijoid: *βí*]
- Partial person-number agglutination in pronouns (Schadeberg 1981: 155)
- Adjective morphology: antonym *li*-/non-antonym(?) *ti*-, quantifier class *-ij*, predicative(?) *-lli* (Schadeberg 1981)
- Other grammatical items: negative *m̄la*, prohibitive *ye*, subject-indexed auxiliary *d̄e*, feminiser *-o-*, genitive postposition *ni* [Nilo-Saharan: *ni*] (Tucker & Bryan 1966)

On the other hand, there is also a shorter but substantial list of features that do resemble Talodi. In addition, Lafofoid has innovations that extend Talodi-like noun class consonant alternation in new ways, different from but not independent of Talodi. So these similarities also call for explanation, whether in terms of inheritance or contact.

#### SIMILARITIES WITH TALODI<sup>8</sup>

- Many nouns in basic vocabulary
- Some pronouns (Schadeberg 1981: 155)
- Noun class consonant prefixes, including labials unique to Talodi: SG *b-*, PL *m-* (Schadeberg 1981: 158; Hammarström 2013: 552)
- Some noun class agreement on adjectives, in prenominal and predicative positions (Tucker & Bryan 1966: 278)
- Reduplication in plural size adjectives (Schadeberg 1981: 83; on Talodi see Norton 2018a: 13)
- Imperative verb morphology: *N-*, *-i*, *-k*, *-taj* (see Schadeberg 1981)
- Nubaic velar nasals in ‘tongue’ (*liaj*), liquid noun class (*ŋ-*), singular pronouns (*ŋ-*)
- Nubaic liquid consonant infix (see Norton 2018b: 437) in *k-ár-aj/0-* ‘nose’, *r-r-ɔŋ/mɔ-r-ɔŋ* ‘day’

#### EXTENDED CONSONANT ALTERNATION FOR NUMBER

- Consonant alternation for number applied in plural pronouns (Schadeberg 1981: 156) and plural verbs (Tucker & Bryan 1966: 285)
- Multiple consonant alternation for number applied in third person pronouns, size adjectives, and certain nouns (Schadeberg 1981: 82-83)

### 1.4 Lafofoid’s relationship to Ijoid

Lafofoid’s resemblances with Ijoid of the Niger Delta in southern Nigeria are not only lexical, phonological and grammatical, as shown above in SECTION 1.3, but also include recurrent sound correspondences that support a real historical connection, as in TABLE 1.

Ijoid cognates are shown here from either of its two divergent branches, Ijò or Defaka. This is because many lexical items are different in the two branches, or are only known in one of the branches, or one of the two is more directly comparable with Lafofa (Defaka *úɔ* vs. Ijò *ír<sup>l</sup>-úwa* ‘sun’). The bulk of the

---

<sup>8</sup> Excluded from this list is a possible shared medial *a* ~ final *ɛ* phonological alternation (Norton & Alaki 2015: 106), reviewed favourably in Sosal (2018: 12), but see SECTION 2.3 below for an argument against it as a shared property.

correspondences shown here are with Defaka, a nearly extinct divergent Ijoid language showing its value for comparative study with Lafofa. On the other hand, certain reductive changes in Lafofa find part of their support from two striking VCVV cognates from Ijò, ‘people’ and ‘tie’. Each Lafofa cognate is underlined, as the Lafofa data is characterised by synthetic morphology absent from the Ijoid terms.<sup>9</sup> The data is from Williamson (2004) with updates from Blench (p.c.) for Ijoid, and from Schadeberg (1981) for Lafofa.

GLOSS	IJOID	LAFOFA	CORRESPONDENCES
‘people’ <sup>10</sup>	Ijò <i>amée</i>	<i>k-<u>amée</u></i>	e:ε
‘sand’	Defaka <i>ṽāã</i>	<i>k-<u>wáá-ṽa</u></i>	ṽ:w, aa:aa
‘sun’	Defaka <i>úɔ</i>	<i>p-<u>úuw-í</u></i>	uɔ:u, HL:HL(-H)
‘arm’	Defaka <i>káa</i>	<i>t-<u>ṽwáá-y</u> /r-</i>	k:w, aa:aa, HL:HL(-H)
‘three’ <sup>11</sup>	Defaka <i>táátó</i>	<i>pa-<u>daa(d)-iṽ</u></i>	aa:aa
‘sew’	Defaka <i>kṽíí</i>	<i>m-<u>bí-ḍaṽ</u></i>	ṽṽ:ṽ/ -ṽaṽ
‘tie’	Ijò <i>uṽāĩ</i>	<i>n-<u>d-ṽwaay</u></i>	ṽ:w
‘smell’	Defaka <i>ṽrúɔ</i>	<i>n-<u>d-úlu</u></i>	uɔ:u
‘cut’	Defaka <i>kéeé</i>	<i>n-<u>dâ-wé-ṽaṽ</u></i>	k:w, e:ε, ṽṽ:ṽ/ -ṽaṽ

TABLE 1: Ijoid-Lafofa cognates with sound correspondences

Lafofa has sound correspondences with Talodi as well (Norton & Alaki 2015: 70), so these additional sound correspondences with Ijoid imply that Lafofoid had historical connections with both Ijoid and Talodi. This amplifies previous concerns that the Talodi material may be more recently borrowed (Stevenson 1957: 45, Hammarström 2013: 553, Blench 2013a: 580, Norton 2018b: 426).

## 2 Processes affecting Talodi nouns in Lafofa

We now proceed to consider the sound changes that have altered Talodi nouns in Lafofoid. Sounds undergoing change will be tracked by the numbered indices  $C_0V_1C_1V_2C_2$  where  $C_0-$  is a noun class prefix. The following subsections describe fronting (SECTION 2.1), final consonant loss (SECTION

<sup>9</sup> The Lafofa nouns have consonantal noun class prefixes, and article modifiers *-í-ṽy* or (locative) *-ṽa*. The numeral has an agreement prefix *p(a)-* and a quantifier suffix *-iṽ*. The verbs have an imperative *N-* prefix, a verbal prefix *ḍ(á)-* and a locative applicative suffix *-ṽaṽ*.

<sup>10</sup> Kalabari Ijò *amée* ‘associative plural, group’ (Jenewari 1977: 196); Lafofa *amée* ‘persons’ accepts a singulative noun class prefix *k-amée* ‘person’.

<sup>11</sup> The second plosive in Lafofa *pa-daa(d)-iṽ* is elided in Schadeberg’s word list, but was elicited by Thelwall: *peda:ḍun* (Schadeberg 1981: 174), by Stevenson: *paṽaṽim*, *paṽaam* and by the MacDiarmids: *pathandhin* (Stevenson mss.).

2.2), final  $V_2$  changes (SECTION 2.3), strong consonant loss (SECTION 2.4) and second syllable truncation (SECTION 2.5).

Unless otherwise stated, the Talodi forms are from Norton & Alaki (2015) and the Lafofa forms are from Schadeberg (1981).

## 2.1 Fronting

Fronting effects are visible in Lafofa in both consonants and vowels. Among consonants, the Talodi singular noun class prefix *\*c-* becomes *t-* in Lafofoid, as shown in TABLE 2.

TALODI	GLOSS	CLASSES	FRONTING	LAFOFA
*c-ɔ̌dɔ̌t/m-	‘star’	c/m	t/m	t-ɾɔ̌ɔ̌/m-
*c-ə̌ndək/k-	‘neck’	c/k	t/k	t-é̌ɛ̌l-í̌/k-

TABLE 2: Palatal plosive consonant fronting in Lafofa

TABLE 2 incidentally shows altered root consonants in the Lafofa cognates: [ɾ] in ‘star’ reflects intervocalic [d], which lacks contrast in Lafofa with dental *\*d*, while [l] in ‘neck’ is an El Liri dialect pronunciation of /n/ (Sosal 2018: 28).

As to the fronting of vowels, the central vowel *\*ə* and sometimes *\*a* become *ɛ* in Lafofa. This is attested in ‘neck’ in TABLE 2, and also in further examples in TABLES 4, 5, 8 and 10.

Consonant and vowel fronting would make sense if Talodi nouns were borrowed into a language with no non-low central vowel phoneme /i ɪ ɛ ɔ u u/, and with fewer consonant place contrasts /p t k/, both reminiscent of Ijoid (Jenewari 1989: 183). Fewer place contrasts also produce wider phonetic variability in each phoneme, with /t/ realised between the forward palate and the teeth, giving rise to Lafofa transcriptions of both [t] and [t̪], and /k/ realised in the back palate region, giving rise to Lafofa transcriptions of both [k] and [c], as discussed in Schadeberg (1981: 82).

However, this is inconclusive, because the place shifts from palatal to alveolar and from mid-central to mid-front vowels could also have occurred by sound mergers during internal evolution.

## 2.2 Final consonant loss

Most word-final consonants on Talodi nouns are lost in Lafofa, as shown in TABLE 3. The exception is a final nasal consonant in ‘word’, indicating that a word-final nasal is retained if it is the only root consonant  $C_1$ , but not if it is a second root consonant  $C_2$  as in ‘egg’ and ‘wing’.

GLOSS	SHAPE	TALODI	LAFOFA
‘eye’	CVC	*c-it/k-	t-íí-í/c-
‘fire’	CVC	*t-ík/l-	t-íí-í
‘guts’	CVC	*t-uk/n-	t-u/r-
‘egg’	CVCVC	*c-u-ín/m-	t-úúwe-y/m-
‘road’	CVCVC	*k-attɪl/0-	t-íâte/m-
‘star’	CVCVC	*c-ɔdɔt/m-	t-tɔɔ/m-
‘wing’	CVCVC	*u-g <sup>w</sup> ím/nə- ‘arm’	k-ug <sup>w</sup> éé-ga/b-
‘word’ <sup>12</sup>	CVN	*l-ɔm (> *r-ɔŋ)	r- <sup>w</sup> aŋ

TABLE 3: Final consonant loss in Talodi nouns in Lafofa

It remains ambiguous whether final consonant loss occurred as a borrowing adaptation or an internal sound change. Word-final erosion is common in internal sound change, but it could also be a borrowing adaptation if final consonants are inadmissible in the recipient language. While there are word-final consonants in Lafofa today, for example *tɛer-um* ‘ten’ (two-hands) and a non-Talodi suffix *-t* as in *kííí* ‘dark’, *kííí-t* ‘night’ (Sosal 2018: 48), nevertheless root-final consonants are restricted by the possible root shapes V, CV, VCV, or VC<sub>voiced</sub>, and final consonant loss conforms Talodi nouns to these root shapes. It still cannot be resolved, however, whether nouns were adapted during borrowing by final consonant loss to pre-existing root shapes, or whether the root shapes emerged as a result of final consonant loss as an internal sound change.

Final consonants are also lost in some Talodi languages themselves (Norton & Alaki 2015: 80), raising a different query as to whether the consonants could have already been absent in the donor language before being borrowed into Lafofoid. In fact, however, the final nasal in Lafofa ‘word’ tells us that the donor language would still have had some final nasal consonants at the time of borrowing (if indeed the Talodi nouns were borrowed).

### 2.3 Final V<sub>2</sub> changes

In items with two vowels, there are several changes to the second vowel V<sub>2</sub>. First, V<sub>2</sub> may be lost after a trill or a nasal, which then becomes the word-final consonant, as in TABLE 4. In all the examples in TABLE 4, V<sub>2</sub> loss happens together with regular final C<sub>2</sub> loss. The V<sub>2</sub> losses then fall into two types:

<sup>12</sup> Norton & Alaki (2015) have \*l-ɔŋ, but I have since argued (Norton 2018b: 431) that \*m is a more plausible proto-Talodi reconstruction than \*n, supported by external evidence from other languages for some items: \*m̥ \*ím ‘I’ and \*k<sup>w</sup>-am̥ \*k<sup>w</sup>-am ‘hair’.

either the lost  $V_2$  is a schwa, or the lost  $V_2$  comes after an alveolar nasal  $*n$ , which regularly becomes [l] in the Lafofa data.

GLOSS	SHAPE	TALODI	LAFOFA	NOTES
‘belly’	CVCVC	*ca-rək/kə-	t-úur-i/k-	Amira <i>tu</i>
‘worm’	CVCVC	*t-əŋək/n-	ku-d-uŋ-i/a-	ku-/a-, t→d ə→u
‘moon’	CVCVC	*k <sup>w</sup> -anək/0-	kw-éél-i	a→ε n→l
‘snake’	CVCVC	*p-ənɪl/a-	w-éél-i/k-	ə→ε n→l (p/a→w/k)
‘wind’	CVCVC	*k-anəŋ	kúw-éél-i	ə→ε n→l (k→kw)

TABLE 4: Final  $V_2$  loss (either  $V_2 = *ə$  or  $V_2/*n$ )

The cognacy of the Lafofa forms in TABLE 4 is complex, but demonstrable. In the first two examples with the loss of schwa, t-úur-i ‘belly’ combines a back vowel root (Amira *tu* ‘belly’) with the Talodi root rək with  $V_2C_2$  removed, while ku-d-uŋ-i ‘worm’ adds new prefixes ku-/a- in front of the existing alveolar prefix of \*t-əŋək, which is then susceptible to intervocalic voicing to d. Also, the \*ə in  $V_1$  position has fully assimilated to the preceding vowel in ku-, hence ku-d-uŋ with  $V_2C_2$  removed.

In the last three examples in TABLE 4 with  $V_2$  loss after \*n, all show vowel fronting ə,a→ε, lengthened to εε in two of them: kw-éél-i ‘moon’ and w-éél-i ‘snake’ before the following article -i. There is also lateralisation of \*n to [l], being the El Liri dialect pronunciation of /n/ (Sosal 2018: 28). The article -i has high tone elsewhere, which is absent here in the environment of a high tone on the root vowel. The last item, ‘wind’, has been reclassified to the prefix kw-, whose vocalisation kwel→kúwel seems to have replaced the expected vowel lengthening kwel→kwéel before -i that occurs in other examples.

Some other final  $V_2$  vowels are affected by metathesis with a preceding nasal, as in TABLE 5. This change affects unrounded vowels other than schwa \*ə and after nasals other than alveolar \*n. So the vowels affected by metathesis are in an elsewhere relationship with those subject to  $V_2$  loss in TABLE 4:  $V_2$  loss happened first, then  $NV_2$  metathesis affected the remaining unrounded vowels after the remaining non-alveolar nasals. Both processes of final  $V_2$  loss and final  $V_2$  metathesis expose new final nasals that are not themselves subject to final consonant loss: these  $C_1$  consonants are immune to final consonant loss if they are nasals, as shown in SECTION 2.2 above, and apparently if they are trills as well. Final nasal consonants in  $C_1$  position are retained even if they come after the infixed consonant \*-l->-r- (‘tongue’, ‘name’ and added in Lafofa ‘nose’).

GLOSS	SHAPE	TALODI	LAFOFA	NOTES
‘bone’	CVNV	*c-ə-mε/m-	<i>t-úám-i/m-</i>	Cε > aC
‘tongue’	CVNV	*tʰ-ɭəŋε/ɭə-	<i>líáŋ-i</i>	Cε > aC
‘tooth’	CVNVC	*c-ə-ŋit/k-	<i>t-ayŋ/k-, t-εεŋ-í/k-</i>	[ŋ~ŋ]
‘name’	CVCVNVC	*k-ə-ɭəŋan/0-	<i>gu-r<sup>w</sup>aŋ</i>	(C <sup>w</sup> /u <sub>ɿ</sub> )
‘nose’ <sup>13</sup>	CVNVC	*k-ə-ŋjε/0-	<i>k-ár-aŋ-í/0-</i>	Cε > aC

TABLE 5: Final NV<sub>2</sub> metathesis (unrounded V<sub>2</sub> ≠ ə after a nasal N ≠ n)

Metathesis of preceding nasals with a final  $\epsilon$  in particular regularly leaves medial  $a$ , although the origin of this regularity is difficult to interpret. In Talodi, there is a productive medial  $a \sim$  final  $\epsilon$  alternation (Norton & Alaki 2015: 105-107), which here might be either a common genetic inheritance in Talodi and Lafofoid, or a phonological borrowing into Lafofoid from Talodi.<sup>14</sup> A different explanation is available, however, which is that the lowered vowels are the result of a final V<sub>2</sub> lowering process, described immediately below, which could have produced these forms if it preceded NV<sub>2</sub> metathesis.

A third process affecting final V<sub>2</sub> vowels is lowering, which affects unrounded non-ATR vowels in a chain shift  $i > \epsilon > a$ . This is shown in TABLE 6 after plosive or approximant medial consonants, but also appears to have affected the vowels after nasals that moved inwards under final NV<sub>2</sub> metathesis in TABLE 5.

GLOSS	SHAPE	TALODI	LAFOFA	SHIFT
‘egg’	CVCVϵ	*c-u-in/m-	<i>t-úúwe-y/m-</i>	$i > \epsilon$
‘road’	CVCVϵ	*k-attɪl/0-	<i>t-íá̄tε/m-</i>	$i > \epsilon$
‘wing’	CVCVϵ	*ʊ-g <sup>w</sup> in/ŋə- ‘arm’ <sup>15</sup>	<i>k-ug<sup>w</sup>éé-ga/b-</i>	$i > \epsilon$
‘who?’	CVCV	*əŋ-b-tɪ	<i>á-mb-uté/á-ll-uté</i>	$i > \epsilon$
‘river’	CVCV	*t-ʊwε/n-	<i>t-ʊwaa-yt/r-</i>	$\epsilon > a$
‘fly (vb.)’	CVCV	Torona <sup>16</sup> <i>piŋe-t</i>	<i>bŋía-ŋ</i>	$\epsilon > a$

TABLE 6: Final V<sub>2</sub> lowering (V<sub>2</sub> = unrounded, non-ATR)

<sup>13</sup> The changes in this Lafofa noun are complex, but analysable as final V<sub>2</sub> lowering  $\epsilon > a$  (see immediately below), internal strong consonant loss  $t > \emptyset$  (see TABLE 10, SECTION 2.4), NV<sub>2</sub> metathesis, velar allophone of the remaining nasal in a non-palatal environment, and irregular  $t$ -infixation.

<sup>14</sup> The medial  $a \sim$  final  $\epsilon$  alternation is also evident between Rashad *arəw*, *aryəw* ‘red’ (Schadeberg 2013) and Talodi \*əɖɛ ‘red’ before a  $-w$  extension present in Rashad but not in Talodi.

<sup>15</sup> Or \*k-ubi/0- ‘wing’.

<sup>16</sup> Proto-Talodi \*pir(u), where the Torona form *piŋe* with completive  $-t$  shows \*r > ŋ and  $\epsilon \sim u$  ablaut.

Final  $V_2$  lowering can be positively identified as an internal sound change rather than as an adaptation during borrowing. It is visible not only in non-nouns, as shown in TABLE 6 (‘who?’, ‘fly (vb.)’), but also even in Ijoid cognates: *t-kɛ* POSS-3SG.M ‘his’ [Ijɔ *kɪ* in *kɪ-mɪ* ‘man’/*kí-ní* ‘people’] and *ɪjá-y* ‘people’ [Ijɔ *iyé* ‘thing’ with human plural *t-* as in *kɪ-mɪ* ‘man’/*to-mɪ* ‘people’]. Moreover, the affected vowels undergo a chain shift, which is another diagnostic of internal sound change. In addition, if final  $V_2$  metathesis occurred in Lafofoid after final  $V_2$  lowering as proposed, it follows that it too is an internal sound change and not a borrowing adaptation. Indeed, another piece of evidence that  $NV_2$  metathesis is internal and not adaptive is that it produces new VVN# sequences in the Lafofoid lexicon.

GLOSS	SHAPE	TALODI	LAFOFA	NOTES
‘claw’	CVCV	Dagik <i>g-a-wɪ/w-</i>	<i>k-wíí-ga/0-</i>	$V_1$ lost (affix)
‘star’	CVCVE	*c-ɔɔɔt/m-	<i>t-ɾɔɔ/mɔ-</i>	$V_1$ lost (identical)
‘bird’	CVCVCV	*pu-ɖəbɛ/a-	<i>p-ɾíiyɛ-y/a-</i>	blend with <i>iyé</i> ‘thing’ <sup>17</sup>

TABLE 7: Preserved  $V_2$  vowels

A few  $V_2$  vowels occur unchanged, as given in TABLE 7. This happens, for example, when  $V_1$  is lost instead, making former  $V_2$  the sole root vowel. A different situation arises in ‘bird’, where the failure of final  $V_2$  lowering is explicable if its final  $\epsilon$  is not a second root vowel but the vowel of an additional blended root. Defaka *yɛɛ* ‘bird’ at first sight seems to fit here. However, its long vowel is problematic, because final long vowels are not eliminated in Lafofa, for example *ɪlɔɔ* ‘gazelle’. A closer fit is Defaka *iyé* ‘thing’ replacing Talodi \*be ‘thing’ in the original structure \*pu-ɖə-bɛ > *pə-ɾ-iyɛ* (SG-DERI-thing) ‘bird’. Looking for  $V_2$  loss is part of a heuristic that tracks the shortening of roots starting from the right, but we find that loss is far from the only outcome for  $V_2$ . Compare the fates of high front vowels in the roots in TABLE 8.

GLOSS	SHAPE	TALODI	LAFOFA	FATE
‘snake’	CVNVC	*pə-nɪ/a-	<i>w-ééí-i/k-</i>	loss
‘road’	CVCVE	*k-attɪl/0-	<i>t-îâɛ/m-</i>	lowering (internal)
‘tooth’	CVNVC	*c-ə-pit/k-	<i>t-ayp/k-, -ɛɛŋ-í</i>	metathesis (internal)
‘claw’	CVCV	<i>g-a-wɪ/w-</i>	<i>k-wíí-ga/0-</i>	unchanged
‘horn’	CVCVE	*tu-bid/!ə-	<i>t-û-í/t-</i>	syllable truncation (2.5)

TABLE 8: Five fates of  $V_2$ 

<sup>17</sup> / in Schadeberg’s Tegem (Lafofa) word list is edited here to  $\mathcal{r}$  in the Lafofa form, following Stevenson’s word list.

2.4 Strong consonant loss

As well as final consonant loss and final V<sub>2</sub> loss, we have loss of internal plosive consonants. Root plosives are lost after nasal or trill prefixes, or after root nasals or trills. This produces extreme truncation, leaving roots with a V or VN shape as shown in TABLES 9 and 10 respectively.

GLOSS	SHAPE	TALODI	LAFOFA
‘root’	CVCVC	*tʉ-gac/!ə	t-aa-ga/r-
‘tail’	CVCVC	*tʉ-dik/!ə-	tʉw-íí/r-
‘skin’	CVCVC	*k-εdu /0-	tw-ê/r-
‘horn’	CVCVC	*tʉ-bid/!ə-	t-û-íí/r-
‘blood’	CVCVC	*ŋ-iduk	ɲ-íí-í

TABLE 9: Loss of root plosives after prefix nasals or trills

GLOSS	SHAPE	TALODI	LAFOFA	NOTES
‘neck’	CVNCVC	*c-ə-ndək/k-	t-éél-í/k- [l-ŋ]	
‘knee’	CVNCVC	*k-ə-ŋɔc/0-	c-íí-d-εεŋ-íí/íí-g-εŋ	compound (3.1) <sup>18</sup>
‘nose’	CVCNCV	*k-ə-ŋʃε/0-	k-ár-ŋ-íí/0-	Cε > aC, r-infixation

TABLE 10: Loss of root plosives after root nasals

Once again, *p-ɾííyε/a-* ‘bird’ is an atypical case outside the above pattern, because a plosive *b* has been lost from *\*pu-dəbε/a-* after *ɾ* (which varies with *d* intervocally in Lafofa) rather than after a trill or a nasal. Again, the blend analysis of ‘bird’ given in SECTION 2.3 explains the irregular loss of *b* in ‘bird’, as it is replaced by *y* through blending with the Defaka root *iyé*. This special explanation for internal consonant change in ‘bird’ preserves the present phonological generalisation met by other nouns, that plosives are lost after trills or nasals.

GLOSS	SHAPE	LAFOFA	TALODI
‘thing’	CV	í-bεŋ-í/lé-	*bε/a!ə-
‘road’	VCVC	t-íá!ε/m-	*k-attɪl/0-
‘star’	VCVC	t-ɾɔ́ɔ́/mɔ́-	*c-ɔ́ɔ́t/m-
‘wing’	VCVC	k-ug <sup>w</sup> éé-ga/b-	*u-g <sup>w</sup> ɪm/ɲə- ‘arm’
‘gazelle’	VC	t-ɔ́b/m-	(Nding t-ɔ́bək/n-)

TABLE 11: Surviving root plosives after prefix plosives or *l-* or *m-*

<sup>18</sup> Schadeberg (1981: 31) has *c-ííεεŋ-í*, the correction of *l* to *d* is from my own data.

Surviving internal plosives are those that come after prefix plosives or /- or *m-*, in contrast to the trills (*r-*) or lingual nasals (*n-*, *ɲ-*, *ŋ-*) that condition the loss of internal plosives. These surviving internal consonants are shown in TABLE 11.

An apparent exception to the survival of plosives after a prefix *m-* is the putative loss of *j* in Lafofa *m-úú-í* ‘ashes’, from Talodi *\*mə-ʝúk*. Perhaps this exception arose because the palatal is an irregular infix class marker (Norton & Alaki 2015: 130) accompanied by an epenthetic schwa as in *\*\*m-úk > \*m-əʝ-úk*. Then the proposed *\*\*m-úk* would have the virtue that it directly accounts for the Lafofa stem *m-ú* (becoming lengthened before a following article in *m-úú-í*) by simple final consonant loss. In fact, however, the originality of the palatal plosive in Talodi *\*mə-ʝúk* ‘ashes’ finds support from the related *\*u-ʝuk* ‘smoke’. So if the palatal is original, the preservation of root plosives after *m-* could still be maintained if this palatal plosive had been re-interpreted as an infix in Lafofoid, leading to the back-formation *m-ú* as an infixless form. An example of a palatal infix in Lafofa is in *w-aji/k-*, Talodi *\*w-ai/k-je* ‘cow’.

Remarkably, a similar consonant skeleton restriction is documented in Kolukuma Ijò (Williamson 1978), where it is described as a restriction against strong consonants later in the word after weak consonants. Many languages use a consonant strength hierarchy to limit consonant sequences in syllable onset or coda constituents, but Ijò and Lafofa use a consonant strength hierarchy to limit the consonant skeletons of words as a whole. Languages in general vary slightly as to exactly which consonants are counted as stronger or weaker, but a basic difference is that obstruents (such as plosives) are stronger than sonorants (such as nasals and trills). In some languages, labials are stronger than lingual consonants, for example in Bura onset sequences (Maddieson 1983); similarly, in Lafofa the labial nasal *m* is stronger than the lingual nasals *n*, *ɲ*, *ŋ* in consonant skeleta. In some languages, laterals pattern with stops rather than with continuants (Mielke 2005), and this is the case in Lafofa, where the lateral patterns with the plosives as another strong consonant.

The application of the strength hierarchy over the consonant skeleton thus constitutes a phonotactic property of Lafofa, implying that Talodi nouns were adapted to the Lafofoid strength hierarchy during borrowing.

## 2.5 Second syllable truncation

Some lexemes show losses of internal consonants that are unexpected based on the loss of strong consonants after weak ones. Loss of *\*n* in *t-íɛ/m-* ‘ear’ from Talodi *\*k-ɛ[:ɲu/0-* is unexpected as *\*n* is resilient in other roots, and the

consonant skeleton in the plural *m-n* (labial-lingual) complies with the Lafofa consonant strength hierarchy. Nor is it attributable to final consonant loss, because final consonant loss only applies to nasals when they are in C<sub>2</sub> position, whereas the nasal in ‘ear’ is C<sub>1</sub>.

I therefore propose a further process at work here: truncation of the second syllable after a lengthened vowel as shown in TABLE 12. Lafofa has a morphophonemic process in which a stem vowel lengthens before a second stem. Lengthening before a second stem occurs in stem compounds such as *béé-bú/éé-rú* ‘dog’ (Schadeberg 1981: 82), where the Lafofa lexeme ‘dog’ employs two prefixed stems (see SECTION 3.1 below), and also with the article *í* as in *kóó, kóó-í* ‘meat’ (Schadeberg 1981: 83), where the article is a second stem which can take a *-t* suffix as in *kíí-í* ‘dark’, *kíí-ít* ‘night’ (Sosal 2018: 48). Although vowel length is not contrastive in Talodi languages (Norton & Alaki 2015: 107), they do have vowel lengthening in non-final root open syllables, producing /CV:CVC/ word shapes. If borrowed into Lafofoid, these could be re-interpreted as two stems /CV:-CVC/ in Lafofoid morphology, marked by morphophonemic vowel lengthening in the first ‘stem’. And if the second ‘stem’ is then dropped, leaving only the first syllable, then the vowel is also no longer lengthened as there is no following second stem (unless the article *í* is employed, as in ‘blood’).

GLOSS	SHAPE	TALODI	LAFOFA
‘blood’	CVCVC	*ŋ-ɪ[ː]dʊk	ɲ-íí-í
‘ear’	CVCV	*k-ɛ[ː]nu /0-	ʔ-íé-y/m-
‘finger’	CVCVC	*c-a[ː]-gəʔ/ɲ-	k-a-i/0-
‘horn’	CVCVC	*tʉ[ː]-biɖ/!ə-	ʔ-û-í/r-
‘skin’	CVCV	*k-ɛ[ː]dʉ /0-	tw-é/r-

TABLE 12: Second syllable truncation preserving the first vowel

Since this truncation process is morphological rather than phonological, two things follow. One, the second syllable C<sub>1</sub>V<sub>2</sub>C<sub>2</sub> can be truncated even if there is no consonant strength violation (‘ear’, ‘finger’), as long as there is a lengthened V<sub>1</sub> in the first syllable. Two, the occurrence of truncation is not necessarily regular. Thus, some roots with a consonant strength violation have also undergone second syllable truncation leaving only the first V<sub>1</sub> vowel (‘blood’, ‘horn’, ‘skin’), but others have not. Those that have not are still subject to the phonologically regular strong consonant loss, which removes the C<sub>1</sub> and C<sub>2</sub> plosive consonants but (unlike truncation) still preserves the V<sub>2</sub> vowel (‘root’, ‘tail’), as shown in TABLE 13 for comparison. This provides us with a successful explanation of how some Talodi nouns have preserved V<sub>1</sub>

and others have preserved  $V_2$  in Lafofa, which is a curious feature of these drastically shortened nouns.

GLOSS	SHAPE	TALODI	LAFOFA
‘root’	CVCVC	*t̥u[:]-gac/!ə	t̥-aa-ga/r-
‘tail’	CVCVC	*t̥u[:]-dik/!ə-	t̥w-íi/r-

TABLE 13: Strong consonant loss preserving the second vowel

We have now identified two processes in Talodi nouns that imply contact with a Lafofoid language with a different phonological and morphological system. We have strong consonant loss after a weak consonant, which adapts Talodi nouns to a Lafofoid consonant strength hierarchy applied across the consonant skeleton, and we have second syllable truncation after lengthened vowels, which interprets Talodi nouns through Lafofoid morphophonology where a lengthened vowel signals a distinct stem in the following syllable. Both processes are rather destructive, accounting for the drastic reduction in Talodi nouns that we see in Lafofoid.

### 3 Other evidence of borrowing from Talodi

#### 3.1 Bilingual compound nouns

TABLE 14 shows ‘dog’, ‘head’ and ‘knee’, in which the Talodi root undergoes the expected final consonant loss, or even (in ‘knee’) second syllable truncation, but this is also blended with another preceding element. In all three words, the preceding element matches an initial portion of an Ijoid root with the same meaning. Both the clipped Ijoid root and the Talodi root take noun class prefixes, thus bringing together two inflected stems into a compound. The vowel of the clipped Ijoid root is lengthened, signalling a second stem in the next syllable. The Talodi roots are borrowed, because there were Ijoid roots already present with the same meanings, which were retained in clipped form when the Talodi roots were added.

GLOSS	LAFOFA	IJOID	TALODI
‘dog’	p̥éé-p̥ú/éé-rú	Defaka <u>ebere</u>	*t̥uk/!uk
‘head’	dr̥óó-ta/m̥óró-ma	Defaka <u>tóbo</u>	*cac/kac
‘knee’	c̥íi-d̥ééη/íi-g̥ééη	Iz̥on Ij̥o <u>ígbélé</u>	*k̥əŋguc/0-

TABLE 14: Bilingual compound nouns

Pre-augmentation with an existing root offers an interesting strategy for differentiating very short roots in the Lafofa lexicon. It supplements the phonological differentiation of very short roots achieved in Lafofa through

embedded prosodic contrasts in tone, length and ATR. The relative functional loads of different lexical strategies in Lafofa await further study.

### 3.2 Trill prefix and final velar nasal

Talodi has a noun class plural prefix \*l- which becomes a trill r- in several languages of the Narrow Talodi branch. Two Narrow Talodi languages, Tocho and Daloka, still retain a lateral l- along with Lumun of the Lumun-Torona branch. This is shown in three examples in TABLE 15.

		‘dogs’	‘livers’	‘ropes’
Proto-Talodi	*l-	*l-uk	*lə-ŋge	*l-ɔlək
LUMUN-TORONA				
Lumun	l-	l-uk	l-ŋg <sup>w</sup> ε	l-ɔlək
Torona	ɾ-	ɾ-uk		
NARROW TALODI				
Tocho	l-	l-auk	lə-ŋge	l-ɔlək
Acheron	r-	r-awuk	rə-ŋge	r-ɔlək
Dagik	r-	(ŋ-au)	rə-ŋge	r-ɔlək
Tuwal	r-	r-akεɖu	ri-ŋki	r-ɔr
Daloka	l-	l-εkε:lu	l-ŋgi	l-ɔlə
Tasomi	r-	r-uk	ri-ŋge	r-ɔlək
Nding	t-	(a-buk)	t-ŋgi	t-ɔruk

TABLE 15: Plural noun class prefix \*l- in Talodi

The corresponding plural prefix in Lafofa is the trill rather than the lateral, implying borrowing from the Narrow Talodi cluster after the development of the trill form of the suffix, as presented in TABLE 16.

	PROTO-TALODI		NARROW TALODI		LAFOFA
‘word’	*l-ɔm	>	*r-ɔŋ	→	r <sup>w</sup> aŋ
‘root’	*t̥u-gac/lə-	>	*t̥u-gac/rə-	→	t̥-a/r-a
‘tail’	*CL-d̥ik/CL-	>	*t̥u-d̥ik/rə-	→	t̥w-ii/r-ii

TABLE 16: Borrowing of r- from the Narrow Talodi branch

Additional supporting evidence for a Narrow Talodi borrowing source comes in the particular item ‘word’ in TABLE 16, whose original final \*m is not used in Lafofa ‘word’ despite ample other Lafofa roots with a final m (*teḡêm* ‘autonym’, *um* ‘hands’, *ɔm* ‘mountains’, *kóm* ‘ropes’, *kilékúm* ‘five’, *t̥erum* ‘ten’, *d̥éétélém* ‘short’). Instead, the Narrow Talodi branch is characterised by the restriction of word-final nasals (and plosives) to velars (Norton & Alaki

2015: 80), and hence the final *ŋ* in ‘word’ again supports the conclusion that it was borrowed from the Narrow Talodi branch, not jointly inherited, which would have produced *m*.

### 3.3 Secondary glosses in Talodi that match Lafofoid

To identify secondary glosses that may have entered Talodi from Lafofoid (or vice versa) during contact, wordlist items with two or more cognate classes among the Talodi languages were searched for Lafofa matches, producing the totals given in TABLE 17. The nine Talodi languages are abbreviated in TABLE 17 as: TOR = Torona, LUM = Lumun, TOC = Tocho, ACH = Acheron, DAG = Dagik, TUV = Tuwal, DAL = Daloka, TAS = Tasomi, NDI = Nding.

	TOR	LUM	TOC	ACH	DAG	TUV	DAL	TAS	NDI
total	8	8	10	10	9	7	15	9	14
exclusive	1	0	1	0	1	1	1	1	6

TABLE 17: Number of Lafofa matches in items with  $\geq 2$  cognate classes

The first thing to note in TABLE 17 is that Lafofa matches with items containing two or more cognate classes are more numerous in the latter seven Narrow Talodi languages than in Lumun-Torona, in agreement with the finding in SECTION 3.2 above that Talodi nouns in Lafofoid have the trill prefixes and final velar nasals of the Narrow Talodi branch. Secondly, the two stand-out totals are in Nding (14, of which 6 are exclusive to Nding), which is in contact with Lafofa today in the El Liri region, and in Daloka (15), which was therefore in contact with Lafofoid in the past.

Of the 15 matches with Daloka, there are seven matches with a primary gloss that is reconstructed to Proto-Talodi in Norton & Alaki (2015) (‘bark’, ‘breathe’, ‘clean’, ‘foot’, ‘wet’, ‘wing’, ‘word’) and therefore part of the lexis shared by both families, which could either have been jointly inherited or, as suspected here, borrowed into Lafofoid from Daloka. Another eight matches are secondary glosses not reconstructable to Proto-Talodi for the meaning given. Of these eight secondary glosses, five are adjectives with Talodi etymologies, and therefore were borrowed from Daloka into Lafofoid (‘big’, ‘many’, ‘dirty’, ‘smooth’, ‘warm’), as given in TABLE 18.

The remaining three secondary glosses in Daloka are verbs, given in TABLE 19. These lack evidence of Talodi etymology, but rather are plausible loans the other way into Daloka from Lafofoid, either due to having Ijoid cognates (‘dig’, ‘wash’), or due to evidence of blending with the existing form (‘suck’).

GLOSS	LAFOFA	TALODI		PROTO-TALODI
‘big’	<i>bíá-mb-aŋ</i>	Daloka Nding	<i>há-béne:ĩmbe</i> <i>m-app-ik</i>	*uttik ‘big’ *appa ‘wide’
‘many’	<i>b-ũmm-íŋ</i>	Daloka Tuwal	<i>-ũmmu</i> <i>-ummo</i>	PNT <sup>19</sup> *ummə ‘big, old, many’
‘dirt(y)’	<i>ŋaŋéŋ</i>	Daloka Tuwal Nding	<i>ŋaŋɪcca</i> <i>ŋeŋeŋe</i> <i>ŋiri</i>	PNT *ŋ-əɪɪc ‘dirt’
‘smooth’	<i>pímíŋu líŋ</i>	Daloka Dagik	<i>-ɔli:lɪ</i> <i>yɔ-ŋuli</i>	*ŋəla ‘smooth’ *ɪ ‘clean’
‘warm’	<i>b-úu-li</i>	Daloka Tocho Acheron Nding	<i>ŋ-óú</i> <i>p-uju</i> <i>b-uðu</i> <i>ŋ-úccú</i>	*ɪppa ‘warm’ *u-ɟuk ‘smoke’

TABLE 18: Daloka secondary glosses loaned into Lafofoid (adjectives)

GLOSS	LAFOFA	TALODI	PROTO-TALODI	NOTES
‘dig’	<i>n-ɟúù-dáŋ!</i>	Tasomi Daloka	<i>ɟikku</i> <i>-sikku</i>	* <sub>(ɪ)</sub> bɔ Ijoid: Ijɔ <i>soku</i> , Defaka <i>sókí</i> ( <i>k &gt; w/V_</i> in Lafofa)
‘wash’	<i>n-gúɟ<sup>w</sup>-í-dáŋ!</i>	Tasomi Daloka	<i>gócci</i> <i>kózgeró</i>	*ɪm(ɛ) Ijoid: Defaka <i>suku</i>
‘suck’	<i>mu</i>	Daloka	<i>múkku</i>	*u-a-gɔ blended with Talodi form

TABLE 19: Daloka secondary glosses borrowed from Lafofoid (verbs)

The borrowing of Lafofoid verbs by Talodi languages is surprising insofar as verbs are generally less borrowable than nouns (Tadmor et al. 2010: 231). However, a possible rationale for verb borrowing in Talodi is that Talodi verbs are relatively open in form, as some Talodi verbs use “stems apparently constructed by selecting from a large number of smaller morphs” (Norton &

<sup>19</sup> Proto-Narrow-Talodi, the last common ancestor of the seven Narrow Talodi languages. These forms are not documented in the Lumun-Torona branch.

Alaki 2015: 143). Thus in ‘suck’, a complex Talodi stem \**u-a-gɔ* has been pre-augmented in Daloka by a further morph *mu* taken from Lafofoid.<sup>20</sup>

In TABLE 20, exclusive matches between Lafofa and particular Talodi languages other than Nding are shown (Nding matches are excluded because they are likely to reflect contact with Lafofa today, not the earlier occurrence of contact of Lafofoid with Talodi that we are concerned with in this study). Again, at least two verbs seem plausible loans into Talodi varieties, whereas at least two nouns are plausible loans the other way into Lafofoid because they have Talodi etymologies.

GLOSS	LAFOPA	TALODI	ANALYSIS
‘suck’	<i>mu</i>	Daloka <i>múkkv</i>	<b>Lafofoid→Talodi:</b> blend with Talodi * <i>u-a-gɔ</i>
‘smell’	<i>dúlu</i>	Tuwal <i>ðullo</i>	<b>Lafofoid→Talodi:</b> Defaka <i>ɔruɔ</i>
‘split’	<i>rídíen-daj</i>	Tasomi <i>gítí-de</i>	root-suffix resemblance
‘mountain’	<i>k-úwem-í/</i> <i>ɔm-í</i>	Tocho <i>t-ɔmɔ/l-</i>	NV <sub>2</sub> metathesis
‘claw’	<i>k-wíí-ga/0-</i>	Dagik <i>g-a-wí/w-</i>	<b>Talodi→Lafofoid:</b> Talodi * <i>c-a-wín</i> ‘finger’
‘thing’	<i>í-/lé-beŋ</i>	Torona <i>/aŋe-be</i>	<b>Talodi→Lafofoid:</b> Talodi * <i>-be</i> ‘thing’

TABLE 20: Exclusive matches with individual Talodi languages

This section has again provided evidence of Lafofoid contact with the Narrow Talodi branch, this time identifying contact with the specific Narrow Talodi variety Daloka.<sup>21</sup>

<sup>20</sup> Norton & Alaki (2015: 146) offer a maximalist Proto-Talodi reconstruction \**m-u-a-gɔ*; however, the *m* element occurs only in Daloka, so it is in fact not reconstructable and is better interpreted as a later addition in Daloka, with Lafofoid as the donor language.

<sup>21</sup> Alignment of Lafofoid with Daloka on the evidence of secondary glosses is somewhat at odds with the fact that Daloka has the lateral plural prefix *l-* where Lafofoid has *r-* (see TABLE 15, SECTION 3.2). This discrepancy might be accounted for as a social differentiation effect, in which the founder Daloka speakers distinguished themselves from Lafofoid interlopers by reverting to the more conservative lateral allophone.

3.4 Knives and objects cut with knives

Talodi #*k-ɨɫdaŋ* ‘knife’ is a local *Wanderwort* sourced from Nubian that reached Talodi through Lafofoid, as shown in TABLE 21. Kordofan Nubian #*kənd-il* ‘knives’ (Jakobi ms.) is borrowed into Lafofoid #*kildən* with fossilised Nubian plural suffix *-il*, and with the two syllable rhymes *ən/il* exchanged. This exchange moves the weak consonant *n* to after the strong consonants *k*, *l*, *d* in conformity to the consonant strength pattern in Lafofoid. This Lafofoid syllable sequence, rather than the original Nubian one, is then borrowed into Narrow Talodi, where borrowing is detected by phonological adaptation to the Narrow Talodi requirement that word-final nasals are velar (Norton & Alaki 2015: 80). The version with final velar *ŋ* and lowered central vowel *a* then spread onwards to the four Talodi languages at Saraf Al-Jamous, which innovated a metathesis *ɨɫ→ɨi*. Two of the Saraf Al-Jamous languages, Lumun and Torona, are unlike the languages of the Narrow Talodi branch in permitting final alveolar *n* in their lexicons, yet ‘knife’ was acquired with final *ŋ*, implying that it reached Lumun and Torona via a Narrow Talodi language, not directly from Lafofoid or Nubian.

Kordofan Nubian	→ Lafofoid	→ Narrow Talodi	→ Saraf Al-Jamous
# <i>kənd-il</i> ‘knives’	# <i>kildən</i> ‘knife’	# <i>k-ɨɫdaŋ</i> ‘knife’	# <i>k-ɨɫdaŋ</i> ‘knife’
Karko <i>kənd-əl</i>	Lafofa	Daloka <i>ŋ-ɨɫdǎ/ŋ-</i>	Lumun <i>k-ɨɫttay/0-</i>
Kujurja <i>kənd-ɨlɨ</i>	<i>jildən</i>	Tuwal <i>ŋ-ərta/ŋ-</i>	Acheron <i>g-ərissay/n-</i>
		Dagik <i>k-era/w-</i>	Torona <i>k-ɨɫtaŋ/n-</i>
			Tocho <i>k-əlɨtaŋ/n-</i>

TABLE 21: Borrowing pathway for ‘knife’

We also see evolution in the initial consonant in TABLE 21, as the initial *k* became fronted and voiced to *ʃ* in Lafofa (both changes known from other data; Schadeberg 1981: 76, 81) but was maintained in Talodi. In Talodi, initial *k-* is reified as a noun class prefix, substitutable by plural prefixes or by the diminutive prefix *ŋ-*, which in Daloka distinguishes *ŋ-ɨɫdǎ/ŋ-* ‘knife’ from *h-ɨɫdǎ/w-* ‘sword’ (Schadeberg 1981: 68).

This borrowing pathway traces the bringing of knives to the south-east Nuba Mountains by Lafofoid speakers, who brought them to the Talodi peoples. In line with previous evidence in SECTION 3, it once again confirms Lafofoid contact with the Narrow Talodi branch, as the final velar *ŋ* shows that ‘knife’ entered the Narrow Talodi branch first.

The borrowing of ‘knife’ from Lafofoid into Talodi also points to a kind of symbiotic exchange in vocabulary. As shown in TABLE 22, most of the Talodi nouns found in Lafofa are animal or plant parts. Body part terms are generally understood to be historically very stable, which is potentially a serious objection to the borrowing diagnosis for these nouns in Lafofoid, but for the evidence of loanword adaptation by strong consonant loss and second syllable truncation that explains the drastic shortening of Talodi nouns in Lafofa. Is there any reason, then, why body part terms would be borrowed into Lafofoid, contrary to the usual pattern that languages retain their body part terms? The significance of borrowing animal and plant part terms into Lafofoid, I propose, is that they are the items that knives are used for cutting, or at least are present during cutting (such as animal blood). The result is a symbiotic lexical exchange between ‘knife’ borrowed one way from Lafofoid into Talodi, and terms for objects cut with knives, or present during cutting, borrowed the other way from Talodi into Lafofoid.

This exchange of vocabulary implies that at the time when their languages were in contact, there was cross-cultural co-operation between Talodis and Lafofoids on the practice and technology of cutting up animals and plants. This is in line with Pattillo (2021), who argues that body part terms can occasionally be borrowed when there are social factors that override the usual linguistic constraint that languages already have such terms and do not need to borrow them.

SEMANTIC DOMAIN	GLOSSES OF TALODI NOUNS IN LAFOFA
Animal parts	belly, blood, bone, claw, ear, egg, eye, fat, finger, guts, hair, head, horn, knee, leg, meat, milk, neck, nose, skin, tail, tooth, tongue, wing
Plant parts	root
Animals	bird, cow, dog, goat, snake, worm
Elements	fire, water, wind
Night sky	moon, star
Landforms	mountain, river, road
Reference	name, thing, word, who?

TABLE 22: Semantic domains of Talodi nouns in Lafofa

#### 4 Conclusion

Eight changes to Talodi nouns in Lafofa are identified. Some of these reflect internal evolution or are inconclusive between internal evolution and borrowing adaptation, but strong consonant loss and second syllable truncation reflect adaptation to Lafofa structures. These two processes imply that the Talodi nouns are borrowed, and show how adaptation is responsible for

shortening Talodi nouns so drastically in Lafofa, with some roots reduced to just  $V_1$  and others to  $V_2$ .

Additional facts support past contact between Lafofoid and a Narrow Talodi variety, Daloka, during which the Talodi nouns would have been borrowed. There is a symbiotic lexical exchange between the word for ‘knife’ and words for things that are cut with knives, implying social co-operation on cutting up animals and plants, that allowed the borrowing of body part terms.

In closing, let us note that Lafofoid languages are still poorly documented, but the little that is known about them already shows they are very interesting typologically. We can also note that the Ijoid family of the Niger Delta in Nigeria plays a useful role at various points in the analysis, hence Ijoid continues to be our primary clue to Lafofoid’s earlier history before it arrived in the Nuba Mountains.

## References

- Blench, Roger. 2013a. Splitting up Kordofanian. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 571-586. Cologne: Rüdiger Köppe.
- Blench, Roger. 2013b. Tegem-Amira: A previously unrecognised subgroup of Niger-Congo. Unpublished manuscript, Kay Williamson Education Foundation.
- Greenberg, Joseph. 1950. Studies in African linguistic classification. VII: Smaller families; index of languages. *Southwestern Journal of Anthropology* 6. 388-398.
- Greenberg, Joseph H. 1963. *The Languages of Africa*. The Hague: Mouton.
- Jakobi, Angelika. Ms. Kordofan Nubian: a synchronic and diachronic study. Unpublished manuscript.
- Jenewari, Charles E. W. 1977. *Studies in Kalabari Syntax*. Ibadan: University of Ibadan dissertation.
- Jenewari, Charles E. W. 1989. Ijoid. In John Bendor-Samuel (ed.), *The Niger-Congo Languages*, 105-118. Lanham, Maryland: University Press of America.
- MacDiarmid, P.A. & D.N. MacDiarmid. 1931. The languages of the Nuba Mountains. *Sudan Notes and Records* 14. 149-162.
- Maddieson, Ian. 1983. The analysis of complex phonetic elements in Bura and the syllable. *Studies in African Linguistics* 14 (3). 285-310.
- Manger, Leif. 1994. *From the Mountains to the Plains: The Integration of the Lafofa Nuba into Sudanese Society*. Uppsala: Nordiska Afrikainstitutet (Scandinavian Institute of African Studies).

- Mielke, Jeff. 2005. Ambivalence and ambiguity in laterals and nasals. *Phonology* 22. 169-203.
- Norton, Russell. 2016. Lafofa: A distant Ijoid-related language. Handout, Conference of the Linguistic Association of Nigeria.
- Norton, Russell. 2018a. Parallel grammar documentation in four Talodi languages. *Afrikanistik-Aegyptologie-Online* 2018. <https://www.afrikanistik-aegyptologie-online.de/archiv/2018/4887>
- Norton, Russell. 2018b. Classifying the non-Eastern-Sudanic Nuba Mountain languages: Evidence from pronoun categories and lexicostatistics. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 417-446. Cologne: Rüdiger Köppe.
- Norton, Russell & Thomas Kuku Alaki. 2015. The Talodi languages: a comparative-historical analysis. *Occasional Papers in the Study of Sudanese Languages* 11. 47-161. <https://www.sil.org/resources/archives/63566>
- Pattillo, Kelsie. 2021. On the borrowability of body parts. *Journal of Language Contact* 14. 369-402.
- Schadeberg, Thilo. 1981. *The Talodi Group*. Hamburg: Buske.
- Seligman, Brenda. 1911. Note on the language of the Nubas of Southern Kordofan. *Zeitschrift für Kolonialsprachen* 1. 167-188.
- Sosal, Ahmed. 2018. *A phonological study of the Tegem language*. Cape Town: University of Cape Town MA thesis.
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimaṅ. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Stevenson, Roland C. 1962-64. Linguistic research in the Nuba Mountains. *Sudan Notes and Records* 43 (1962): 118-130; 45 (1964): 79-102.
- Stevenson, Roland C. Mss. *R. C. Stevenson collection of ethno-linguistic research manuscripts*. UCLA Library Special Collections.
- Tadmor, Uri, Martin Haspelmath & Bradley Taylor. 2010. Borrowability and the notion of basic vocabulary. *Diachronica* 27:2. 226–246.
- Tucker, Archibald N. & Margaret A. Bryan. 1966. *Linguistic Analyses: The Non-Bantu Languages of North-Eastern Africa*. London: Oxford University Press.
- Williamson, Kay. 1978. Consonant distribution in Ijo. In Mohammad Ali Jazayery, Edgar C. Polomé & Werner Winter (eds.), *Linguistic and Literary Studies in Honor of Archibald A. Hill*, 341-353. Lisse: Peter de Ridder Press.
- Williamson, Kay. 2004. Proto-Ijoid comparative wordlist. Edited by Roger Blench 2012. Ms.

# The ‘absolute’ or *-ca/-sa* verb extension in two Daju languages: Shatt Damam (Sudan) and Daju Sila (Chad)

*Pascal Boyeldieu*

## 1 Introduction

The Daju languages are spoken in central Africa and cover parts of Chad, Sudan and South Sudan. Some of them (Lagowa, Laggori, Shatt) are more precisely located in the region of the Nuba Mountains (see MAP 1, p. 310). According to Greenberg (1963), the whole group belongs to the Eastern Sudanic branch of his Nilo-Saharan phylum.

Most, if not all, Daju languages are characterised by extension markers of the form *-ca/-sa*; these are obviously cognates and share a common involvement in the argument structure of the verb predicate. Beyond this common aspect however, the behaviour and values of the *-ca/-sa* forms show, in different languages, marked dissimilarities that clearly support the idea of a historical contrast between ‘Eastern’ and ‘Western’ Daju languages previously established on the evidence of noun morphology.

The aim of this paper is to analyse the properties of the *-ca/-sa* verb extension in ‘Eastern’ versus ‘Western’ languages. SECTION 2 will first comment on this historical contrast. SECTION 3 summarises the main verbal conjugations. SECTION 4 gives an overview of the verbal paradigms and extensions throughout the Daju languages and comments on the label ‘absolute’. SECTIONS 5 and 6 concern Shatt Damam and Laggori, two ‘Eastern’ languages, respectively, while SECTIONS 7 and 8 address two ‘Western’ languages, Daju Sila and Daju Eref. SECTION 9 summarises the preceding sections in a diachronic perspective. Finally, the conclusion (SECTION 10) reviews two earlier works in the light of the present results.<sup>1</sup>

---

<sup>1</sup> I am particularly indebted to both Gertrud Schneider-Blum and Mary Chambers for the valuable comments they made on the form and the content of an earlier version of this paper.

In general, the emphasis is on Shatt Damam and Daju Sila data collected by myself on the occasion of two unplanned fieldworks without any further follow-up.<sup>2</sup>

## 2 ‘Eastern’ vs. ‘Western’ Daju

The distinction between ‘Eastern’ (Shatt and Liguri – or Laggori) and ‘Western’ Daju (Lagowa, Baygo, Nyalgulgule and other languages towards the West; see MAP 1) was first introduced by Stevenson (1956-57: (40)112; see also Tucker & Bryan 1966: 231), who essentially relied on differences in the noun morphology.<sup>3</sup>



MAP 1: Daju languages: approximate location

<sup>2</sup> ‘Western’ Daju Sila (N’Djaména/Abéché, Chad, 1995) and ‘Eastern’ Shatt Damam (Khartoum, Sudan, 2008). The improvised conditions of these two fieldwork periods explain the limited and incomplete nature of the data. I hereby express my gratitude to the people who assisted me in this research: Messrs Hassan Yacine, Mahamat Annour, Ousman Abd-el-Kerim (in N’Djaména), Youssouf Souleyman, Zakaria Adam and Ahmat Djime (in Abéché) for Daju Sila, and Messrs Saddam Abu Kalam Saleh Belendiya and Ibrahim ’Alleel Djeily Kaafi for Shatt Damam (in Khartoum).

<sup>3</sup> The ‘Eastern/Western’ distinction was later confirmed by lexicostatistics (Thelwall 1981a, 1981b).

	‘Eastern’ Daju				‘Western’ Daju				ENGL. GLOSS
	LAGGORI	SHATT DAMAM (SIMPLE > MODIFIED)			LAGOWA	NYALA	SILA	EREF	
SG/PL	<i>ux, wuxe</i> / <i>uxi, uxu</i>	<i>ùx</i> / <i>ùxù</i>	>	<i>ùxɿ</i> / <i>ùxúggɿ</i>	<i>wure, worre</i> / <i>wuruke</i>	<i>wəre</i> / ( <i>boŋje</i> )	<i>wùrè</i> / <i>wúrgè</i>	<i>ùré</i> / <i>úrgé</i>	‘woman, wife’
SG/PL	<i>au</i>	<i>òw / òttà</i>	>	<i>óodɿ / òttáɿ</i>	<i>ote / ’ottake</i>	<i>ode</i>	<i>òdè / òttígè</i>	<i>òdé / óttigé</i>	‘place’
SG	<i>maalasə</i>	<i>màlàs</i>	>	/ <i>màlástɿ</i>	<i>malashte</i>	<i>malafte</i>		<i>màlástè</i>	‘spear’
SG/PL	<i>moxta</i> / <i>moxtu</i>	<i>mòxtà</i> / <i>mòxtù</i>	>	<i>mòxtánɿ</i> / <i>mòxtúggɿ</i>	<i>mortane</i> / <i>mortuke</i>	<i>murtane</i> / <i>murtuge</i>	<i>múrtè(-ne)</i> / <i>mùrtigé</i>	<i>múrtiné</i> / <i>mòrtígè</i>	‘horse’

TABLE 1: Daju nouns compared (source: Boyeldieu 2009)

	‘Eastern’ Daju		‘Western’ Daju	
	LAGGORÍ	SHATT D.	SILA	EREF
<i>Absolute</i>	IPF - <i>ccV-</i> / PF - <i>sV-</i>	IPF - <i>ca-</i> / PF - <i>sa-</i>	IPF - <i>ca-</i> / PF - <i>sa-</i>	IPF - <i>ca-</i> / PF - <i>sa-</i>
<i>Intensive</i>	- <i>t-</i>	- <i>TV-</i>	- <i>TV-</i>	- <i>d-</i>
Medio-passive	- <i>ní</i>	SG - <i>wa</i> / PL - <i>n-</i>	SG - <i>wa</i> / PL - <i>in-</i>	Middle voice -( <i>u</i> ) <i>wa-</i> / Reflexive - <i>n-</i>
Factitive			SG - <i>nni</i> / PL - <i>nnVh-</i>	
Semelfactive			IPF - <i>Tas-</i> / PF - <i>as-</i>	IPF - <i>dAs-</i> / PF - <i>As-</i>
Transitive (?)	- <i>dij</i> (PF only)	IPF - <i>dij</i> / PF - <i>ij</i> *		
Benefactive	- <i>nès</i>			
Causative	- <i>tə</i>			
Ventive	- <i>en</i>			
Andative	- <i>es</i>			

TABLE 3: Daju languages: verbal extensions compared (source: Boyeldieu & Manfredi 2014)

\*Limited examples; IPF -*dij* = intensive + transitive?

- N.B. i.) Extensions may be more or less lexicalised, according to their identity and according to the language.  
 ii.) At least intensive + absolute and intensive + medio-passive may combine, in these orders.

Evidence is briefly illustrated in TABLE 1 (p. 311): Shatt Damam systematically displays two complementary forms of the noun. The simple form is used when the noun is not modified by any grammatical, lexical or clausal (relative) element. This simple form is similar to the only form observed in Laggori. On the other hand, the modified form integrates a former, now stacked agreement (originally sg. *-ni*, *-i*, *-Si*, or *-Tɨ* vs. pl. *-Kɨ*), playing the role of a connective in the context of a complex noun phrase. Now, this modified form is similar to the only forms, syntactically modified or not, that are observed in the ‘Western’ languages, such as Lagowa, Nyala, Sila and Eref. In other words, the latter have commonly innovated in generalising a noun form that is restricted to specific syntactic contexts in the ‘Eastern’ language, Shatt Damam.<sup>4</sup>

### 3 Daju verbal conjugations

Simple verb conjugations (i.e., excluding auxiliary or external markers) are summarised in TABLE 2. The main conjugations are represented by imperfective and perfective; these two paradigms will be retained here for illustration purposes, occasionally completed by imperative forms.

<i>‘Eastern’ Daju</i>		<i>‘Western’ Daju</i>	
LAGGORI	SHATT D.	SILA	EREF
Imperfective	Imperfective	Imperfective	Form I
Perfective	Perfective	Perfective	Form II
		Prospective	
	Optative	Necessary	Intentional
Imperative	Imperative	Imperative	Imperative

TABLE 2: Simple verb conjugations (source: Boyeldieu & Manfredi 2014)

### 4 Daju verbal extensions and the absolute form

TABLE 3 (p. 311) gives an overview of the verbal extensions that can be observed in a sample of representative Daju languages. While some of them are restricted to certain (groups of) languages, intensive, absolute and medio-passive are common to all of them and may be assigned to a historical system common to all Daju languages.

<sup>4</sup> According to Stevenson (1964: 97), Liguri requires ‘concord markers’ similar to those of Shatt (Tebaldia). However, Alamin (2006: 21-23) does not say anything concerning such markers in Laggori. For the time being, the actual behaviour of Liguri/Laggori remains dubious.

While the present paper deals primarily with the absolute forms, intensive forms, which are in various ways connected with the former, will also be considered. The term ‘intensive’ usually refers to the process (repetitive, frequentative) or to the participants (plurality of subjects or objects).

Lastly, the general label ‘absolute’ was adopted in Boyeldieu & Manfredi (2014) on the basis of this extension’s frequent interaction with the argument structure of the verbal predicate. However, as already mentioned above, the behaviour of the so-called absolute varies greatly according to languages and calls for a more detailed analysis that precisely constitutes the aim of this paper.

## 5 Shatt Damam (‘Eastern’ Daju)

### 5.1 Morphology

In Shatt Damam, the absolute extension appears under the complementary forms *-c-/a* and *-c-/e* in the imperfective, *-s-/a*, *-z-/a*, *-s-/e* and *-z-/e* in the perfective and *-si* and *-zi* in the imperative (TABLES 4-6 and examples 1-5).

	IMPERFECTIVE ( <i>-INTS</i> ?)	IMPERFECTIVE- <i>ABS</i>	PERFECTIVE	PERFECTIVE - <i>ABS</i>
SN/PN	<i>ggáwè</i>	<i>ggáwà-cà</i>	<i>ggàw</i>	<i>ggáw-zà</i>
S1	<i>àngáwè</i>	<i>àngáwà-cà</i>	<i>kàngàw</i>	<i>kàngáw-zà</i>
S2	<i>ngáwè</i>	<i>ngáwà-cà</i>	<i>kíngàw</i>	<i>kìngáw-zà</i>
S3M	<i>mìggáwè</i>	<i>mìggáwà-cà</i>	<i>míggàw</i>	<i>mìggáw-zà</i>
S3F	<i>cìggáwè</i>	<i>cìggáwà-cà</i>	<i>cíggàw</i>	<i>cìggáw-zà</i>
S3N	<i>ñìggáwè</i>	<i>ñìggáwà-cà</i>	<i>ñíggàw</i>	<i>ñìggáw-zà</i>
P1EXCL	<i>àngáwè-d-ik</i>	<i>àngáwè-c-ik</i>	<i>kàngáw-ik</i>	<i>kàngáw-z-ik</i>
P1INCL	<i>ggáwè-d-ik</i>	<i>ggáwè-c-ik</i>	<i>gáw-ik</i>	<i>gáw-z-ik</i>
P2	<i>ngáwà-d-àṅ</i>	<i>ngáwà-c-àṅ</i>	<i>kìngáw-àṅ</i>	<i>kìngáw-z-àṅ</i>
P3	<i>sìggáwè</i>	<i>sìggáwà-cà</i>	<i>síggàw</i>	<i>sìggáw-zà</i>
	IMPERATIVE	IMPERATIVE- <i>ABS</i>		
S2	<i>gáwà</i>	<i>gáw-zi</i>		
P1	<i>àngáwà</i>	<i>àngáw-zi</i>		
P2	<i>ngáwà</i>	<i>ngáw-zi</i> ( <i>ṅgáw-zi</i> ?)		

TABLE 4: Shatt Damam *gàw* ‘to throw’

	IMPERFECTIVE (-INTS ?)	IMPERFECTIVE -ABS	PERFECTIVE	PERFECTIVE -ABS
SN/PN	<i>pàxè</i>	<i>pàxá-cà</i>	<i>kàbàx</i>	<i>kàbáx-sà</i>
S1	<i>àbáxè</i>	<i>àbáxà-cà</i>	<i>kàbàx</i>	<i>kàbáx-sà</i>
S2	<i>báxè</i>	<i>báxà-cà</i>	<i>kìbàx</i>	<i>kìbáx-sà</i>
S3M	<i>mìbáxè</i>	<i>mìbáxà-cà</i>	<i>máábàx</i>	<i>màábáx-sà</i>
S3F	<i>cìbáxè</i>	<i>cìbáxà-cà</i>	<i>cáábàx</i>	<i>càábáx-sà</i>
S3N	<i>ɲìbáxè</i>	<i>ɲìbáxà-cà</i>	<i>ɲáábàx</i>	<i>ɲàábáx-sà</i>
P1EXCL	<i>àbáxè-d-ik</i>	<i>àbáxè-c-ik</i>	<i>kàbáx-ik</i>	<i>kàbáx-s-ik</i>
P1INCL	<i>pàxé-d-ik</i>	<i>pàxé-c-ik</i>	<i>kìbáx-ik</i>	<i>kìbáx-s-ik</i>
P2	<i>báxà-d-àŋ</i>	<i>báxà-c-àŋ</i>	<i>kìbáx-àŋ</i>	<i>kìbáx-s-àŋ</i>
P3	<i>sìbáxè</i>	<i>sìbáxà-cà</i>	<i>sáábàx</i>	<i>sàábáx-sà</i>
	IMPERATIVE	IMPERATIVE-ABS		
S2	<i>pàxà</i>	<i>pàx-sì</i>		
P1	<i>àbáxà</i>	<i>àbáx-sì</i>		
P2	<i>báxà</i>	<i>báx-sì</i>		

TABLE 5: Shatt Damam *pàxàt* ‘to kill’

Concerning the ‘bare’ imperfective paradigm, it should be noted that the plural forms P1EXCL, P1INCL and P2 necessarily integrate an element *-d-* that looks like an intensive marker *-d-*. The truth of this is difficult to demonstrate since there is otherwise no clear instance of a full intensive paradigm in the imperfective, a combination that seems to be extremely rare, if not excluded.<sup>5</sup> However, it should be emphasised that this presumed *-d-* extension is not preserved in the absolute paradigm, where it is replaced by the absolute marker *-c-* (TABLES 4 and 5).

TABLE 6 shows that, in the perfective at least, the two extensions intensive and absolute may combine, in this order. In that particular case, however, the absolute marker does not appear as *-s-/a*, *-z-/a* but as *-c-/a*, like in the imperfective (see also ex. (1b) and (2b)).

<sup>5</sup> A similar situation can be observed in Daju Sila (SECTION 7.1).

	IMPERFECTIVE (IPF.- <i>INTS</i> ?)		IPF.- <i>ABS</i>	(IPF.- <i>INTS-ABS</i> ?)
SN/PN	<i>lànɣè</i>		<i>lànɣá-cà</i>	
S1	<i>àlànɣè</i>	?		
S3M	<i>mìlànɣè</i>		<i>mìlànɣà-cà</i>	( <i>mìlànɣ-dì-cà</i> ?) <sup>6</sup>
P3	<i>sìlànɣè</i>			
	PERFECTIVE	PERFECTIVE - <i>INTS</i>	PERFECTIVE - <i>ABS</i>	PERFECTIVE- <i>INTS</i> - <i>ABS</i>
SN/PN	<i>kàlànɣ</i>	<i>kàlànɣ-dì</i>	<i>kàlànɣ-zà</i>	<i>kàlànɣ-dì-cà</i>
S1	<i>kàlànɣ</i>	<i>kàlànɣ-dì</i>	<i>kàlànɣ-zà</i>	<i>kàlànɣ-dì-cà</i>
S3M	<i>màálànɣ</i>	<i>mààlànɣ-dì</i>	<i>mààlànɣ-zà</i>	<i>mààlànɣ-dì-cà</i>
P3	<i>sáálànɣ</i>		<i>sààlànɣ-zà</i>	<i>sààlànɣ-dì-cà</i>
	IMPERATIVE	IMPERATIVE - <i>INTS</i>	IMPERATIVE - <i>ABS</i>	IMPERATIVE- <i>INTS</i> - <i>ABS</i>
S2	<i>lànɣà</i>		<i>lànɣ-zì</i>	
P1	<i>àlànɣà</i>	?	<i>àlànɣ-zì</i>	?
P2	<i>lànɣà</i>		<i>lànɣ-zì</i>	

TABLE 6: Shatt Damam *lànɣàt* ‘to sing’

## 5.2 Property

As shown in examples (1)-(5), the absolute verb form is limited to transitive verbs and strictly incompatible with an overt direct object of the verbal predicate.<sup>7</sup>

Shatt D. *wòràt* ‘sweep’

- (1) a. *càwór-tì*                      *bà*  
       S3F.PF.sweep-*INTS*      house  
       ‘she has swept the house’
- b. *càwór-tì-cà*  
       S3F.PF.sweep-*INTS-ABS*  
       ‘she has swept’

<sup>6</sup> Both the form and its presence in an imperfective paradigm are uncertain.

<sup>7</sup> As illustrated below, examples of the incompatibility with an object have been explicitly given for nouns only. However, the data also show no example of a personal pronoun as object of an absolute verb form.

- c. \**càwór-tì-cà*                      *bà*  
 \*S3F.PF.sweep-INTS.ABS      house  
 ‘she has swept the house’

Shatt D. *ḡàḡàt* ‘buy’

- (2) a. *kìḡàḡ*              *ḡìl*      *kìréḡ*  
 S2.buy.PF      eggs      how\_many?  
 ‘how many eggs did you (sg.) buy?’
- b. *wèdè*              *ḡàḡ-zì*                      (~ *ḡàḡ-dí-cì*)  
 S2.go.IMP      S2.buy.IMP-ABS      S2.buy.IMP-INTS-ABS  
 ‘go buy (things), go shopping!’

Shatt D. *dēèt* ‘suck (up), suckle’

- (3) a. *píxì*      *pííbì-ndìḡ*      *dēèt*                      *mmèm*  
 child      child-ACT      S3.IPF.suckle      milk  
 ‘the baby is suckling the milk’
- b. *píxì*      *pííbì-ndìḡ*      *dēèt*                      *kídíc*  
 child      child-ACT      S3.IPF.suckle      breast  
 ‘the baby is suckling (at) the breast’
- c. *píxì*      *pííbì-ndìḡ*              *děé-cè*  
 child      child-ACT              S3.IPF.suckle-ABS  
 ‘the baby is suckling’

Shatt D. *zìb* ‘sow in holes’

- (4) a. *mìḡzìbì*              *kùḡ*  
 S3M.PF.sow      sorghum  
 ‘he sowed/has sown the sorghum (in holes)’
- b. *mìḡzìb-sè*  
 S3M.PF.sow-ABS  
 ‘he sowed/has sown (in holes)’

Shatt D. *bìḡàt* ‘sit on (egg), brood’

- (5) a. *kùxúk-àndìḡ*      *bìḡò*                      *ḡìl*  
 hen-ACT              IPF.brood      eggs  
 ‘the hen is sitting on/is brooding on eggs’

- b. *kùxúk-àndîŋ*    *ḃîŋá-cà*  
 hen-ACT            IPF.brood-ABS  
 ‘the hen is sitting on (eggs)/is brooding’
  
- c. *kùxúk*        *kàḃîŋ*        *gîl*  
 hen            PF.brood        eggs  
 ‘the hen has sat on/has brooded on eggs’
  
- d. *kùxúk*        *kàḃîŋ-zà*  
 hen            PF.brood-ABS  
 ‘the hen has sat on (eggs)/has brooded’

### 6 Laggori (‘Eastern’ Daju)

As a complement to the situation of Shatt Damam, let us now mention observations made by two authors concerning another ‘Eastern’ Daju language, Laggori.

As illustrated in TABLE 7, Alamin (2013: 12-16) distinguishes four aspects in the Laggori verb. Three of them have complementary markers according to the transitive/intransitive nature of the verb:

	TRANSITIVE	INTRANSITIVE
IMPERFECTIVE	-e	-i
PERFECTIVE	-diŋ	-za
HABITUAL	-i/y	-ca
PROGRESSIVE		-o

TABLE 7: Laggori verb aspects (after Alamin 2013)

For his part, Manfredi (ms.) comments on some of the same suffixes in the following way:

– *Imperfective*: “[...] the suffix *-ccV* (*-ccà*, *-ccì*, *-ccə*) [...] seems to mark an ‘absolute’ [...] state of imperfective verbs lacking of an overt object argument in contrast with unmarked imperfective verbs entailing an overt object argument.”

– *Perfective*: “The role of the suffixes *-sV* [*-sa*, *-za*, *-sì*] and *-ding* is still unclear to me, but they are surely related to some form of transitivity/argument marking. [...] It should be remarked that *-sV* marked verbs are relatively rare and they occur only without overt object [...]. *-ding*, on its part, often occurs before pronominal objects [...].”

Beyond the way they may organise or comment on the facts, both sources confirm the crucial link that has been established between the Laggori markers *-ca/-sa/-za* and the absence of an overt object of the verb predicate.

In addition, the above suspected incompatibility between imperfective and intensive seems to be confirmed by the way Alamin (2013: 20) comments on what she calls a ‘pluractional’ form: “The pluractional in Laggori is expressed by the infix /t/ and it mainly concentrates on the repetition of an action. It occurs between the verb root and the perfective aspect marker [...]”<sup>8</sup>

## 7 Daju Sila (‘Western’ Daju)

### 7.1 Morphology

As illustrated in TABLES 8-9, what I preferably call a *-ca/-sa* extension in the case of Daju Sila is realised as *-c-/a/i/e* in the imperfective, and as *-sa/i* in the perfective.<sup>9</sup>

Note that, just as in Shatt Damam (SECTION 5.1, TABLES 4-5), the bare imperfective forms P1D.EXCL, P1INCL and P2 integrate a likely extension *-d-/i/e* that might represent the trace of a former intensive marker, although the free intensive forms seem (today at least) to be limited to the perfective aspect (TABLES 9-10 and 13).

TABLES 9-10 also show, in all plural forms of the perfective, a situation of double suffixation by *-ca/-sa* that is realised as *si-c-/i/e*, possibly varying with *si-s-/i/e*. This combination also affects the imperative P2 in TABLE 10.

	IMPERFECTIVE ( <i>-INTS</i> ?)	IMPERFECTIVE <i>-ca/-sa</i>	PERFECTIVE	IMPERATIVE ( <i>-ca/-sa</i> ?)
S1	<i>ànoóro</i>	<i>ànoóro-cá</i>	<i>kànoóri</i>	–
S2	<i>inoóro</i>	<i>inoóro-cá</i>	<i>kinóori</i>	<i>òrà</i>
S3/SN	<i>òró</i>	<i>òrà-cá</i>	<i>kònòrì</i>	–
P1D.EXCL	<i>òrí-dī</i>	<i>òrí-cī</i>	<i>kònòrì</i>	–
P1INCL	<i>òrí-dé</i>	<i>òrí-cé</i>	<i>kònòré</i>	–
P2	<i>inoóri-d-áŋ</i>	<i>inoóri-c-áŋ</i>	<i>kinóoràŋ</i>	<i>òrì-c-inná</i>
P3/PN	<i>òrà</i>	<i>òrì-c-íŋ</i>	<i>kònòrà</i>	–

TABLE 8: Daju Sila *òràkè* ‘to see’

<sup>8</sup> Manfredi (ms.), on his side, does not mention any kind of intensive or pluractional verb form.

<sup>9</sup> The situation of the imperative is not clear: S2 is apparently *-sà* (TABLES 9-10) or *-c-àt* (TABLE 13!?), and P2 *-c-inná* (TABLES 8-9 and 13).

	IMPERFECTIVE	IPF.- <i>ca/-sa</i>	PF.- <i>ca/-sa</i> (+ <i>-ca/-sa</i> ?)	PF.- <i>INTS</i>
S1		<i>àlànà-cá</i>	<i>kàlàn-sà</i>	<i>kàlàn-dì</i>
S2		<i>ìlànà-cá</i>	<i>kìlàn-sà</i>	<i>kìlàn-dì</i>
S3/SN	<i>làné</i>	<i>lànà-cá</i>	<i>kàlàn-sà</i>	<i>kàlàn-dí</i>
P1D.EXCL		<i>làní-cì</i>	<i>kàlàn-sí-cì</i>	<i>kàlàn-dì</i>
P1INCL		<i>làní-cé</i>	<i>kàlàn-sí-cé</i>	<i>kàlàn-dé</i>
P2		<i>ìlànì-c-án</i>	<i>kìlàn-sì-c-án</i>	<i>kìlàn-d-àn</i>
P3/PN		<i>lànì-c-ín</i>	<i>kàlàn-sì-c-ín</i>	<i>kàlàn-dà</i>
IMPERATIVE- <i>ca/-sa</i>				
S2		<i>làn-sà</i>		
P2		<i>lànì-c-inná</i>		

TABLE 9: Daju Sila *lànàkè* ‘to sing’

	IMPERFECTIVE	IPF.- <i>ca/-sa</i>	PERFECTIVE- <i>ca/-sa</i> (+ <i>-ca/-sa</i> ?)	PERFECTIVE - <i>INTS</i>
S1		<i>ásàà-cá</i>	<i>kàsáy-sà</i>	<i>kàsáy-dì</i>
S2		<i>ísàà-cá</i>	<i>kìsáy-sà</i>	<i>kìsáy-dì</i>
S3/SN	<i>sàyé</i>	<i>sàà-cá</i>	<i>kàsày-sà</i>	<i>kàsày-dí</i>
P1D.EXCL		<i>sáá-cì</i>	<i>kàsày-sí-cì</i> ~ <i>kàsày-sí-sì</i>	<i>kàsáy-dì</i>
P1INCL		<i>sáá-cé</i>	<i>kàsày-sí-cé</i> ~ <i>kàsày-sí-sé</i>	<i>kàsáy-dé</i>
P2		<i>ísàà-c-án</i>	<i>kìsáy-sì-c-án</i> ~ <i>kìsáy-sì-s-án</i>	<i>kìsáy-d-án</i>
P3/PN		<i>sàà-c-ín</i>	<i>kàsày-sì-c-ín</i> ~ <i>kàsày-sì-s-ín</i>	<i>kàsày-dà</i>
IMPERATIVE- <i>ca/-sa</i> (+ <i>-ca/-sa</i> ?)				
S2		<i>sày-sà</i>		
P2		<i>sày-sí-c-inà</i> ~ <i>sày-sí-s-inà</i>		

TABLE 10: Daju Sila *sààkè* ~ *sàygè* ‘to creep (plant); to graze (cattle)’

Furthermore, a similar *-ca/-sa* marking of all plural forms may be observed in imperfective paradigms in which singular forms are unmarked (TABLE 11).

As shown in TABLE 12, this marking tends to replace the (intensive?) extension *-d-/i/e* that is usually displayed in P1D.EXCL, P1INCL and P2 (e.g., in TABLES 8 and 14: *dèlèkè*, *gèfèkè*).

	IPF.(- <i>ca/-sa</i> )	IPF. <i>-ca/-sa</i>	PERFECTIVE	IMPERATIVE
S1	<i>àndágè</i>		<i>kàndág</i>	–
S2	<i>ìndágè</i>		<i>kìndág</i>	<i>ndàgà</i>
S3/SN	<i>ndàgé</i>	<i>ndàgà-cá</i>	<i>kàndàg</i>	–
P1D.EXCL	<i>ndàgí-cì</i>		<i>kàndágì</i>	–
P1INCL	<i>ndàgí-cé</i>		<i>kàndàgé</i>	–
P2	<i>ìndàgì-c-áj</i>		<i>kìndàgàj</i>	<i>ndàgàná</i>
P3/PN	<i>ndàgì-c-íj</i>	<i>ndàgì-c-íj</i>	<i>kàndàkkà</i>	–

TABLE 11: Daju Sila *ndàgàkè* ‘to chop’

	IMPERFECTIVE(- <i>ca/-sa</i> )	PERFECTIVE	IMPERATIVE
S1	<i>àbàrrè</i>	<i>kàbàrrì</i>	–
S2	<i>ìbàrrè</i>	<i>kìbàrrì</i>	<i>bàrrá</i>
S3/SN	<i>bàrré</i>	<i>kàbàrrì</i>	–
P1D.EXCL	<i>bàrrí-cì</i> (* <i>bàrrí-dì</i> )	<i>kàbàrrì</i>	–
P1INCL	<i>bàrrí-cé</i> (* <i>bàrrí-dé</i> )	<i>kàbàrré</i>	–
P2	<i>ìbàrrì-c-áj</i> (* <i>ìbàrrì-d-áj</i> )	<i>kìbàrràj</i>	<i>bàrrìnà</i>
P3/PN	<i>bàrrì-c-íj</i>	<i>kàbàrrá</i>	–

TABLE 12: Daju Sila *bàrràkè* ‘spend the evening’

Finally, the intensive and *-ca/-sa* may combine, in this order. As in Shatt Damam (TABLE 6 and examples (1b) and (2b)), the perfective *-ca/-sa* is realised as *-c-/a/i/e* in this particular case:

	‘to season’		‘to lie’	
	IPF.(- <i>INTS</i> ?)	(*IPF.- <i>INTS</i> ?)	IPF. <i>-ca/-sa</i>	(*IPF.- <i>INTS -ca/-sa</i> ?)
S1	<i>àbàlgè</i>		<i>àbàlgà-cá</i>	
S2	<i>ìbàlgè</i>		<i>ìbàlgà-cá</i>	
S3/SN	<i>bàlgé</i>		<i>bàlgà-cá</i>	
P1D.EXCL	<i>bàlgí-dì</i>	*?	<i>bàlgí-cì</i>	*?
P1INCL	<i>bàlgí-dé</i>		<i>bàlgí-cé</i>	
P2	<i>ìbàlgí-d-àj</i>		<i>ìbàlgí-c-áj</i>	
P3/PN	<i>bàlgá</i>		<i>bàlgí-c-íj</i>	

TO BE CONTINUED

	PF.	PF.-INTS (-ca/-sa ?)	PF.-ca/-sa	PF.-INTS-ca/-sa
S1	<i>kàbálgì</i>	<i>kàbálgì-dì</i>		<i>kàbálgì-dì-cá</i>
S2	<i>kìbálgì</i>			<i>kìbálgì-dì-cá</i>
S3/SN	<i>kàbàlgí</i>	<i>kàbàlgí-dì</i>		<i>kàbàlgí-dì-cá</i>
P1D.EXCL	<i>kàbálgì</i>		?	<i>kàbàlgí-dí-cì</i>
P1INCL	<i>kàbálgé</i>			<i>kàbàlgí-dí-cé</i>
P2	<i>kìbálgàŋ</i>			<i>kìbálgì-dì-cá-ŋ</i>
P3/PN	<i>kàbàlgá</i>	<i>kàbàlgí-dì-c-íŋ</i> (~ <i>kàbàlgí-dà</i> ?)		<i>kàbàlgí-dì-c-íŋ</i>
	IMPERATIVE	IMPERATIVE - <i>INTS</i>	IMPERATIVE -ca/-sa	IMPERATIVE -INTS-ca/-sa
S2	<i>bàlgá</i>	?	<i>bàlgà-c-àt</i>	?
P2	<i>bálgánà</i>		<i>bàlgì-c-inná</i>	

TABLE 13: Daju Sila *bàlgàkè* ‘to season (dish); lie, tell a lie’

## 7.2 Properties

i.) The *-ca/-sa* verb forms are clearly incompatible with a personal object index on the verbal predicate (6)-(8):

D. Sila *màjàkè* ‘be jealous (of)’

- (6) a. *céé màjá-cè*  
she S3.IPF.be\_jealous-her  
‘she envies her, she is jealous of her’
- b. *céé màjà-cá*  
she S3.IPF.be\_jealous-ca/-sa  
‘she is jealous (in general), she behaves jealously’
- c. \**céé màjà-cá-cè*  
\*she S3.IPF.be\_jealous-ca/-sa-her  
‘she is jealous of her’

D. Sila *dìgàkè* ‘strike’

- (7) a. *sáá dìgá-má*  
they P3.IPF.strike-him  
‘they strike him’

- b. *sáá*      *dìgì-c-íŋ*  
 they      P3.IPF.strike-*ca/-sa*  
 ‘they are striking’
- c. \**sáá*      *dìgì-c-íŋ-mà*  
 \*they      P3.IPF.strike-*ca/-sa-him*  
 ‘they are striking him’
- D. Sila *bàŋàkè* ‘call’
- (8) a. *bàŋà-kóskà*  
 S2.IPF.call-us[EXCL]  
 ‘call us (excl.)!’
- b. \**bàŋ-sà-kóskà*  
 \*S2.IPF.call-*ca/-sa-us*[EXCL]  
 ‘call us (excl.)!’
- D. Sila *wàŋàkè* ‘pass, surpass’
- (9) a. *kàwàŋ-ànáŋ*  
 S3.PF.surpass-me  
 ‘he has surpassed me’
- b. \**kàwàŋ-s-ànáŋ*  
 \*S3.PF.surpass-*ca/-sa-me*  
 ‘he has surpassed me’
- ii.) However, they may appear in the presence of a lexical object ((10)-(16), no example for perfective *-sa*, which is statistically rare; see SECTION 9.2):
- D. Sila *ùùdúygè* ‘plant, transplant’
- (10) *máá àŋgààl-ètkè*      *úúdù-y-cá*  
 he cassava-PL      S3.IPF.plant-*ca/-sa*  
 ‘he is planting cassava plants’ (Ndj.)<sup>10</sup>
- D. Sila *wààkè ~wàygè* ‘cultivate’
- (11) *máá wàà-cá*      *kùŋjè*  
 he S3.IPF.cultivate-*ca/-sa*      millet-PL  
 ‘he is cultivating millet’

<sup>10</sup> The abbreviation ‘Ndj.’ indicates data collected in N’Djaména (see fn. 2 above) that generally reflect an SOV order with lexical objects.

- (12) D. Sila *bòṅàkè* ‘sit on (egg), brood’  
*ùkúrg-ánà* (*wàlàà-gè*) *bòṅà-cá*  
 hen-DEF (egg-PL) S3.IPF.sit\_on-*ca/-sa*  
 ‘the hen is brooding/sitting on eggs’
- (13) D. Sila *wèṅèkè* ‘look for’  
*máá wèṅé* (~ *wèṅè-cá*) *fùgùdú-mà*  
 he S3.IPF.look\_for S3.IPF.look\_for-*ca/-sa* knife-his  
 ‘he is looking for his knife’
- (14) D. Sila *àskàkè* ‘tie’  
*wúr-g-énà* *èwéégè* *àskâ* (~ *àskì-c-íṅ*)  
 woman-PL-DEF wood.PL P3.IPF.tie P3.IPF.tie-*ca/-sa*  
 ‘the women are tying the firewood’ (Ndj.)
- (15) D. Sila *dìgàkè* ‘strike’  
*máá cáácè* *dìgá* (~ *dìgà-cá*)  
 he child S3.IPF.strike S3.IPF.strike-*ca/-sa*  
 ‘he is striking the child’
- (16) D. Sila *dèlèkè* ‘fall (down); set up (trap)’  
 a. *máá dèlé* (~ *dèlè-cá*) *ìbìrìw-nè*  
 he S3.IPF.set S3.IPF.set-*ca/-sa* trap-SG  
 ‘he is setting a trap’  
 b. *sáá dèlâ* *ìbìrìw-nè*  
 they P3.IPF.set trap-SG  
 ‘they are setting a trap’  
 c. *sáá dèlì-c-íṅ* *ìbìrìw-gè*  
 they P3.IPF.set-*ca/-sa* trap-PL  
 ‘they are setting traps’

iii.) In contrast with the virtual, potential (?) or near future values of the bare imperfective, several occurrences highlight the progressive, durative or habitual values resulting from the extension *-ca*.<sup>11</sup>

<sup>11</sup> In short pages devoted to Dar Sila Daju, Jungrathmayr (1981) identifies a verbal extension *-aca* with ‘habit[u]ative-extratemporal value’, e.g., *lag-* ‘lay (eggs)’ > *lag-aca* ‘lay (eggs) habitually’, *ciṅ* ‘hear’ > *ciṅ-aca* [‘hear habitually’].

- (17) D. Sila *mìikè* ‘pound’  
 a. *mìyé*  
 S3.IPF.pound  
 ‘s/he knows how to pound’  
 b. *mì-cá*  
 S3.IPF.pound-*ca/-sa*  
 ‘s/he is pounding’
- (18) D. Sila *dâàkè* ‘wash’  
 a. *dâàyé*  
 S3.IPF.wash  
 ‘s/he will wash’  
 b. *dâà-cá*  
 S3.IPF.wash-*ca/-sa*  
 ‘s/he is washing’
- (19) D. Sila *wàṅàkè* ‘dance, play’  
*cóók-ánà wàṅì-c-íṅ*  
 children-DEF P3.IPF.play-*ca/-sa*  
 ‘the children are playing/having fun’
- (20) D. Sila *làṅàkè* ‘sing’  
*máá kàl wèèdé làṅà-cá*  
 he when S3.IPF.walk S3.IPF.sing-*ca/-sa*  
 ‘when he walks, he sings/he is singing while walking’
- (21) D. Sila *sùṅàkè* ‘sleep’  
*kìṅ-ánà kì wídè sùṅì-c-íṅ*  
 people-DEF in night P3.IPF.sleep-*ca/-sa*  
 ‘people sleep during the night’
- (22) D. Sila *yèrèkè* ‘think’  
*máá fáábà wàlá lègé yèrè-cá*  
 he thing NEG S3.IPF.say S3.IPF.think-*ca/-sa*  
 ‘he does not say anything, he is thinking’

iv.) Finally, *-ca* tends to function as a complementary partner of *-INTS* in two aspects:

- As is also the case for a suspected former extension *-INTS*, *-ca* is often involved in the expression of the subject index plural forms of the ‘bare’ Imperfective paradigm (TABLES 11-12 above, and TABLE 14 below: *dèlèkè, gèfèkè*).
- The association Imperfective *-ca* / Perfective *-INTS* is characteristic of certain semantic specialisations in verbs as illustrated below (citation of S3 / P3 forms):

INFINITIVE	IMPERFECTIVE(- <i>ca</i> )	PERFECTIVE(- <i>INTS</i> )	ENGLISH GLOSS
<i>bàlgàkè</i>	<i>bàlgé</i> / <i>bàlgâ</i>	<i>kàbàlgí</i> / <i>kàbàlgâ</i>	‘season (dish)’
	<i>bàlgâ-cá</i> / <i>bàlgî-c-ín</i>	<i>kàbàlgí-dí</i> / <i>kàbàlgí-dí-c-ín</i> (~ <i>kàbàlgí-dâ</i> ?)	‘lie, tell a lie’
<i>dègèkè</i>	<i>dègé</i> / <i>dègâ</i>	<i>kèdèg</i> / <i>kèdèkkâ</i>	‘kick; chew (tobacco); become sour’
	<i>dègè-cá</i> / <i>dègî-c-ín</i>	<i>kèdèk-tí</i> / <i>kèdèk-tâ</i>	‘clean the cotton (with bow)’
<i>dèlèkè</i>	<i>dèlé</i> / <i>dèlî-c-ín</i>	<i>kèdèl</i> / <i>kèdèlà</i>	‘fall (down); set (sun)’
	<i>dèlè-cá</i> / <i>dèlî-c-ín</i>	<i>kèdèl-dí</i> / <i>kèdèl-dâ</i>	‘set up (a trap)’
<i>gèfèkè</i>	<i>gèfè</i> / <i>gèfî-c-ín</i>	<i>kègèf</i> / <i>kègèfâ</i>	‘hatch’
	<i>gèfè</i> , <i>gèfâ-cá</i> / <i>gèfî-c-ín</i>	<i>kègèf-tí</i> / <i>kègèf-tâ</i>	‘bark, peel’
<i>jègèkè</i>	<i>jègé</i> / <i>jègâ</i>	<i>kèjèg</i> / <i>kèjèkkâ</i>	‘reach with stone or weapon’
	<i>jègè-cá</i> / <i>jègî-c-ín</i>	<i>kèjèk-tí</i> / <i>kèjèk-tâ</i>	‘sharpen by beating’

TABLE 14: Imperfective *-ca* / Perfective *-INTS*: lexical specialisation (Daju Sila)

## 8 Daju Eref (‘western’ Daju)

Palayer (2011: 79-166) gives a detailed study of the verb system in Daju Eref and shows, in particular, the nearly unique way each verb may assemble its own forms out of a great variety of simple/derived bases, modalities and voices.

Concerning the extensions *-câ* and *-sâ*, the author makes the following comments:

- *-câ* may be suffixed to imperfective (*Form I*) root bases or to imperfective and perfective (*Form II*) bases already derived with *-d*, *-t* or *-dd* (the equivalent of *-INTS* in Sila). In the latter case, they are mostly restricted to plural verb forms, with a possible distributive value (‘they do/did separately/independently’) (Palayer 2011: 91-94).

- *-sà* is restricted to the perfective (*Form II*) and similar forms like the imperative (2011: 95-97).
- The *-cà* form may exist without an existing or employed corresponding *-sà* form (2011: 95).<sup>12</sup>
- Some verbs may have an imperfective or a perfective appearing only with this type of suffix (i.e., no bare form is attested) (2011: 97).
- *-ca/-sa* forms appearing alone (i.e., without *-d/-dd* as noted above) may be semantically equivalent to the bare forms, but in some cases they seem to indicate a ‘non-instantaneous process’. They may also express different semantic values of the verb (2011: 97).

As for the *-d*, *-t* and *-dd* extensions, their compatibility with the imperfective (Palayer’s *Form I*) seems to be highly restricted. They may appear when combined with following *-cà* (2011: 111-112), but they are otherwise absent from the derived bases illustrating the imperfective (2011: 103-105).

In general, these remarks are very similar to the situation that has been observed in Daju Sila. However, I could not find any information concerning the compatibility/incompatibility of *-cà/-sà* with personal object pronouns.

## 9 Historical perspective

### 9.1 Antipassive function

The specific marking of transitive verbs used without an expressed object is usually known as antipassive, a notion that was first formulated in the case of ergative languages. Polinsky (2017: Abstract) defines it as follows:

‘Antipassives’ are constructions in which the logical object of a transitive (two-place) predicate is not realized as a direct object, but instead appears as a non-core argument or left unexpressed (but presupposed). [...] The antipassive is not limited to ergative languages, although it may be more noticeable under ergative configuration.

In this sense, the absolute form in both Shatt Damam and Laggori clearly has an antipassive function.

In Daju Sila however, this property is limited to the specific case of personal object indices, a situation that I would rather consider as a vestigial one. Indeed, the combinatory abilities of verbs with the closed category of object indices

---

<sup>12</sup> “La forme en *-cà* peut exister sans qu’existe ou soit utilisée la forme en *-sà* [...].” Although this is not explicitly expressed, the remark seems to imply that the latter (*Form II* = Perfective) is less frequent than the former (*Form I* = Imperfective).

seem to me less free than those with lexical objects, and consequently more likely to represent a conservative than an innovative structure.

In a paper devoted to the antipassive in Bantu languages, Bostoen et al. (2015) develop the idea that, in these languages, the antipassive usually results from reciprocal/associative constructions:

The antipassive always emerged as a specific reading of a marker more commonly used to express reciprocity and associativity. It most probably did so independently in different Bantu languages. It is the underlying notion of ‘plurality of participants’, or even more generally ‘plurality of relations’, of which the Proto-Bantu reciprocal/associative extension *-an-* is a carrier, which has led to the convergent arising of the antipassive meaning. (2015: 766)

In the present case, there is clearly no indication that a ‘reciprocal’ value might have been the source of the current antipassive of ‘Eastern’ Daju languages. Rather, ‘Western’ Daju languages developed, among others, an ‘associative’ value of the *-ca* form that is used for marking the plural subject indexes of the imperfective aspect (see SECTION 7.2, (iv)).

9.2 Decrease of the ‘Western’ perfective *-sa*

Without losing sight of the limited and uneven representativeness of the data recorded in Shatt Damam and Daju Sila (see fn. 2 above), the statistical evaluations displayed in TABLE 15 above concerning the respective frequencies of absolute and *-ca/-sa* forms in either language nevertheless reveal a significant contrast.

Shatt Damam		Daju Sila			
Total of verbs	206	Total of verbs	291		
Verbs + <i>ABS</i>	38	Verbs + <i>-ca/-sa</i>	114	/out of:	
IPF. & PF. + <i>ABS</i>	25	IPF. & PF. + <i>-ca/-sa</i>	10	whole paradigm	6
				pl. subj. only	4
IPF. only + <i>ABS</i>	7	IPF. only + <i>-ca/-sa</i>	101	whole paradigm	61
				pl. subj. only	40
PF. only + <i>ABS</i>	6	PF. only + <i>-ca/-sa</i>	3	whole paradigm	2
				pl. subj. only	1

TABLE 15: Absolute (Shatt Damam) and *-ca/-sa* (Daju-Sila) verb forms: lexical frequencies

N.B. Daju Sila *-ca/-sa* extensions limited to plural subjects are counted separately (see SECTION 7.2, (iv) above)

More precisely, this contrast may be detailed as follows:

i.) In Shatt Damam, less than a fifth (38/206) of all verbs may, somehow or other, combine with an absolute extension, while in Daju Sila the proportion of verbs that may exhibit a *-ca/-sa* suffix rises to more than a third (114/291).

ii.) In Shatt Damam, more than half (25/38) of the verbs that may appear in the absolute form do so in both the imperfective and the perfective, the rest being more or less equally divided between the imperfective (7/38) or the perfective (6/38) only. In Daju Sila, less than a tenth (10/114) of the verbs that may combine with *-ca/-sa* suffixes do so in both the imperfective and the perfective but the greatest number of them (101/114) do so in the imperfective only, while instances of *-ca/-sa* suffixation in the perfective only are extremely limited (3/114).

In other words, from Shatt Damam to Daju Sila the representation of absolute(-like) extensions in the imperfective is markedly increasing while it is drastically reducing in the perfective.

Let us remind ourselves here of the rarity of perfective absolute *-sV* as noted by Manfredi (ms.) in the ‘Eastern’ language Laggori (see SECTION 6 above). It is not clear whether this scarcity is itself the result of a decrease and, if so, whether we are dealing here with the same historical reduction as for ‘western’ languages or, rather, with an independent and distinct development.

### 9.3 Towards a ‘Western’ complementarity of *-ca/-sa* and intensive

Considering, in Daju Sila and, to some extent, Daju Eref, a) the generally marginal status of the *-INTS* extension in the imperfective aspect (SECTION 7.1), compensated by b) the strong concentration of the *-ca/-sa* extension in the same imperfective (SECTION 7.1), c) the innovative use of *-ca/-sa* instead of *-INTS* markers for characterising the plural forms of the ‘bare’ imperfective (TABLES 11-12 and SECTION 7.1), and finally the imperfective *-ca* / Perfective *-INTS* coupling of some semantically specialised verb forms (TABLE 14), there appears to be, in the ‘Western’ languages, a marked trend towards a complementary distribution of the *-ca* extension in the imperfective with the *-INTS* extension in the perfective. Indeed, their respective values of ‘durative/habitual’ or ‘plural subject’ (imperfective) and ‘intensive’ (perfective) come together under the general label ‘associative’ that Bostoen et al. (2015) consider to be the source of the Bantu antipassive (see SECTION 9.1).

#### 9.4 Summary

However, if the semantic affinity ‘associative’/‘antipassive’ is relevant here, in the present case I would rather consider that the antipassive prevailed in an earlier system that later developed towards associative values in the ‘western’ languages. I mentioned above (SECTION 9.1) that such a historical perspective is more likely if we consider the incompatibility of *-ca/-sa* markers with object indexes in Daju Sila. I would argue that the ‘Western’ marginal status of perfective *-ca/-sa* as well as the partial complementarity between *-ca/-sa* and *-INTS* are themselves more reconcilable with a diachronic scenario that treats them as resulting from a prior antipassive function than the reverse.

If we agree with this view, the historical perspective on the Daju absolute and *-ca/-sa* extensions can be summarised as in FIGURE 1:

i.) Shatt Damam is, in this respect, the best representative of a common system: the absolute form always has an antipassive function and its application is shared by both imperfective and perfective in a balanced way.

ii.) Within the ‘Eastern’ languages no significant change can be identified except a likely decrease in usage of the Laggori perfective absolute *-sa*, of which we do not know whether it is correlated with the similar development observed in the ‘Western’ languages.

iii.) The ‘Western’ languages Daju Sila and Daju Eref are jointly undergoing more noticeable changes: while *-ca/-sa* markers preserve a residual function of antipassive in the restricted case of object indexes, their frequency increases – with a frequent value of durative/habitual – in the imperfective aspect, and conversely decreases drastically in the perfective aspect. Correlatively, the imperfective *-ca* forms progressively enter into complementary distribution with the Perfective extended by *-INTS*.

If the label ‘absolute’ – and even more ‘antipassive’ – is no longer appropriate for the ‘Western’ languages, it is not obvious how to characterise an extension that takes on such varied functions. ‘Progressive’, ‘durative’ or ‘habitual’ would probably approach the most relevant labels for most cases but these still do not account properly for the plural subject indices nor for the few cases of semantic specialisation (TABLE 14). In this respect it would be interesting to get an idea of the speakers’ feeling concerning the unity of the different *-ca/-sa* marker instances.



## 10 Final thoughts

As a conclusion I would like to review two previous works in the light of the present paper.

a.) A few years ago Boyeldieu & Manfredi (2014) evaluated the relevance of the Daju verb regarding the ‘Western’/‘Eastern’ Daju languages distinction previously based on noun morphology (SECTION 2). To the question “Does the verbal morphology support the distinction ‘Western’/‘Eastern’ Daju?”, the authors answered in a negative way: “No, but transition from ‘Proto-Eastern Daju’ to Laggorí has been perturbed in a marked way: Laggorí as a high-contact Daju variety.”

When looking back at the arguments called upon to justify this conclusion, it appears to me that they were foremost concerned with the morphological marking of the subject indexes in both the imperfective and perfective aspects. Indeed, the prefixes and suffixes used to express the ‘person’ display, in their form as well as in their structure, an overall similarity that does not indicate any clear contrast.

However, the status and functioning of the absolute or *-ca/-sa* extensions that have been shown in the present paper obviously require the earlier judgement to be seriously qualified: in this respect Shatt Damam and Laggori, on the one hand, and Daju Sila and Daju Eref on the other, contrast in an undisputable way. And, again, the ‘Eastern’ languages prove to represent the most conservative ones on this particular point.

b.) More recently, antipassive constructions were selected in the programme of the French-Sudanese project PICS *Les langues du Soudan : à la croisée des aires et types linguistiques / The languages of the Sudan: a typological and areal crossroad* (CNRS/ University of Khartoum, PIs Nicolas Quint & Abeer Bashir Trefi, 2019-2021).<sup>13</sup>

The aim of the project was to identify features that could be considered as characteristic of a ‘Sudanese’ linguistic area. Provided that the present historical interpretation of the data is correct, the antipassive function would have been preserved in Sudan only – or more precisely in the Kordofan region? – while it was seriously altered in the ‘Western’ languages Daju Sila and Daju Eref.

---

<sup>13</sup> <https://sudanlinguisticarea.huma-num.fr/index.html>

**Abbreviations**

*	not attested, ungrammatical
ABS	absolute
ACT	actualiser
DEF	definite
EXCL	exclusive
IMP	imperative
INTS	intensive
IPF, IPF.	imperfective
Ndj.	data recorded in N'Djaména (Chad)
NEG	negation
P1	first person plural
P1D	first person plural dual
P1D.EXCL	first person plural dual/exclusive
P1EXCL	first person plural exclusive
P1INCL	first person plural inclusive
P2	second person plural
PF.	perfective
PL, pl.	plural
PN	plural noun
S1	first person singular
S2, s2	second person singular
S3	third person singular
S3F	third person singular feminine
S3M	third person singular masculine
S3N	third person singular neuter
SG, sg.	singular
SN	singular noun

## References

- Alamin, Suzan Mubarak. 2006. An initial description of Laggori noun morphology and noun phrase. In Alamin Abu-Manga, Leoma Gilley & Anne Storch (eds.), *Insights into Nilo-Saharan Language, History and Culture. Proceedings of the 9<sup>th</sup> Nilo-Saharan Linguistics Colloquium*, 9-25. Cologne: Rüdiger Köppe.
- Alamin, Suzan. 2013. Verbs in Laggori. In Thilo C. Schadeberg & Roger M. Blench (eds.), *Nuba Mountain Language Studies*, 451-466. Cologne: Rüdiger Köppe.
- Bostoën, Koen, Sebastian Dom & Guillaume Segerer. 2015. The antipassive in Bantu. *Linguistics* 53 (4).731-772.  
[https://www.researchgate.net/publication/282628956\\_The\\_antipassive\\_in\\_Bantu](https://www.researchgate.net/publication/282628956_The_antipassive_in_Bantu)
- Boyeldieu, Pascal. 2009. The modified form of Shatt Damam nouns and its Daju cognates. *Afrika und Übersee*, 90. 9-84.  
<https://shs.hal.science/halshs-00348145>
- Boyeldieu Pascal & Stefano Manfredi. 2014. Daju verbal morphology with special focus on Laggori and Shatt Damam. Paper presented at the 2<sup>nd</sup> Nuba Mountain Languages Conference, Aug. 2014, Paris, France.  
[file:///C:/Users/Pascal/Downloads/HANDOUT\\_Daju\\_verb-1.pdf](file:///C:/Users/Pascal/Downloads/HANDOUT_Daju_verb-1.pdf)
- Greenberg, Joseph H. 1963. Languages of Africa, *International Journal of American Linguistics*, 29, 1, part II. [2nd ed.: 1966, *The Languages of Africa*, Indiana University, Bloomington, La Haye, Mouton].
- Jungraithmayr, Herrmann. 1981. Le Daju de Dar Sila (Waday, Tchad). In *Les langues dans le monde ancien et moderne* (dir. J. Perrot), 1<sup>re</sup>-2<sup>e</sup> parties (Afrique subsaharienne-Pidgins et créoles), 277-281. Paris: CNRS.
- Manfredi, Stefano. Ms. *Laggori verbal morphology – General remarks*. Fieldnotes Sudan 2006-2010 (9 pages).
- Palayer, Pierre. 2011. *Grammaire du dadjo d’Eref (Tchad)*. Paris: Peeters (A&L 13).
- Polinsky, Maria. 2017. Antipassive. In Jessica Coon, Diane Massam & Lisa Demena Travis (eds.), *The Oxford Handbook of Ergativity*. Oxford Handbooks. 308-331. (available online:  
<https://doi.org/10.1093/oxfordhb/9780198739371.013.13>)
- Stevenson, Roland C. 1956/57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimanj. *Afrika und Übersee* 40. 73-84, 93-115; 41. 27-65, 117-152, 171-196.
- Stevenson, Roland C. 1964. Linguistic research in the Nuba Mountains–II. *Sudan Notes and Records* 45. 79-102.
- Thelwall, Robin. 1981a. *Systematic Phonetics, Lexicostatistics and Lexical Reconstruction*. Ulster: University of Ulster dissertation.

- Thelwall, Robin. 1981b. Lexicostatistical subgrouping and reconstruction of the Daju group. In Thilo C. Schadeberg & Lionel Bender (eds.), *Nilo-Saharan: Proceedings of the First Nilo-Saharan Linguistics Colloquium, Leiden, September 8–10, 1980*, 167-184. Dordrecht: Foris 1981.
- Tucker, Archibald N. & Margaret A. Bryan. 1966. *Linguistic Analyses, The Non-Bantu Languages of North-Eastern Africa*. London/New York/Cape Town: OUP for IAI.

# Egyptian loanwords in the Nuba Mountain languages

*Colin Fauré*

## 1 Introduction

Egypt's proximity to Sudan has favored contacts between the two populations from the beginning of the Pharaonic period. Thus, commercial relations developed quickly in this area, facilitated by the richness of the Sudanese subsoil in gold. This ore was of particular importance for the Egyptian powers, who used it to run their civil and religious administrations, develop infrastructure and finance their military apparatus. These growing needs led the Egyptian kings to colonize the southern lands to manage these mineral resources, first during the Middle Kingdom (c. 2033 – c. 1780 BC), as far as the second cataract, in the region called Wawat (*wꜣwꜣt*), and then during the New Kingdom (c. 1500 – c. 1050 BC), in its entirety from Aswan and the first cataract to Kurgus, between the 4th and 5th cataracts, in the region called Kush (*Kꜣš*)<sup>1</sup>. This presence, over such long periods of time, allowed the Egyptian culture and language to spread and take root in these territories. However, the furthest border of the Egyptian territory in Sudan is to be placed in the Kurgus region, as mentioned above, which is some 900 kilometers away from Kordofan and the Nuba Mountains. In these conditions, how and why would Egyptian words have become so integrated into the different languages of the Nuba Mountains?

It should be remembered that throughout the history of ancient Egypt, the pharaohs made numerous contacts with their more or less distant neighbours, whether through trade or in a bellicose manner through wars of expansion or defense.

Thus, among these peoples, we can mention the Libyans in the West, the peoples of the various Semitic kingdoms of the Near East (Canaanite, Hittite, etc.) and the Greeks and the Romans, coming from the North, who settled and took control of the Egyptian territory during later periods. These contacts led to the

---

<sup>1</sup> Egyptians designated as Kush what is called Upper Nubia, between the second cataract and Kurgus. Later on, this denomination was extended to the whole region described here.

creation of numerous ways and means of exchange between these different populations. Whether commercial, demographic or even military, these relationships led to interactions between populations. To the south of the Egyptian Empire lies Nubia. The Egyptian influence over the territory can be seen first of all in the famous pyramids of Meroe, Nuri and Kurru, the pyramidal shape of these tombs being borrowed from the tombs of the Egyptians (or, more precisely, from the tombs of the officials of the Egyptian administration who were buried in Nubia, like those in Soleb and Tumbus). We can also mention the representations that can be found outside the pyramids, on some pylons, where the King is depicted, as the Egyptian kings were, killing their various enemies and crushing them underfoot. Inside the pyramids, we can also find representations influenced by Egyptian tomb decorations, such as pictures showing, in several registers, processions of people presenting food and treasures to the ruler, or representations of funeral processions showing the king accompanied by the gods on his way to the afterlife.

Languages do not escape cultural influences, so that we can still find today words derived or borrowed from Ancient Egyptian, in geographical areas where Egyptians never travelled, and where the Egyptian language was unknown. In western Europe, for example, traces of this journey can be found. We can cite words like *paper* (*papier* in French), which comes from Latin *papyrus*, borrowed from Greek *παπυρος*, itself inherited from the Egyptian *p3 pr-ʕ* (pronounced [papyro] in late Egyptian), meaning ‘the one of Pharaoh’. This expression reflects the monopolistic nature of papyrus production. Since Egyptian society was based on strong and plentiful administration, the royal power wanted to control its supply. Similarly, *gum* (*gomme* in French), has followed the same path, from Latin *gummi*, coming through Greek *κομμι* from Egyptian *qmj.t* (pronounced [kemi]) ‘gum’.

A land as close to Egypt as Sudan is no exception. There are therefore loanwords from Egyptian in languages of the Nuba Mountains. We will focus on these borrowings in Nyimang and Afitti, two closely related Nilo-Saharan languages from the Nuba Mountains, forming the Nyima group.

## 2 The Egyptian loanwords

### 2.1 The Nyimang calendar, a typical example of the course of loans

The first loans we are going to analyze are some months of the Nyimang calendar. The apparent path of these words through different languages will make it possible to outline a standard journey in order to better understand the other borrowings that we will see later.

The first imported month is the first month of the year:  $\dot{\chi}\dot{\delta}\dot{\chi}\dot{\delta}$  (in Ama, the main Nyimang dialect) or  $\dot{\chi}\dot{\delta}\dot{\delta}\dot{o}g$  (in Mandal, the other Nyimang dialect). This first month comes from the Egyptian word *Thot*. It is the first month of the Egyptian year and marks the beginning of the flood of the Nile (called the *Akhet* season). It is named after the god Thot who, among his attributions, is the reckoner of time and seasons (Posener 1963: 301). The Egyptian word *Thot* was passed into Coptic: *t<sup>h</sup>oout* (Vycichl 1984: 58). It was borrowed into medieval Christian Nubian, which uses the first Egyptian form, *t<sup>h</sup>ot<sup>h</sup>*, and finally was imported into the Nyimang language. The transformation to  $\dot{\chi}\dot{\delta}\dot{\chi}\dot{\delta}$  is quite obvious with the addition of a final /o/. For  $\dot{\chi}\dot{\delta}\dot{\delta}\dot{o}g$ , the second /t/ devoiced to /d/. The added ending /g/ is unclear. It might be the trace of a Nubian accusative marker (-ga or -ge).

The second month of the calendar is also imported from Egyptian, but only in Nyimang Ama: it is called *bibilá*. It comes from the Ptolemaic Egyptian month *Paophi*. In classical Ancient Egyptian, it was called *p3 n jpt* ('that of Opet', the name of Karnak, formerly Thebes). It is the second month of the Egyptian year, the second month of the Nile flood period. This month refers to the procession of the festival of Opet, where the sacred bark of Amun goes up the Nile from the temple of Karnak to that of Luxor. In the same way as the first month, the Egyptian word passed into Coptic without major transformation: *paope* (Vycichl 1984: 161). In Sahidic, with some variations in other dialects, it became *paop<sup>h</sup>i* (Bohairic), *paape*, *poope* (Sahidic variation), *pawpi* (Bohairic), *paapi* (Fayyumic) and was then adopted into Old Nubian as *p<sup>h</sup>aWp<sup>h</sup>i* (/babi/) (Rilly 2010: 189). Here, the /p/ became regularly /b/ and the final /e/ shifted to /i/. The last borrowing is thus from Old Nubian into Nyimang, where it became *bibilá*. There is a vowel-copying in the first syllable from /a/ to /i/ and the unexplained addition of a final syllable *lá*. Arabic is close to the Old Nubian pronunciation, with *baba*.

The fourth month of the calendar is also imported from Egyptian. Nyimang Ama *kwifî* is originally borrowed from the Ptolemaic Egyptian month *Choiak*, originally *k3 hr k3* (from the name of the bull Apis), the fourth month of the Egyptian calendar and the last month of the flood period. From Ptolemaic, the transfer to Old Nubian was through Coptic *koiahk* (Vycichl 1984: 74), identical to Ptolemaic. Old Nubian transforms Coptic into *khoiak* (/guiak/), with the voicing of the initial /k/ into a /g/ resulting in a change in pronunciation. To arrive at *kwifî*, the initial /g/ devoices back to a /k/, as in Egyptian and Coptic. With this devoicing, *khoi* (/gwi/) then becomes /kwi/. This interpretation is subject to reservations, particularly regarding the second syllable of the Nyimang word, which does not seem to be etymologically related to its Egyptian root. This name can also be found in Aramaic (*kyħk*) and in Egyptian Arabic (*kiyahk*).

The Nyimang words *bwí* (Ama) and *bùgè* (Mandal) correspond to the month of *Pakhons* (*p3 n hnsw* ‘that of Khons’), the ninth month of the year and the first month of the harvest period (called *Shemu*). It refers to the full moon of the month, associated with the god Khons. The Egyptian word, before reaching Nyimang, first passed through the Coptic *pahons* (Vycichl 1984: 167). The /x/ has been transformed into /g/, both being velar sounds. This word is still used in Dongolawi Nubian to designate the summer season and became *fagoon* in Nobiin. From Coptic, *pahons* was borrowed by Old Nubian to become *pahon*. Thus, when it was transferred into Nyimang Mandal, the /a/ was replaced with a /u/ and the ending *on* became *e*. For Ama, Rilly tells us that *bwí* originally had a /g/, but it became silent (Rilly 2010: 189). Thus, the Ama form would result from the loss of /g/ and the addition of the final vowel /i/. This month is also found in Arabic: *bašans*.

These different examples show us quite similar paths: a word of Ancient Egyptian origin passed into the different Coptic dialects. From there it was borrowed into the Nile Nubian languages and finally settled in the Kordofan Nubian languages. Despite some slight differences, the following loanwords have taken this same route.

## 2.2 Other examples of loans

The first loan is not a month. It is found in the Nyimang and Afitti dialects and concerns the word for ‘sword’. In Afitti this word is *siddi*. In Nyimang, it is *šibiđi*. They both have an Egyptian root: they come from the Egyptian *sf̄t*, bearing several meanings, all related to the field of butchery or slaughtering: ‘to slaughter or make a sacrifice’ (since the Old Kingdom, between *c.* 2700 and *c.* 2200 BC), a ‘butcher’ (since the Middle Kingdom), a ‘sacrifice’ (since the eighteenth dynasty, between *c.* 1550 and *c.* 1300 BC), etc. *sf̄t* derived to *sf̄t* which means a ‘knife’, and later came to mean a ‘sword’ around the eighteenth dynasty. Since the Middle Kingdom, the final /t/ was no longer pronounced in the Egyptian language. Thus, the pronunciation of the word should sound like [sɛ:fɛ], or something close to it, as we can imagine from the Coptic *seefè* (Vycichl 1984: 204). From this point on, the word was also borrowed in the Arabic term *sayf* ‘sword’. The two loanwords in the Nyima languages show a rather similar course. From Egyptian, the root passed into the Nile languages and then into Kordofan Nubian (also called Ajang), and was eventually imported into Afitti and Nyimang. Thus, Egyptian *sf̄t* became \**sibidi* in early Nile Nubian and later *siwid* in Kenuzi-Dongolawi. The Egyptian /f/ became first /b/, then /w/, and a final /d/, which was originally a singulative marker in Nile Nubian, was added. These changes were then imported into Kordofan Nubian and then into Afitti and Nyimang in two different forms:

- In Afitti, the central /i/ of the original Early Nubian \*sibidi fell off and the resulting cluster *bd* assimilated to *dd*, resulting in *síddi*.
- In Nyimang, the term remained closer to the original Early Nubian word, *fibiḏi*.

In the two Nyima languages, the word for ‘sword’ is imported, just like in the other Nubian dialects of Kordofan: *sibit* (in Dair), *siibde* (in Kadaro), *sibit* (in Ghulfan) or *fibid* (in Dilling). All these words have the same root, from the Nubian languages of the Nile, into which it came from Egyptian. This is not a coincidence because the sword was not a common weapon in this region, the spear being the more ancient and usual weapon. Thus, the weapon was imported alongside its name.

Since the integration of the loanword into the Nile Nubian languages, the ending *-di* appears (\*sibidi), notably in Nyimang and Afitti (*síddi* or *fibiḏi*). This is the singulative marker. Further details will be added below.

Another word is also affected by this suffix: it is the word for the ‘date palm tree fruit’. It comes from the Egyptian *bnj*, which can be found in Coptic (Vycichl 1984: 29) as *beni* (Bohairic) or *bnne* (Sahidic). The Coptic word was then borrowed into Old Nubian: *pentí* (Browne 1996: 148), *pet(t)I* (Browne 1996: 150). We observe in these two loanwords, like for ‘sword’, an added suffix *-ti* marking the singular. The initial /b/ devoiced into /p/. In *pet(t)I*, the /n/ in *ben* assimilated with the second /t/ of *pet(t)I*.

From this point on, the Old Nubian words spread all around the region, reaching many Nubian languages.

In Central Sudan, Dongolawi *bént(i)* (Armbuster 1965: 234) has kept the Egyptian and Coptic initial /b/. The same phenomenon occurs in Nubian, *pentí* and *pet(t)I* becoming *benti* (Hofmann & Vorbichler 1983: 72), while they become *betti* (von Massenbach 1962: 177) in Kenuzi (Reinisch 1972: 20). The Old Nubian *apenti* form is derived into Nobiin as *fenti* (Khalil 1996: 114). The initial /a/ fell off and the remaining initial /p/ (= /b/) became /f/ due to fricatisation in the initial position, which is systematic in Nobiin.

Regarding the Kordofan languages, several points regarding the date palm fruit can be underlined.

First, we can observe direct loans from northern languages. The result of these borrowings is then close to the Egyptian, Coptic or Old Nubian words, despite some little changes: *fēnde* (Rilly, p.c.) in Nyimang Ama, *fēnda* (Rilly, p.c.) in Afitti, *fēndí* (Jakobi ms.) in Dair and *hēntí* in Dilling (Kauczor 1920: 21, 49) and Kudur. The *-tí* ending found in Dilling and Kudur, and the *-de*, *-da*, *-dí* ending

in Nyimang Ama, Afitti and Dair are inherited from the Old Nubian morpheme, where it marks the singulative. The Kordofan languages kept this addition. In Dilling, the singulative is completed by an *-nɗu* form (rendered *hentindur*, more details below). This *-ti* is devoiced to /d/ in Nyimang, Afitti and Dair. This kind of suffix is regularly found in imported words. As seen earlier, it is found in the word for ‘sword’ in some Kordofanian languages. These two words, ‘sword’ and ‘date’, are imported from Ancient Egyptian, where the system is based on the singular-plural pattern. In this case, the noun is unmarked when it represents a single item and the plural is expressed by a suffix (in this case, the morpheme *.w*). Then, when entering the Nile Nubian languages, which use a singulative and collective marking in their number marking system, it had to be adapted, adding the singulative *-tí* marker. This adaptation is not restricted to Egyptian borrowings but is also found in the translational equivalent for ‘horse’, which is imported<sup>2</sup> from the Meroitic \*mre-ke<sup>3</sup> (Rilly 2010: 431): *mòrɗù*, *marɗù*, *marɗi* (Nyimang), *mɔrɗà* (Afitti), *múrtí* (Nobiin), etc. These three words, for ‘sword’, ‘date’ and ‘horse’, are all imported from other languages. Indeed, the date palm tree is a cultivated product: the fertilisation, pollination and therefore the reproduction of the species is difficult, requiring human intervention. Thus, the date palm tree had to be brought in, in some way, to be exploited in Sudan. This is visible in the Midob language. The word for dried dates, an export product, is borrowed from Nile Nubian, itself derived from Egyptian: *péendí* (Rilly 2010: 403). In contrast, the word for fresh dates, less conducive to export, is borrowed from the Arabic: *tùmmùr* or *tòmmòr*. This word could have been borrowed later, with the arrival of Arabic-speaking populations.

A second suffix is also added in some languages using these northern borrowings. The suffix *-nɗu* (diminutive suffix) or *-túnɗu* is common in Ajang languages. Then, the word for ‘date’ becomes *éñéñtúnɗú* in Ghulfan-Morung, in Ghulfan-Kurgul *éñéñtúnú*, in Kururu *éñéñù*, in Kadaru *éñéñdū* and *enɗenɗu*, in Dabatna *éñéñɗú*, and in Debri *enɗonu*. In some of these dialects, /d/ is deleted after /n/ (Jakobi ms.: 121). Considering that Ghulfan-Morung and Ghulfan-Kurgul add a genitive marker *n* (Jakobi ms.: 121) between the Egyptian root and the *-túnɗu* suffix, the original root in these languages must be rendered as *enɗe* or *éñɗí*, much closer to the Egyptian than expected.

The removal of /d/ after /n/ is applied in different ways depending on the language. In Ghulfan-Kurgul, it is applied completely, in the entire word, unlike in Ghulfan-Morung, where the suffix keeps its original form. As in Ghulfan-Morung, Dabatna and Kururu preserve the suffix. In Debri, the root remains intact, while the /d/ in the *-nɗu* suffix is deleted. In two of these languages, we

<sup>2</sup> Coming from Mediterranean areas for military reasons.

<sup>3</sup> The latter may already have had this singular marker with the final *-ke*.

find the suffix *-tundu*. This suffix, like in many African languages, mean ‘the child’ (Walker 2018: 52, 68), the fruits being referred to as the trees’ children.

Another word may also have come from Ancient Egyptian. It is the word for ‘shield’, *dr* or *dur* in Nyimang, *târ* in Afitti. It may come from the Egyptian *qrʿw* (\*kilau or \*kulau). According to Hoch (1994: 298 f.), the Egyptian word might come from Ugaritic or a related Semitic language. In the Semitic languages, the word which means ‘shield’ is *qilʿa*. The later was also used to designate the shield bearer, along with *qallaʿu*. One or the other would have been adopted into the Egyptian language as a result of the conflicts with the Hittite Empire during the nineteenth dynasty (Erman & Grapow 1971: 59). This term is found in Hebrew as *kelaʿ* (which means the ‘sling, curtain, interleaving, door, tent, cell, sail, fishing net, braid’) and in Arabic as *kilʿ* (which means the ‘sail’). The use of the term changes, but its meaning remains relatively close to what the shield meant. We can still find the notion of protection, here visual. The new definitions have also kept the link with weaving (valid for the description of fabrics), the first shields being designed with an interlacing of reed mats. Like the sword, *qrʿw* has different meanings: it can designate the object, the shield, or the person who held it, the shield bearer. After Egyptian, the word would pass through Meroitic and Proto-Nubian \*kar (which retains only the first syllable). The initial /k/ became regularly /t/ in Afitti and less regularly /d/ in Nyimang. In Coptic, the same phenomenon occurs: the word for ‘shield’ is only composed of the first syllable of the Egyptian word, *qal* (Vycichl 1984: 337), the /r/ turning into /l/. However, it is not known whether this word definitely passed from Egyptian into Nyimang. It could only be a chance resemblance.

### 3 Conclusion

We have seen that transfers between Egyptian and Nyimang or Afitti can still be observed today. These borrowings were made indirectly, through one or more other languages, notably the Nile languages. If there are so many loans through Coptic, it is because the former and the latter have the same religion, that is, Monophysite Christianity. However, the origin of these transfers is rather unclear. Two hypotheses can be proposed:

- The first would attribute these imports to populations from Kordofan who, after having been enlisted in the armies of the medieval Nile Nubian kingdoms, would have returned home and spread certain words. Thus, examples such as ‘sword’ and ‘shield’ (if the latter does indeed come from Egyptian) would attest to borrowings from the military environment. The borrowing of the names for certain months may also support this hypothesis because of the discipline and the accuracy the army needed to coordinate itself and act.

- The other hypothesis proposes, in contrast, the presence of settlements of the Kingdom of Makuria in Kordofan during the Middle Ages until the fifteenth or sixteenth century. Thus, the permanent contact between the two populations would have led to borrowings from the Nile Nubian languages into the languages of Kordofan, as attested by numerous Nyimang and Affiti words that have not been cited here because they do not have Egyptian roots, but are of Nubian origin. The Kingdom of Makuria is a good candidate for this diffusion because many of its roots go back to ancient Dongolawi or Old Nubian and are found in all the languages of Kordofan. This powerful kingdom could thus have extended southwards, before the dispersion of the Kordofan populations by the Arab tribes in the seventeenth century.

These two assumptions can work in parallel, one not excluding the other.

However, the lack of archaeological evidence does not allow us to confirm or deny this hypothesis, as the conflicts undermining the region do not allow the permanent establishment of archaeological missions on site.

## References

- Armbuster, Charles Herbert 1965. *Dongolese Nubian: A lexicon*. Cambridge: Cambridge University Press.
- Browne, Gerald M. 1996. *Old Nubian Dictionary*. Leuven: Peeters.
- Erman, Adolf & Hermann Grapow. 1971. *Wörterbuch der Aegyptischen Sprache V*. Berlin: Akademie Verlag.
- Hoch, James E. 1994. *Semitic words in Egyptian Texts of the New Kingdom and Third Intermediate Period*. Princeton, New Jersey: Princeton University Press.
- Hofmann, Inge & Anton Vorbichler. 1983. *Das Nubische Wörterverzeichnis des Arcangelo Carradori (O.F.M.) aus dem frühen 17. Jahrhundert*. Vienna: Afro-Pub.
- Jakobi, Angelika. Ms. *Kordofan Nubian, a synchronic and diachronic study*. Unpublished manuscript.
- Kauczor, Daniel. 1920. *Die Bergnubische Sprache*. Vienna: Hölder.
- Khalil, Mokhtar M. 1996. *Wörterbuch der nubischen Sprache (Fadidja/Mahas-Dialekt)*, edited by Stefan Jakobielski & Piotr O. Scholz. Warsaw: Zakład Graficzny Uniwersytetu Warszawskiego.
- Massenbach, Gertrud von. 1962. *Nubische Texte im Dialekt der Kunūzi und der Dongolawi mit Glossar*. Wiesbaden: Steiner.
- Posener, Georges. 1963. Philologie et archéologie égyptiennes. *Annuaire du Collège de France* 63. 299-305.
- Reinisch, Leo. 1972. *Die Nuba-Sprache*. Wiesbaden: Sändig.
- Rilly, Claude. 2010. *Le méroïtque et sa famille linguistique*. Leuven: Peeters.

- Vycichl, Werner. 1984. *Dictionnaire étymologique de la langue copte*. Leuven: Peeters.
- Walker, Katherine. 2018. Nominal number in Tabaq. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 49-75. Cologne: Rüdiger Köppe.



At the Begrawiya Pyramids (Meroë West)  
(photo: Gertrud Schneider-Blum, February 2010)

# The manufacturing process of the Neolithic ceramic from Central Sudan and of the modern pottery tradition in the Nuba Mountains: A comparative study

*Wafa Hussein and Ahmed Hamdan*

## 1 Introduction

Ethnographic and experimental archaeological studies have provided a lot of information about early methods of pottery production in the archaeological field. Therefore, this paper attempts to establish a link between the studies of Neolithic pottery in Central Sudan and modern traditional pottery industries in the Nuba Mountains, using the concept of *chaîne opératoire*. This concept provides a good understanding of the process techniques used to produce the ceramics of the late prehistoric period in Central Sudan. It is a term that refers to the reconstruction of all the technical processes of the ceramic industry, that is, collecting the raw material, clay preparation, forming, finishing, surface treatment, decoration and firing (Roux 2019). The principle of *chaîne opératoire* is based partly on ethnographic studies of traditional ceramic production methods in different modern societies and partly on the subtle traces left by each process on archaeological ceramics, which can be reconstructed by examining micro-traces.



FIGURE 1: Wheel-made versus hand-made (Roux 2019: 47, 49)

In general, the ways in which ceramics are formed are divided into two groups: wheel-made, with RKE ‘rotary kinetic energy’, and hand-made without RKE; see FIGURE 1 (Roux 2019: 47, 49). In the cases of late prehistoric ceramics, most of the examples discovered around the world show the hand-made techniques, such as the following (see also FIGURE 2, from Roux 2019: 56, 59, 62).

a) In the coiling technique, a long or short coil of clay is shaped and rolled around itself into a vertical spiral and can then be used for forming walls and/or a horizontal spiral for the base (see Roux 2019: 56).

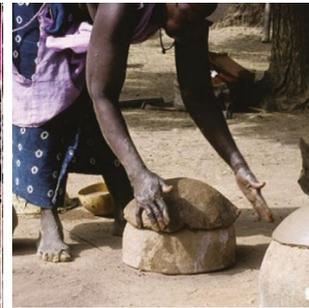
b) The slabbing technique consists in roughing-out a complete vessel or parts of the vessel with parallel slabs of variable dimensions made out of large coils or lumps (see Roux 2019: 59).



Coiling



Slabbing



Moulding



Hammering



Modelling

FIGURE 2: Hand-made techniques (Roux 2019)

c) The moulding technique consists in roughing-out and forming the vessel by spreading a clay mass onto a convex or concave mould (see Roux 2019: 62).

d) The modelling technique by drawing consists in forming the walls of a vessel by thinning a lump of clay by discontinuous finger or inter-palm pressure, vertically from the bottom to the top (see Roux 2019: 62).

e) The hammering technique consists of roughing out a hollow volume from a clay mass by percussion, without using a mould (see Roux 2019: 62).

Considering the archaeological dimension, the prehistoric period and the divisions of this era are associated with environmental changes that affected human behaviour and economic activities (for an overview see TABLE 1).

The Late Pleistocene, which lasted between 23,000 and 11,000 BC, and is part of the Palaeolithic, includes the first human achievements in the manufacture of stone tools and primitive adaptations to geographical conditions and the environment. The early Holocene, associated with the Mesolithic and covering the period between 11,000 and 6,000 BC, is characterised by a stone industry known as micro-lithic and by the discovery of fire, also associated with the manufacture of pottery, which appeared in Central Sudan around 8,000 BC in hunter-gatherer societies. During the Middle Holocene, which is part of the Neolithic, dated to 6,000-2,000 BC (Sadig 2013: 29-50), there was a revolution in food production; at this time, the ancient human started to domesticate animals and cultivate plants, which had a direct impact on the system of life, on economics, on the size of settlements and on the relationships between members of the same community, where the phenomenon of work appeared.

The economic system shifted from hunting and gathering in the Mesolithic to the domestication of animals and plants in the Neolithic, leading to stability for these groups instead of a life of movement in search of food.

The stability of settlements was reflected in their size and in the emergence of different activities carried out by specific individuals. Thus, the characteristic of specialisation appeared in work, as evidenced by the type and form of cultural materials, the development of the quality of specific materials such as pottery, the lithic industry, the availability of large quantities of grinding-stone tools due to the production of crops and the increase in the number of consumers, and other evidence.

ENVIRON- MENT	CULTURAL PERIOD	ECONOMIC SITUATION	CULTURAL MATERIAL
Late Pleistocene 23,000-11,000 BC	Late Palaeolithic 18.000-9.000 BC	Small human groups along the Nile.  They hunted large animals such as hippopotamus and wild bulls, and gathered wild plants and fruit.	Stone tools as hand axes
Early Holocene 11,000-6,000 BC	Mesolithic 7.000-5.800 BC	Human groups had seasonal settlements near the Nile and near various water resources far from the Nile. The economy was based on hunting small animals, fishing and gathering plants and fruit.	Micro-lithic tools and the discovery of fire, associated with the manufacture of wavy-line pottery (see FIGURE 3)  Appearance of grinding stone tools
Middle Holocene 6,000-2,000 BC	Neolithic 5.000-2.000 BC	Permanent settlements  An economy based on animal domestication, alongside hunting and gathering	Micro-lithic tools with different manufacturing techniques  Production of high-quality pottery known as Neolithic ceramics  Appearance of religious manifestations such as statues and funerary furniture in cemeteries

TABLE 1: Chronology of the prehistoric period in Central Sudan

## 2 Studies on Late Prehistory in Central Sudan

The first researcher to study the Late Prehistoric period in Sudan was Anthony J. Arkell, the director of the Sudan Antiquities Authority from 1938 to 1949, who recorded the first sites of the Late Prehistoric period in Central Sudan and produced the first chronology of the period. Arkell began with the discovery of the Khartoum hospital site, known as “early Khartoum” (Arkell 1949), where he recorded and classified all the archaeological finds.

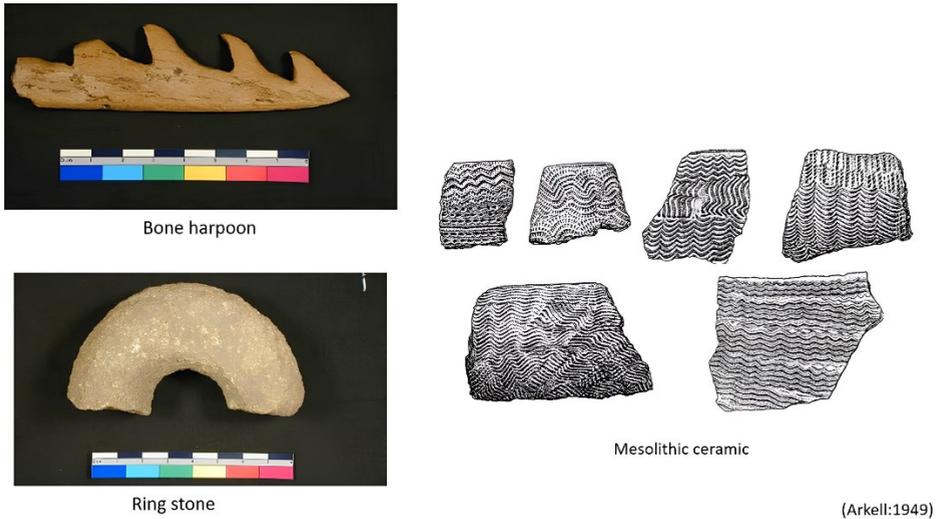


FIGURE 3: Mesolithic, Early Khartoum material, Khartoum hospital site (Arkell 1949: PL 35-46, 63)

The most outstanding find was the discovery of ceramics dated to 6,000 BC. Arkell believed this to be the oldest dated evidence of ceramic production in Africa at that time. His study focuses on visible elements such as decoration and surface treatment, and pays less attention to other variables such as manufacturing techniques and/or vessel shapes (Arkell 1949: PL 35-46, 63; see FIGURE 3). Recent studies at Saggai site (Caneva 1983), Sorourab 2 site (Khabir 1985: 40) and East and West Sabaloka (Sukova 2017: 23-49) (Nassr 2015: 1-45) have shown that other archaeological sites have been dated to a period of pottery production prior to 6,000 BC.



MAP 1: Mesolithic and Neolithic sites in Central Sudan (Nassr 2016: 116)

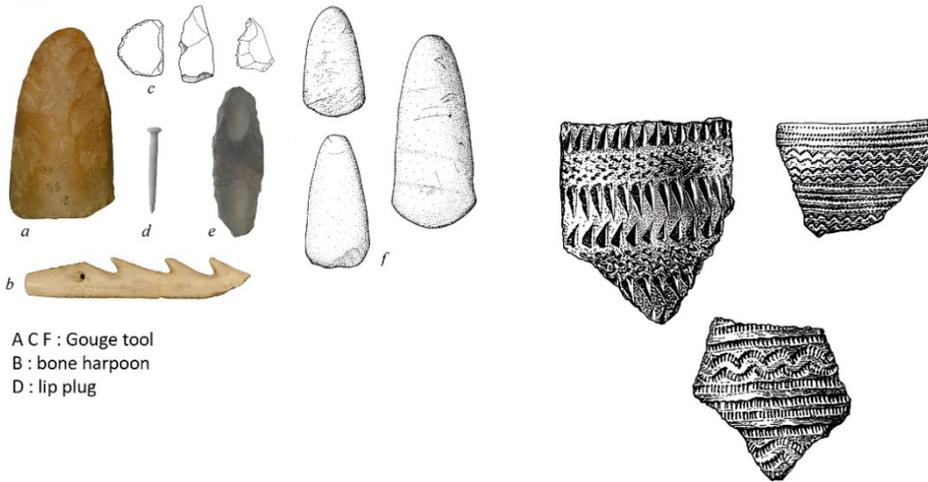


FIGURE 4: Neolithic material, Shaheinab site (Arkell 1953: PL 25-27-29)

Later, Arkell transferred his work to the site of Shaheinab, where a completely different material from that at the Khartoum hospital site was found. He called it “Khartoum Neolithic” or “gouge cultural”; it included different types of material such as bone harpoons, lip plugs made of bone, various tools from the stone industry like the gouge tool, and pottery from Shaheinab (see FIGURE 4). He adds that this pottery is a polished red pottery with different types of decoration from the materials found at the early Khartoum site (Arkell 1953: 68 – 80. PL 25-27-29).

After his work at El-Goz, south of Khartoum, Arkell added a stratigraphic sequence of material between early Khartoum and Shaheinab. The lower layers of the excavation contain material similar to early Khartoum Mesolithic, while the upper layers contain material similar to Shaheinab Neolithic. His hypothesis established the first chronological sequences between the Mesolithic and Neolithic periods in Sudan (Arkell 1953: 97-101). By now many studies have been carried out at many Mesolithic and Neolithic sites in Central Sudan and today more than 30 sites have been discovered (see MAP 1, from Nassr 2016: 116). I present here two studies that mention the technical process of pottery production.

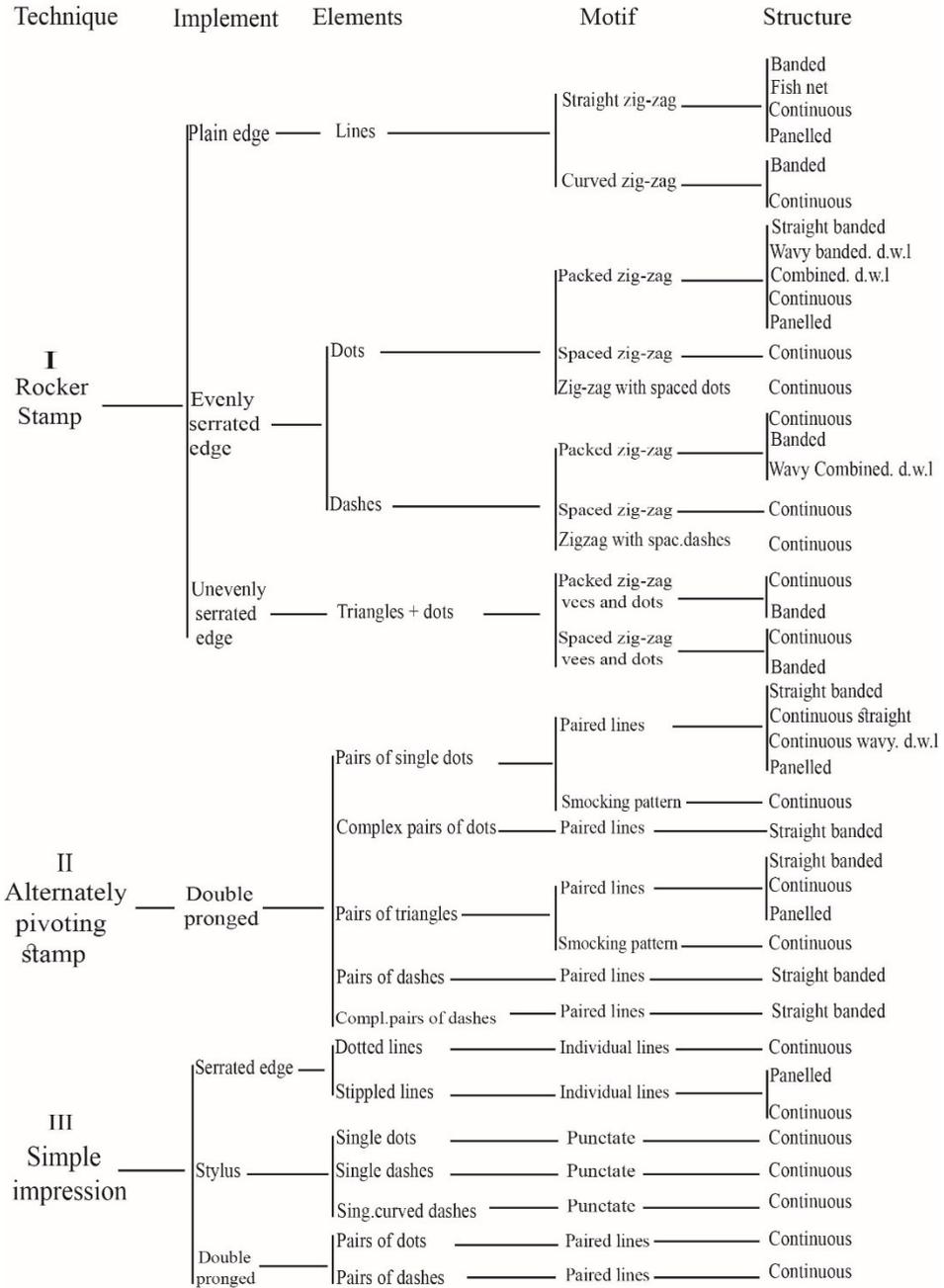


FIGURE 5: System of decoration classification (Caneva 1988: 83)

The Geili site is located 36 km north of Khartoum. It was studied by the University of Rome to investigate the late prehistoric period. The result of their work on ceramic production concluded that the ceramic clay, mixed with grains and quartz, was related to the geological structure present in this region. Caneva (1988) pointed out that there was no evidence of the use of the coiling technique, as is the case with Mesolithic pottery in Central Sudan. The shape of the sherds indicated a simple form of pots and bowls. The thickness of the sherds ranged from 3-6 mm and the surface was polished. Her classification focused on refining the chronology of the site based on decorative motifs, and she created a practical classification of the material. The methodology was based on decorative patterns, as it divides the stages of decoration production into five. Using the classification elements “technique, implement, elements and motifs, structure” (Caneva 1988: 83; see FIGURE 5) with a description of surface treatment, she indicated that the classification of decorative motifs was linked to geographical and temporal differences. Firstly, there is a difference between pottery from the Nile Valley and pottery found in the desert. Secondly, there is evidence of the difference in pottery production between the Mesolithic and Neolithic periods both in terms of the techniques used to produce decorative motifs and in the composition of the clay material.

The material from Geili has been dated to the Early Neolithic, similar to the Shaheinab culture, and the Late Neolithic, similar to the Kadero site. The ceramic material is part of the ceramic tradition that appeared in the Middle Nile region and developed from the Mesolithic (Caneva 1988).

The Shaheinab site was re-examined by Tigani el Mahi (1979) and Haaland (1981) and the material they collected was deposited in the National Museum in Khartoum in 2005-2006. Elena Garcea studied this collection according to the *chaîne opératoire* concept. This study showed that the pottery consists mainly of Nubian sandstone, which is common in Neolithic ceramics in Central Sudan, with only a few samples containing minerals, due to the geological nature of the Shaheinab region, where Nubian sandstone is present. They note that the Late Neolithic ceramic paste is similar to that of early Khartoum, in which the ceramic paste contains potassium and feldspar. As for impurities, the Early and Late Neolithic ceramic contained minerals and organic inclusions such as plant remains and animal dung. This was found only in the Early Neolithic material. The shape of the rim sherds indicated different diameters ranging from 9 to 42 cm; the thickness of the sherds ranged from 5-10 mm, with burnished surfaces. The decorative motifs were an impression technique in which bands of packed zigzags with evenly serrated edge tools ‘fish spine’ (see FIGURE 6) (Garcea 2006: 95-102).

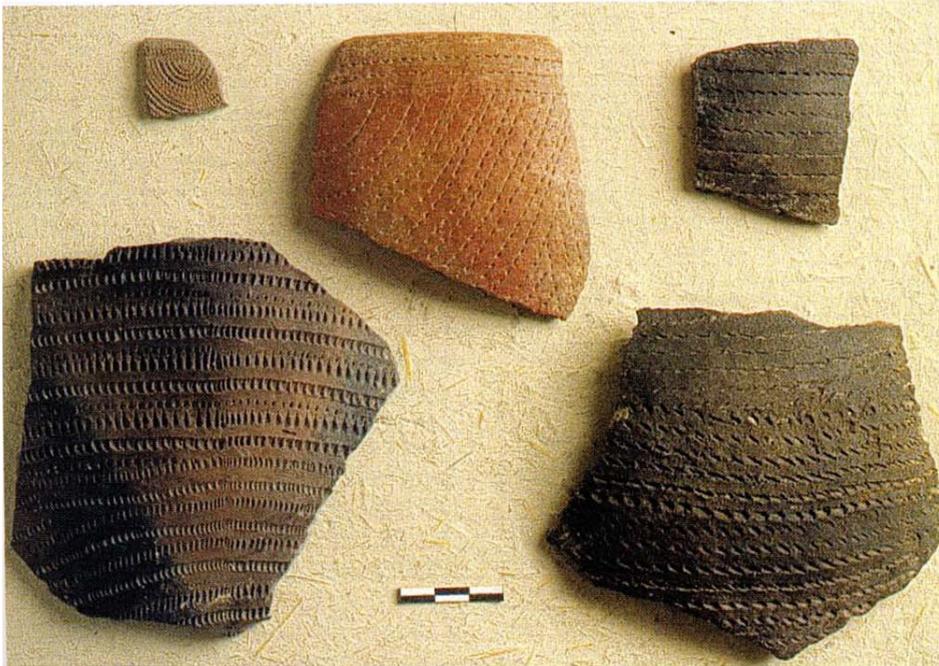


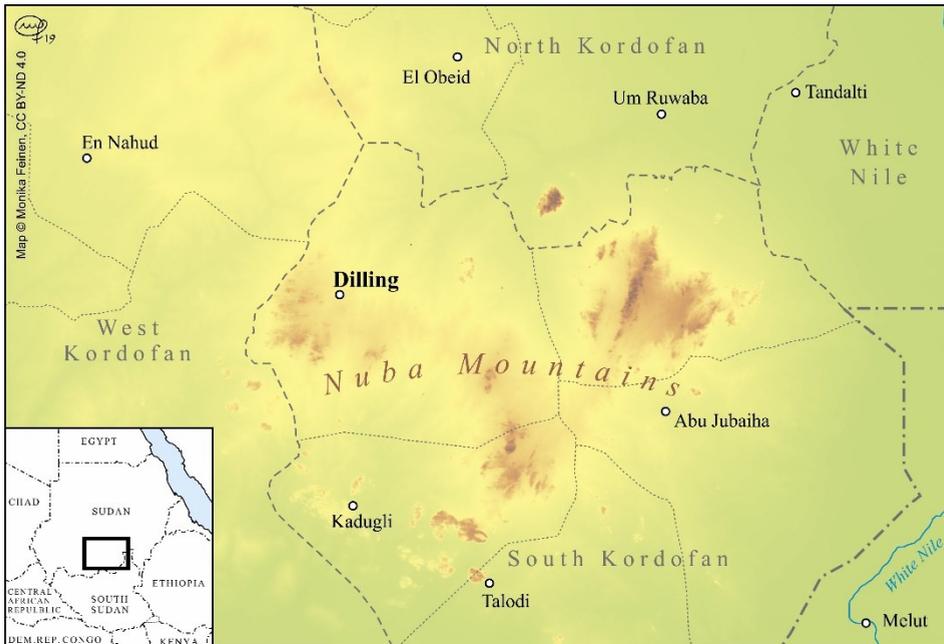
FIGURE 6: Shaheinab material, with packed zigzags made with evenly straight tools (Garcea 2006: 100)

To sum up, most Neolithic clays consisted of Nile silt or sandstone silt with quartz temper and organic or mineral inclusions. The forming technique used for the hand-made pottery was mostly the coiling technique. The shapes of the vessels were mostly simple: bowls, pots or dishes with a simple flattened or globular rim. Ornamentation is the main variable used to determine the chronological sequence of pottery sherds from late prehistoric societies.

Since the pottery techniques of the past remain to a certain extent unclear, it seems sensible to have a look into modern pottery manufacture. The idea is that the ethnography of pottery workshops can provide a wealth of evidence on the stages of the manufacturing process, and the association of this study with Neolithic pottery micro-traces imparts a feasible picture of the technical manufacturing process during the Neolithic period in Central Sudan. The examples from the Nuba Mountains thus provide a good basis for this study, in particular because this community still uses simple traditional ways of making hand-made ceramics.

### 3 Modern pottery manufacture in the Nuba Mountains

Dilling is a town located in the state of South Kordofan, 160 km south of the town of El-Obeid (see MAP 2). In 2020, one of the authors carried out an ethnographic study of the ceramics workshop in the Dilling region. This study provides an overview of craft production and the work stages in a modern ceramics workshop.



MAP 2: The Nuba Mountains and Dilling

The Dilling area was named after the Dilling ethnic group, whose language is one of the Ajang languages, belonging to the Nilo-Saharan phylum. Apart from pottery making, there are other handicrafts in Dilling, such as the traditional manufacture of ropes, baskets, mats and beds. The potters in Dilling are all women; there are no male potters.<sup>1</sup> Pottery making is mostly a family tradition handed down from one generation to the next, but some women learn the trade from other potters. The information gathered for this study comes from two workshops in the Kajang region, on the outskirts of the town of Dilling. The potters interviewed are Umjuma Bashir, aged 35 years, Amadiya Hamad, 38 years, and Husna Altoum Alihaimir, 50 years old.

<sup>1</sup> See also Bentley and Crowfoot (1924: 19): “The making of pots among the Nuba is the work mainly of the elder women.”

The area of Kajang is generally characterised by black, muddy and sticky soil, with the exception of the al-Karaka pit (Hufrat al-Karaka), which is located at the foot of Bela Hill in the west. This is the only source of clay in the Dilling area, meaning that it is difficult to obtain raw material for pottery production. The potters dig the clay from the al-Karaka pit (see FIGURE 7) and transfer it by donkey to their workshops.



FIGURE 7: Al-Karaka pit (photo by Hamdan 2020)

The potter's workshop is attached to the potter's house near the living room. It is a small wooden grass-thatched shelter. Once the clay has been fetched to the workshop, it is first cleaned of small stones and trash, to avoid cracking of the pots when they become hot. Then the raw material is placed on a mat (sack, plastic or cardboard) on the floor and sprinkled with dry leaves or dried donkey dung (see also Bentley and Crowfoot: 1924: 19), then mixed with water (see FIGURE 8). To produce water pots, only dry leaves are mixed in; for other pottery, such as stoves, flower pots or incense burners, the potters use dried donkey droppings. When the clay is well mixed, it rests for a while before the wet modelling clay is pressed with the hands to form a solid mass.

To form a vessel, the potter may use different techniques for different parts of the vessel: one to shape the base, another for the body and yet another for the rim. This is also attested for prehistoric and historic pottery, as archaeological evidence shows. In what follows, I will briefly describe how water pots and stoves were made in the Nuba Mountains.



FIGURE 8: Preparing the clay (photo by Hamdan 2020)

The forming of water pots (Arabic: *ziir*) is done by a mixture of moulding and coiling techniques and can be summarised in three steps: moulding for the lower part (base), then applying the coiling technique to form the upper part (body), and finishing up with the hammering technique to smooth the surface using a small stone (FIGURES 9 and 10). The decoration process takes place before kilning, as is also the case for flower pots.



FIGURE 9: Forming the base of the water pot by making use of a negative mould dug into the ground; the base and a smoothing stone (photos by Hamdan 2020)



FIGURE 10: Forming the body of a water pot (photos by Hamdan 2020)

The forming of stoves (see FIGURE 11) usually begins with the production of the rim by using the modelling technique. That is, the clay is put on an upside-down deep plate so that it gains its bell-mouthed shape.



FIGURE 11: Forming a stove: rim; body; joining rim and body; forming the base; final shape of the stoves; decorated stove (photos by Hamdan 2020)

The forming of the body is done with the slab technique. Then the potter joins rim and body with a coil of clay. The base is formed by stretching the clay of

the cylindrical body. Stoves and incense burners are decorated after kilning. The decoration consists of colouring, not carving, and the motives are, for example, (dotted) lines, leaves and flowers.

Once the vessels are formed, they are dried for two days and are then ready for firing. As fuel, the potters use grass and firewood, as well as dried cow dung that comes from nearby forests and cattle pens. The potters build an open kiln dug into the ground. The pit is 140 cm in diameter, 40 cm deep and can hold five to ten pots (see FIGURE 12). Inside the pit, the pottery is placed on a layer of grass, then the pots are covered with a layer of dried cow dung. When all the gaps are filled, the whole pit is covered with mud bricks and clay before the firing process is started.



FIGURE 12: The burning kiln (photos by Hamdan 2020)

#### 4 Conclusion

In the case of the Neolithic sites in central Sudan, studies have shown that the source of the raw material is clay from the Middle Nile region. As the study on modern pottery at Dilling shows, the raw material comes from a site close to the houses of potters. Thus, past and present communities made use of the natural resources around them.

Organic inclusions in the ceramic samples from Central Sudan show that animal dung and plants were used in the process of pottery making in the Neolithic period. This is also evident in the manufacturing techniques at Dilling, where potters relied on adding organic inclusions to pottery clay.

Ethnographic studies in the Dilling area show a similarity with one of the techniques used by the Neolithic groups. This is the coiling technique for forming pottery, of which, thanks to the ethnographic studies, we now have a clearer picture.

The archaeological investigations in Central Sudan did not reveal any clues as to the locations of the pottery workshops (places of manufacture and firing).

Probably this industry took place near the houses, as we can assume from the manufacturing workshops in Dilling. Usually, local communities carry out this type of craft in or near the house. This saves time and effort, since one has to leave the house only to fetch the raw material and to take the final product to the markets for sale.

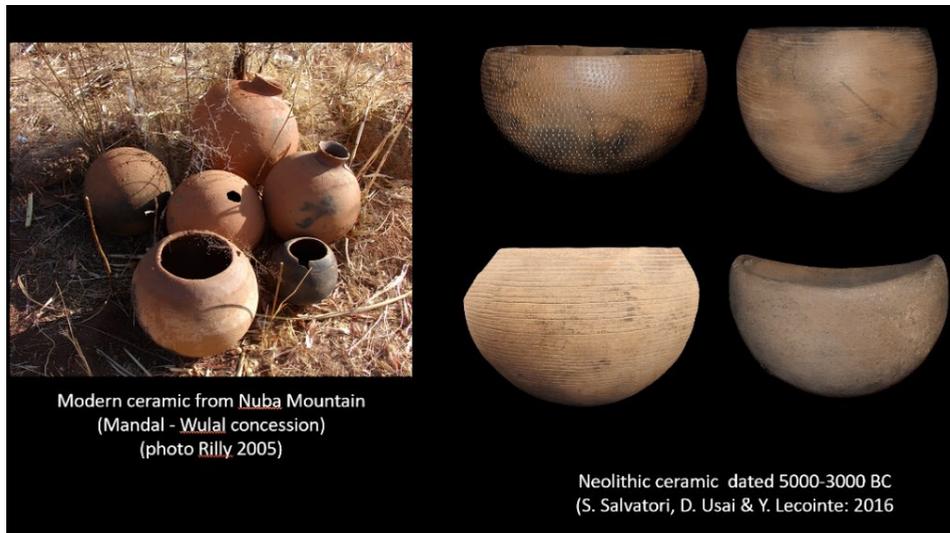


FIGURE 13: Examples of modern Nuba Mountain and Neolithic ceramics (left courtesy of Claude Rilly; right from Salvatore et al. 2016)

To sum up, ethnographic studies at Dilling play an important role in identifying questions and information for which evidence may not be clear in archaeological studies. Particularly for the phases of pottery manufacture, we gain insights into whether the potter has to modify the raw material by adding organic or non-organic products, how the potter has formed the clay or how the potter may mix techniques to form one vessel. Comparing the modern pottery from the Nuba Mountains with historical pottery (see FIGURE 13 with photos from Rilly 2005 and Salvatori et al. 2016), one may wonder whether the similarity of forms implies a similarity of use. Thus, though certainly some questions remain to be answered, ethnographic studies help to clarify a number of questions concerning the past and they support archaeological findings, as we have tried to show here.

### Postscript

The aim of this article was to present archaeological and ethnographic data, including linguistic information around pot-making. Unfortunately, due to the civil war in Sudan, we could not achieve our aim but had to satisfy ourselves

with what we had when the fighting started in April 2023. Thus, for instance, the linguistic information that we wanted to include remains to be collected.

## References

- Arkell, Anthony, J. 1949. *Early Khartoum*. Oxford University Press.
- Arkell, Anthony, J. 1953. *Shaheinab*. Oxford University Press.
- Bentley, Oswald & J.W. Crowfoot. 1924. Nuba pots in the Gordon College. *Sudan Notes and Records* 7. 18-28.
- Caneva, Isabella (ed.) 1983. Pottery-using gatherers and hunters at Saggai (Sudan). Preconditions for Food Production. *Origini* (monographic issue) 1983 (12).
- Caneva, Isabella (ed.). 1988. *El Geili. The History of a Middle Nile Environment 7000 B.C. - A.D. 1500*. British Archaeological Series 424. Oxford: B.A.R.
- Garcea, Elena A. A. 2006. The endless glory of a site: esh-Shaheinab in the Sudanese prehistory. *Acta Nubica* 2006. 95-102.
- Haaland, Randi. 1981. *Migratory and Cultivating Women: The Structure of Neolithic Seasonal Adaptation in the Khartoum Nile Environment*. Bergen: Mineo.
- Khabir, Rahim A. 1985. A note on the excavation of Neolithic site in the Sorourab area. Khartoum province. *Nyame Akuma* 26. 40.
- Nassr, Ahmed H. 2015. Sabaloka east project third season report. Archaeological survey and test excavation. Unpublished Report: 1-45.
- Nassr, Ahmed H. 2016. Late prehistory sites from the Sabaloka province north of Khartoum on the Eastern bank of the Nile, Sudan. *Afrique: Archéologie et Arts* 12. 21-42. <https://doi.org/10.4000/aaa.902>
- Roux, Valentine, in collaboration with Marie-Agnès Courty. 2019. *Ceramics and Society: A Technological Approach to Archaeological Assemblages*. Cham, Switzerland: Springer Nature.
- Salvatori, Sandro, Donatella Usai & Yves Lecoq. 2016. *Ghaba. An Early Neolithic Cemetery in Central Sudan*. Frankfurt: Africa Magana Verlag.
- Tigani el Mahi, A. 1979. Preliminary analysis of the osteological remains from 4 sq. m. excavated from Shaheinab site. *Nyama Akuma* 15. 57-60.

## Arabic source:

صادق أزهرى مصطفى (Sadig, Azhari Mustapha). 2013. بينات عصر الهولوسين والتغيرات الثقافية في نهر النيل الأوسط – السودان 10.000-3000 ق.م. أدماتو 17. 29-50.



Earthenware in use (Tima, Nuba Mountains)  
(photos: Gertrud Schneider-Blum, 2008-2011)

# A History of the Department of Linguistics, Faculty of Arts, University of Khartoum

*Suzan Alamin*

## 1 Introduction

We are very proud and honoured to be allowed to write about the history of our beloved department and second home, the Department of Linguistics at the University of Khartoum. Thus, this chapter provides an extensive and comprehensive account of the history of the department from its inception to the present time.



FIGURES 1 and 2: Gate of the Department of Linguistics, University of Khartoum (2022) / The emblem of the University of Khartoum

We all believe in Nelson Mandela's saying "If you talk to a man in a language he understands, that goes to his head. If you talk to him in his own language, that goes to his heart".<sup>1</sup> From this, the Department of Linguistics draws power and encouragement for its new direction of studying and documenting the Sudanese languages. Sudan is a fertile soil that has more than 120 languages spoken within its borders.<sup>2</sup> In such a multilingual country, it is very important

<sup>1</sup> <https://polyglotdreams.com/closer-look-famous-quotes-about-language-multilingualism/>

<sup>2</sup> Source: Abdelhay et al. (2015), referring to both countries, South Sudan and Sudan.

to find a close tie between indigenous Sudanese languages and emotions associated with speakers' identities. This new attitude gives the department its strength and makes it well-known both within and outside of Sudan.

## 2 From the department's founding until today: an overview

In the early 1970s, with the gracious initiative of the Dean of the Faculty of Arts, Professor Dr. Abdullah Al-Tayeb (1921-2003), a proposal was submitted to the Vice-Chancellor of the University of Khartoum to establish a Department of Linguistics. This proposal was a result of his strong belief in the importance of creating such a department within the Faculty of Arts. It was approved, and the department was officially established in 1973. The Egyptian scholar and Arabic language specialist, Dr. Tammam Hassan (1918-2011), professor at the University of Khartoum, was appointed as the first head of the Department of Linguistics.

Many scholars have since chaired the department, totalling about thirteen at the present time, all of them holding PhD degrees except for the current chair, who holds a master's degree. Their names are listed in chronological order from the earliest to the most recent one in TABLE 1.

NO.	NAME	PERIOD
1	<i>Dr. Tammam Hasaan</i>	1973-1974
2	<i>Dr. Mustafa Abdel Majed</i>	1980-1986
3	<i>Dr. Mohammed Salah Aldeen</i>	1986-1988
4	<i>Dr. Madani Osman</i>	1988-1993
5	<i>Dr. Mohammed Al Busairy</i>	1994-1995
6	<i>Dr. Abdul Munaem Al Hassan Al Karouri</i>	1996-1998
7	<i>Dr. Samira Abdel Allah Merghani</i>	1998-2002
8	<i>Dr. Abdel Rahim Hamid Mugaddam</i>	2003-2008
9	<i>Dr. Suzan Alamin</i>	2009-2012
10	<i>Dr. Maha A. Aldawi</i>	2012-2015/ 2017-2020
12	<i>Dr. Abeer M. A. Bashir</i>	2015-2016
13	<i>Ustaz. Waleed Mudathir Alshareef</i>	2020 up to now

TABLE 1: The heads of the Department of Linguistics

From the moment of its foundation onwards, the Department of Linguistics faced many obstacles and challenges, obvious even in TABLE 1, where one can observe a gap between heads of department between 1974 and 1980, which will be accounted for below. In the following, we will go into detail regarding these challenges in chronological order (SECTIONS 2.1-2.4), before presenting some demographic details (SECTION 3) and mentioning influential scholars (SECTION 4). SECTION 5 outlines national and international collaborations. All of these

aspects have contributed in one way or another to the progress and development of the department.

It is certainly no exaggeration to say that the obstacles which the Department of Linguistics had faced could have led to its complete closure. However, these same obstacles became sources of strength and revival, and they were overcome. This resilience is attributed to the strong determination of the department's members over the years and their unwavering belief in the importance of the department's academic presence among the language departments in the Faculty of Arts. More specifically, they recognize its significance in preserving the Sudanese linguistic identity. That is, a number of its scholars became leading figures regarding this new trend for the department.

## 2.1 1974-1980

In 1974, only shortly after its foundation in 1973, the department was temporarily suspended due to various circumstances. Among them was Tammam Hassan's return to his home country, in addition to financial issues related to the administration of the University at that time. As a result of that suspension, the later head of the Department of Linguistics, Dr. Abdul Munaem Al Hassan Al Karouri, known as Al Karouri, at that time the only teaching assistant with a master's degree in Arabic in the linguistic department, was transferred to the Department of Arabic, where he took on the responsibilities of Tammam Hassan. Before plans for the re-establishment of the Department of Linguistics could be pursued, Al Karouri was sent to Edinburgh, United Kingdom, in order to acquire his PhD in Linguistics.

Finally, the idea of re-establishing the Department of Linguistics was revived in the late 70s and in 1980, with the PhD holder Mustafa Abdel Majed being officially recruited as the head of the Department of Linguistics. He had been transferred from the Ministry of Education to the Department of English at the Faculty of Arts, University of Khartoum. Later, when there was a need for a head for the Department of Linguistics, he took on this assignment. During Mustafa Abdel Majed's tenure as head, the department experienced a period of revitalization, with the appointment of several professors, including Dr. Madani Osman and Dr. Mohamed Salah Aldeen (both of whom later headed the department for some years) and others whose appointments were only for a short period of time (Al Karouri 2011).

## 2.2 Arabization of the department

The second and biggest challenge was the issue of the Arabization of the Department of Linguistics. In the early 1990s, the Minister of Higher Education issued a political decision mandating that all Sudanese universities, without

exception, should use Arabic as a means of instruction and not English. This was known as the Arabization policy. It was one of the goals of the Al-Ingaz regime (starting in 1989) during that period (Osman: 2010). Naturally, the University of Khartoum and all of its faculties, including the Department of Linguistics, were not excluded from this decision.

At that time, attempts by the university administration and the Faculty of Arts to Arabize the department's courses from English to Arabic were opposed by the department's faculty members. The most notable defenders of continuing to teach in English were Madani Osman and Al Karouri. Though not entirely successful due to the prevailing influence of the higher education revolution, which implemented its policies in various ways (Dawod 2017), at least a compromise solution was reached, where teaching would be conducted in both languages, and exam papers would include questions in both languages. This situation persisted for several years, but from the early 2000s onwards teaching gradually reverted to English-only in the classrooms.

### 2.3 Departmental duplication

The third huge challenge was the department's struggle for survival as an independent body. A group of professors from the Department of English viewed the Department of Linguistics as merely another version of their department, based on the courses that were taught in both of the departments. Admittedly, at that time, the Department of Linguistics merely taught English Linguistics. Alamin, Bashir and Aldawi – who took turn as heads of department between 2006 and 2020 – witnessed this struggle, having been recently appointed as teaching assistants in the department in 1997. In the period between 1994 and 2006, Dr. Mohammed Al Busairy and Dr. Abdel Rahim Hamid Mugaddam were strong advocates for the Department of Linguistics' survival and preservation, with the most prominent role in this effort being played by Abdel Rahim Hamid Mugaddam. His voice was raised in all the official forums, and indeed, he succeeded in that.

### 2.4 Perceptions of and attitudes toward the department

An obstacle of a different kind was the department's reputation. There was strong propaganda among the students of the Faculty of Arts about the difficulty of the Linguistics Department's courses and the rigidity of the professors there. In addition, students in the Faculty of Arts were reluctant to choose linguistics as a major or minor because of the fear of their grades dropping; they referred to this department as the "Medicine of the Faculty of Arts", a metaphor for its difficulty. During her time as a linguistics student from 1989 to 1993, Dr. Sawsan A. M. Nashid (p.c.), mentioned another reason why students avoided choosing linguistics as their major, namely the lack of specialized linguistics

professors. As a result, the burden of collecting and preparing course materials fell on the fifth-year students themselves, that is, they had to completely organize the seminars themselves. This explains why the number of students was very few at that time.

This propaganda continued for a long time, until new blood was recruited into the department. The new staff members did their best to improve this image of the department and tried to convince the students about the new trends in the department (see SECTION 3 on the development of the department). Mohammed Al Busairy had a humorous take on this issue: If a student of English drives the car, the student of linguistics will drive the same car but he/she can repair it if it stops. He consistently emphasized to the students the importance of studying linguistics as a joint specialization with English. In addition to that, taking linguistics courses would improve their level of English and give them a chance to gain deep knowledge about the language. The author of this anecdote was one of the students who were convinced by Mohammed Al Busairy's argument. This was as early as 1992. At any rate, in the following years, the number of students increased in the department compared with the previous years (for details about the students' numbers see SECTION 3.1).

### **3 The department's progress and development**

The historical account in this section highlights and outlines the chronological map of the significant developments and the renaissance of the Department of Linguistics, in addition to the notable academic achievements in its history, particularly from the early 2000s until today. The following points will be covered: students' demographics (SECTION 3.1) and the new admission policy (SECTION 3.2).

#### **3.1 Students' demographics**

As previously mentioned in SECTION 2.4, the number of BA linguistic students was very small compared to student numbers in language departments such as English, French and Arabic in the Faculty of Arts. In fact, their number barely exceeded the fingers on one hand, especially in the early days of the department's existence.

In his notes, Al Karouri (2011) stated that at the beginning of its establishment in 1973, the department began offering a Master's program (MA) in linguistics through coursework, lasting two years. However, this project was stopped after only one year, for the reasons described in SECTION 2.1.

After the re-establishment of the Department of Linguistics in the 1980s, a Bachelor's program was approved. That is, students took courses for four years,

ending with their graduation. Only the ones with the highest marks were allowed into the fifth year, i.e., the BA honours class. The nature of the courses in the fifth year differs from the other courses in the undergraduate program due to their in-depth focus on the specialized subject. The academic degree that a student receives upon completing this year is called ‘Honours’.

The first batch of BA students consisted of only two students: Abdullah Osman and Abdel Khaleq Mohamed. They are now considered as prominent figures, with the former in Canada and the latter in the United States (Makki Bashir, p.c., 2024). The second batch, admitted in 1989, consisted of six students. Only two of them took the honours class: Sawsan A. M. Nashid and Awatif Mohammed Musa. In 1993 Sawsan A. M. Nashid was the first MA student to gain an MA degree in linguistics from the Institute of African and Asian Studies (IAAS) (Sawsan A. M. Nashid, p.c. 2024). She later obtained her PhD from the Department of Linguistics.

In 1992, the department witnessed a significant increase in the number of bachelor students admitted, with the number exceeding 30. It became clear that the department was taking clear steps to accommodate as many students as possible to guarantee its continuity.

In the last six years (2016-2022), the department has admitted more than 100 students. This is due to the radical change in the admissions policy that the Faculty of Art has adopted. For more details on the new admissions policy, see SECTION 3.2.

Even with the number of students increasing in the BA program, only the few distinctive students with the highest grades could continue to the fifth year and take the honours class. However, due to the pandemic and the temporary closure of the university, the courses of the academic year 2020/2021 were postponed so that, in 2022/2023, 14 students were admitted to the honours class. However, on average, the number of honours students does not exceed five to seven students per year.

The Master’s degree program in Linguistics by research – which includes the PhD degree – was approved in a faculty council session in 1993. None of the faculty members who were consulted could remember the date of the first approved PhD dissertation in the department. However, everyone attested to the significant increase in the number of PhD students in the Department of Linguistics from 2004 to the present day. Ten PhD holders graduated from the department; six out of those ten are staff members at the Department of Linguistics: Nasir A. O. Satti (2008), Suzan Alamin (2009), Abeer M. A. Bashir (2010), Maha A. Aldawi (2010), Sawsan A. M. Nashid (2014) and Issam Eddin M. M. Awad (2014).

Referring to the department's inception mentioned above, the Department initially suffered from a shortage of officially appointed staff members (Al Karouri 2011). Currently, a group of professors, lecturers and teaching assistants who have been selected based on high academic standards are responsible for the department's performance. They work hard according to a planned strategy aimed at positioning the department at the pinnacle of academic excellence among linguistics departments in universities worldwide. TABLE 2 lists the names of the staff members in 2023. For various reasons, some of the staff are temporarily outside the country; some, however, volunteered to give online classes to diminish the burden for the others.

STAFF MEMBER	OCCUPATIONAL TITLE
<i>Dr. Abdel Rahim Hamid Mugaddam</i>	Professor
<i>Abeer M. A. Bashir</i>	Associate Professor
<i>Suzan Alamin</i>	Assistant Professor
<i>Maha A. Aldawi</i>	Assistant Professor
<i>Nasir A. O. Satti</i>	Assistant Professor
<i>Sawsan A. M. Nashid</i>	Assistant Professor
<i>Issam Eddin M. M. Awad</i>	Fellowship
<i>Helene Fatima Idris</i>	Fellowship
<i>Nada Faisal Y. M. Sukkar</i>	Lecturer
<i>Waleed Mudathir Alshareef</i>	Lecturer (current head)
<i>Ahmed Sosal Altayeb</i>	Lecturer
<i>Elsadig Omda</i>	Lecturer
<i>Mona Hashim Ibrahim</i>	Teaching Assistant
<i>Mohamed Yusif Mohamed Ali</i>	Teaching Assistant
<i>Eman Abubaker</i>	Teaching Assistant

TABLE 2: Staff members of the Department of Linguistics 2023

### 3.2 The new admissions policy

According to the decisions of the Ministry of Higher Education regarding university admissions for 2018/2019, the admissions system at the Faculty of Arts was changed radically. The faculty was divided into two tracks: the Humanities track and the Languages track. This decision benefited the Department of Linguistics by increasing the number of BA students admitted. An arts student could now major in any language, for instance, English, French, German, Russian or Chinese, in addition to taking linguistics courses if they wished. Thus, linguistics became the optimal choice for many students to specialize in alongside their language studies.

The increase in the number of students in the department led to a rise in the activities and programs offered by the department. Additionally, the department began to play an active role even at the level of the Sudanese community. For example, the students participated in events such as the celebration of Mother Language Day, held every year on February 21.<sup>3</sup> Moreover, the students played a significant role in organizing conferences together with the staff members, as well as holding workshops focused on Sudanese languages. These are just a few examples among many, some of which will be introduced in more detail below.

#### 4 Influential scholars

SCHOLAR'S NAME	AFFILIATION
<i>Gerrit J. Dimmendaal</i>	University of Cologne
<i>Gertrud Schneider-Blum</i>	University of Cologne
<i>Birgit Hellwig</i>	University of Cologne
<i>Angelika Jakobi</i>	University of Cologne
<i>Anne Storch</i>	University of Cologne
<i>Marcus Jaeger</i>	University of Cologne
<i>Isabel Compes</i>	University of Cologne
<i>Nicolas Quint</i>	LLACAN/CNRS, Villejuif
<i>Pascal Boyeldieu</i>	LLACAN/CNRS, Villejuif
<i>Claude Rilly</i>	LLACAN/CNRS, Villejuif
<i>Stefano Manfredi</i>	SeDYL/CNRS, Villejuif
<i>Heleen Smith</i>	Leiden University
<i>Caroline Roset</i>	University of Amsterdam
<i>Bert Remijsen</i>	University of Edinburgh
<i>Harald Hammarström</i>	Uppsala University
<i>Leoma Gilley</i>	Summer Institute of Linguistics
<i>Russell Norton</i>	Summer Institute of Linguistics
<i>John Vanderelst</i>	Summer Institute of Linguistics
<i>Andrew Wolfe</i>	Summer Institute of Linguistics
<i>Kwesi Prah</i>	CASAS
<i>Pamela Munro</i>	UCLA
<i>Sharon Rose</i>	UCSD
<i>Bernard Comrie</i>	Leipzig University
<i>Vincent W.J. van Gerven Oei</i>	University of Aberdeen
<i>Torben Andersen</i>	Aalborg University
<i>Dörte Borchers</i>	University of Graz
<i>Frank Kammerzell</i>	Humboldt University Berlin

TABLE 3: Influential visiting scholars

<sup>3</sup> <https://www.unesco.org/en/days/mother-language>

The Department of Linguistics is fortunate to have a distinguished group of visiting scholars who have, depending on their disciplines, exerted great influence on the development of the department (see TABLE 3).

The significance of their achievements and of their vital and effective roles can hardly be overstated. However, we can at least mention here the significant impact they have had on the academic qualifications of the Department of Linguistics, on its staff members and on its students.

Those scholars have generously shared their scientific and practical expertise and knowledge in African and Sudanese linguistics and fieldwork with the Sudanese researchers and students in the department. Here, we pause to express our gratitude and appreciation for their tremendous efforts. Some of them were PhD thesis supervisors, lecturers and workshop presenters, while others were trainers for linguistic software programs such as Toolbox, PRAAT and so on. A good number of the names listed above will show up when discussing international collaborations. We apologize for any names that may have been inadvertently omitted.

## **5 Department collaborations and partnerships**

Talking about the department's collaborations and partnerships means describing the department's academic achievements in all their aspects. We will start with the internal collaborations between the Department of Linguistics and other Sudanese institutions before proceeding to its external collaborations, and the several projects that the Department of Linguistics takes part in there.

### **5.1 Internal collaborations**

Several institutions from within the University of Khartoum and from other bodies within Sudan have been in close contact with the Department of Linguistics. The main ones are introduced below.

#### **English Department**

The cooperation between the Department of Linguistics and the English Department, Faculty of Arts, is as old as the establishment of the former department. The English staff members were of great help in teaching the students of linguistics because of the small numbers of teaching staff in the Linguistics Department. The most prominent teachers of that era were Dr. Mohammed Al Busairy and Dr. Gubara Al Hasan. This cooperation began when Mohammed Al Busairy was appointed as the head of the Department of Linguistics in 1994. In both departments, he established English courses called ELCA (English Language Courses for All) with the help of teaching assistants

from the Linguistics Department: Suzan Alamin, Maha A. Aldawi and Abeer M. A. Bashir.

The cooperation between the two departments has continued in recent years, with several staff members from the Department of Linguistics participating in the English Master's program offered by the English Department. This indicates the great trust, good reputation and high professionalism that the members of the Department of Linguistics have among their peers in other departments.

#### Institute of African and Asian Studies

The Department of Sudanese and African Languages is one of the departments within the IAAS at the University of Khartoum.<sup>4</sup> A partnership was established between this department and the Department of Linguistics due to their shared interest in the importance of studying Sudanese languages. The cooperation between the two departments began when two teaching assistants from the Department of Linguistics, Suzan Alamin and Abeer M. A. Bashir, enrolled in this department of the IAAS to pursue their master's degrees in Sudanese and African languages in 1998. There they were supervised by Dr. Leoma Gilley, a faculty member of the Department of Sudanese and African Languages at the Institute. Since then, strong ties have been established between the two departments based on the aforementioned joint research interests. The cooperation between the two departments was strengthened when Professor Dr. Al-Amin Abu-Manga from the Department of Sudanese and African Languages supervised the same two students for their PhDs in linguistics by research. Further collaboration occurred when Professor Dr. Abdel Rahim Mugaddam took over the management of the Institute of African and Asian Studies, leading to several joint seminars and workshops on Sudanese languages between the two departments and other external universities from Germany, South Africa and France (see SECTION 5.2 on conferences and workshops). Recently, the collaboration has evolved, with the Department of Linguistics becoming a supporter of the Department of Sudanese and African Languages. Several members of the Department of Linguistics now participate in supervising the graduate students of the previously mentioned department of the IAAS; specifically mentioned should be Dr. Helene Fatima Idris's active involvement in teaching and supervising graduate programs for students of the Department of Sudanese and African Languages. This cooperation is considered the most successful, opening up significant opportunities and relationships for both departments with external educational institutions (see SECTION 5.2 on the department's projects).

---

<sup>4</sup> The other two are the Department of African and Asian Studies (dealing with history, anthropology, etc.) and the Department of Folklore.

### International University of Africa

The Yousif Alkhalifa Center for Writing African Languages in Arabic Script, affiliated with the International University of Africa, Khartoum, is one of the leading institutions in the field of writing and transcribing African Languages such as Fulani, Hausa and Swahili into Arabic script (Jah Allah 2015).<sup>5</sup> Since the main objective of this institute is to transcribe other unwritten languages using the Arabic script, the Department of Linguistics has cooperated with the institute since 2003. Several workshops were held between the two departments focusing on attempts to transcribe Sudanese languages using the Arabic script, among them the Tagoi language (see SECTION 5.3.2 below).

### National Council for Cultural Heritage and Promotion of National Languages

Since the National Council for Heritage and the Promotion of Local Languages specializes in documenting Sudanese heritage and languages, they reached out to the Department of Linguistics at the University of Khartoum to achieve one of their main goals, which is the documentation of Sudanese languages. This followed the growing reputation and success of the Department of Linguistics in this field, both internally and internationally. This cooperation became fruitful when Al-Amin Abu-Manga took over the management of the council, as he highly regards and recognizes the excellence of Department of Linguistics members, having previously supervised several PhD theses in the department. This collaboration has resulted in numerous workshops and in the annual joint celebration of International Mother Language Day with the participation of the department's students and staff alongside the council.



FIGURE 3:  
Mother  
Language  
Day 2023 at  
the  
Department  
of Linguistics

<sup>5</sup> <https://youtu.be/vBd3iHFhFGc>

In addition, in 2021, the Department of Linguistics held a workshop in collaboration with the National Council for the Promotion of Local Languages. The main goals of this workshop were to promote peace through the study and documentation of local languages and to conduct a workshop on writing the Zaghawa language.

## 5.2 External collaborations

This section highlights the external collaborations of the Department of Linguistics with various institutions and universities abroad.

In a television interview in March 2023 on Sudan's Al-Shorooq TV, the current head of department Waleed Mudathir Alshareef stated that the Department of Linguistics has made numerous contributions both domestically and internationally. One of the most significant contributions is the department's substantial role in promoting peace in Sudan through its collaboration with UNESCO, which places great importance on cultural and linguistic diversity and the Intangible Cultural Heritage in Sudan. Achieving this goal is only possible through the study and documentation of the languages of these communities to preserve them from extinction. The Department of Linguistics is considered one of the leading institutions in this effort, as it is the only academic and research entity capable of undertaking such a monumental task. To achieve this goal, several projects have been established in close collaboration with universities from outside Sudan. This section primarily focuses on sponsored projects and workshops in which the staff members of the Department of Linguistics actively participate.

### 5.2.1 University of Cologne

Significant collaboration exists between the Department of Linguistics in Khartoum and the University of Cologne in Germany, specifically with the Department of Linguistics (General Linguistics) and the Institute of African Studies and Egyptology. The latter "brings together the disciplines of archaeology, cultural anthropology, and linguistics",<sup>6</sup> herewith pointing out a multidisciplinary approach. This institute has played a major and effective role in the professional development of several members of the Department of Linguistics, Khartoum by hosting them through various programs, such as Dr. Abdel Rahim Mogadam's postdoctoral studies and the MA studies of the current members of the Department of Linguistics, Waleed Mudathir Alshareef and Elsadig Omda. Several members of the department were supervised by Professor Dr. Gerrit J. Dimmendaal during their PhD studies. Other faculty members from the Institute of African Studies served as external examiners for PhD and MA

---

<sup>6</sup> <https://aae.phil-fak.uni-koeln.de/en/>

students, including Professor Dr. Anne Storch, Dr. Angelika Jakobi and Dr. Gertrud Schneider-Blum. Right now, the Department of Linguistics in Cologne is hosting Elsadig Omda as he does his PhD.

In addition to several workshops organized by members of both the University of Cologne and the University of Khartoum, there were two major projects carried out under the supervision of members of the Institute of African Studies and Egyptology at the University of Cologne and the Institute of Linguistics in Cologne in collaboration with members of the Department of Linguistics in Khartoum. The two projects are described below with details of the respective topic, the teams and the outcomes, including the most important publications.

### Tima project

The idea for the Tima Language Project began in 2002, initiated by Gerrit J. Dimmendaal, who expressed his desire to study the Tama [sic!] language, one of the Eastern Sudanic, Nilo-Saharan languages spoken in Darfur in western Sudan (Dimmendaal 2009). This interest arose during his visit to Khartoum as an external examiner for Master's theses of students from the Department of Sudanese and African Languages at the University of Khartoum. While searching for speakers of the Tama language in Khartoum, Gerrit J. Dimmendaal was also contacted there by representatives of the Tima Language Committee. The latter expressed a keen interest in writing and documenting their language, which is spoken mainly in the Nuba Mountains. As a result, Gerrit J. Dimmendaal not only started studying Tama, but also the Tima language, and the latter initiative resulted in the initiation of a documentation project of this highly endangered language, with scholars from the Department of Linguistics in Khartoum and the Institute for African Studies and Egyptology in Cologne, Germany, as collaborating members.

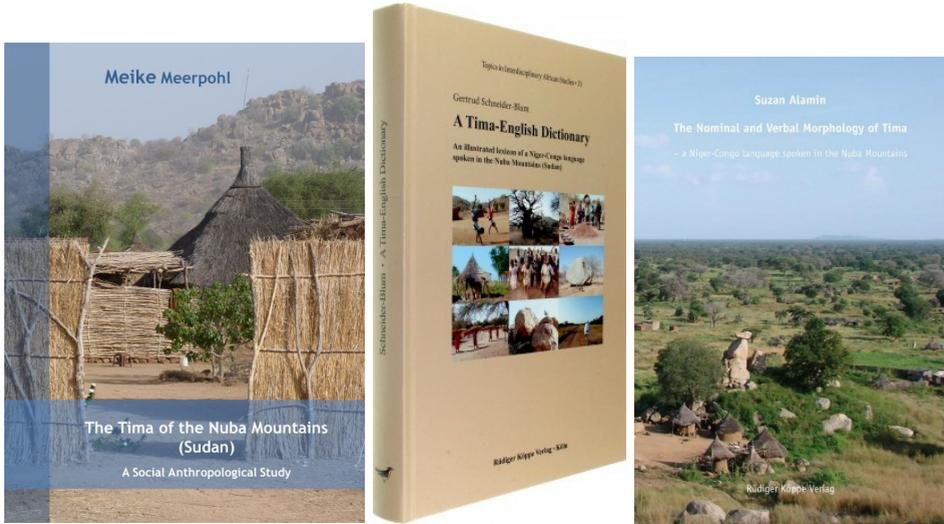
The Tima project was sponsored by the Volkswagen Foundation<sup>7</sup> and lasted from 2006 to 2013. The project's team consisted of Abdel Rahim Hamid Mugaddam, Gertrud Schneider-Blum, Meike Meerpohl, Abeer M. A. Bashir and Suzan Alamin (the latter two as PhD candidates) under the supervision of Gerrit J. Dimmendaal. In addition, there were two student assistants from the University of Cologne, Nico Nassenstein and Meikal Mumin, who helped in data archiving.<sup>8</sup>

The central themes of the project were twofold. The first theme focused on Tima language documentation. The second theme focused on the documentation and description of Tima anthropological facets.

---

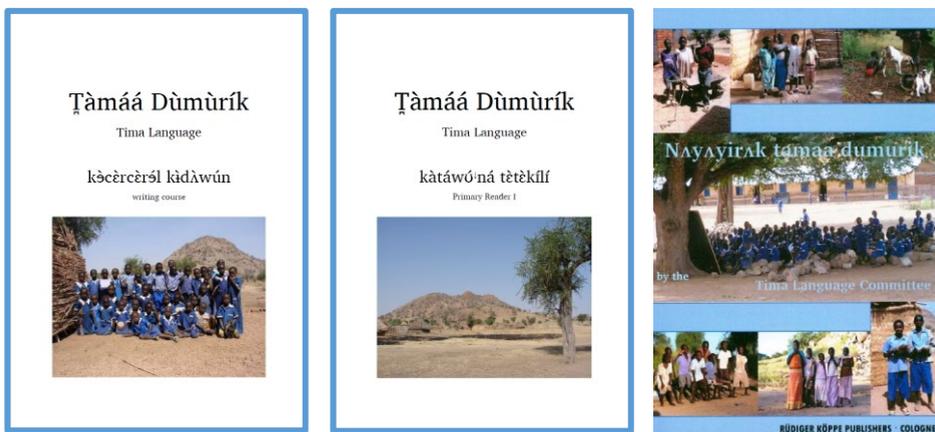
<sup>7</sup> <https://dobes.mpi.nl/projects/tima/language/>

<sup>8</sup> <https://dobes.mpi.nl/projects/tima/team/>



FIGURES 4-6: Selected publications on Tima

The outcome includes two PhD theses. The first one, presented by Abeer M. A. Bashir, is titled *Tima Phonetic and Phonological System* (2010). The second thesis was presented by Suzan Alamin under the title *Tima Nominal and Verbal Morphology*, published in 2012. Meike Meerpohl (2012) authored the social anthropological study *The Tima of the Nuba Mountains (Sudan)*. A multimedia Tima-English Dictionary<sup>9</sup> was prepared by Gertrud Schneider-Blum with a printed version published in 2013. Moreover, numerous articles centred on Tima have been published throughout the project's duration and beyond, by its members as well as by its supervisor, Gerrit J. Dimmendaal.



FIGURES 7-9: Tima writing course and primary readers (covers)

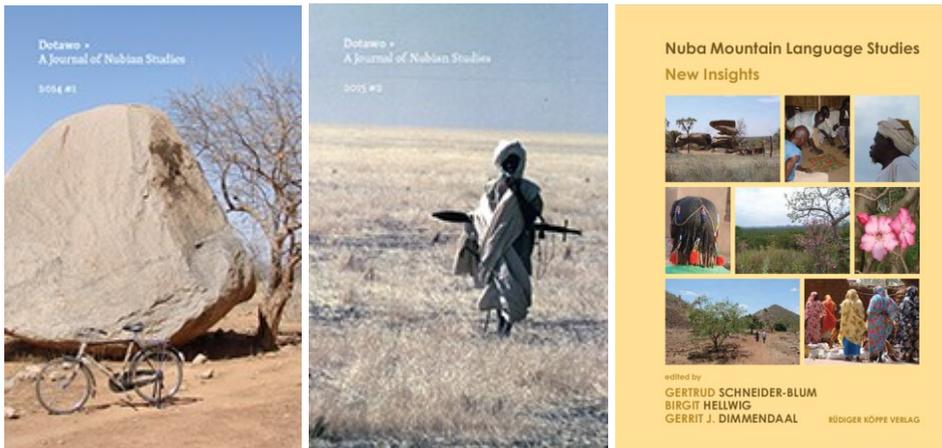
<sup>9</sup> <http://tima-dictionary.mine.nu/>

The department has also hosted two workshops for selected Tima community members from Khartoum, as well as from their home area in the Nuba Mountains. On the one hand, the orthography for the Tima language was discussed, on the other hand, a writing course and two primary readers (building upon each other) were developed.

### Tabaq project

The Tabaq project (01/07/2011 - 31/12/2013) was generously supported by an ELDP grant. All data from this Nilo-Saharan language are stored in the Endangered Languages Archive (ELAR).<sup>10</sup>

Two Sudanese students, Khalifa Jabreldar Khalifa and Khaleel Ismail, supplemented the team from Cologne consisting of Gerrit J. Dimmendaal, Birgit Hellwig and Gertrud Schneider-Blum. Khalifa Jabreldar Khalifa collected socio-linguistic data for his PhD, while Khaleel Ismail aimed at achieving his MA in linguistics with a focus on anthropological linguistics. Several articles, three of which appeared in *Dotawo – A Journal of Nubian Studies*, and two contributions to the volume on *Nuba Mountain Language Studies – New Insights* (2018) focus on different aspects of this highly endangered language.



FIGURES 10-12: *Dotawo* 1 and 2 and *Nuba Mountain Language Studies – New Insights*, both with publications on Tabaq

### 5.2.2 CNRS / LLACAN

The French side has also played an active role in the development of the Department of Linguistics and the qualifications of its members by organizing several workshops and seminars, as well as initiating two big academic projects,

<sup>10</sup> <http://hdl.handle.net/2196/00-0000-0000-0002-2EAA-F>

i.e. the NAPATA and PICS projects, between the two partners. These projects were active between 2016 and 2021 and were executed in cooperation of the University of Khartoum with the National Centre for Scientific Research (CNRS). The projects, their teams, their themes and their most significant scholarly achievements will be presented in the following.

### Napata projects

The first Napata project started in 2016 and was entitled *Arabic Borrowed Words in Some Sudanese Languages*. It aimed to study borrowed Arabic words in selected Sudanese languages, investigating their phonetic, morphological and semantic changes. The languages included were Tagoi, Tabaq, Zaghawa, Hausa, Lafofa, Tima, Kwilib and Dinka. The Sudanese and French researchers presented and discussed all drafts during a workshop in December 2016 in Khartoum. The paper on “Arabic borrowings in Tima” by Mona Hashim, Suzan Alamin and Gertrud Schneider-Blum was published in 2020 in a special issue of *Faits de Langues*, together with numerous contributions on different aspects of the languages of the Nuba Mountains.<sup>11</sup>



FIGURE 13: *Faits de Langues*

The second Napata project, starting in 2017, was entitled *Sudan as a Linguistic Region: In Search of Common Features between the Various Sudanese Languages*. It was meant to extend the formerly established collaboration, as there were further areas of research and many topics that the researchers could jointly address. It investigated the common linguistic features that are shared by different linguistic groups living in the Nuba Mountain region.

<sup>11</sup> <https://fdl.univ-lemans.fr/fr/liste-des-numeros/n48-1-1-1-1-1.html>

The two Napata projects were coordinated by Stefano Manfredi and Nicolas Quint from France and Maha A. Aldawi and Abeer M. A. Bashir from Sudan. A third project was under the umbrella of both, Napata and PICS (see below).

### PICS projects

The PICS project *The languages of the Sudan: a typological and areal crossroad* started in 2019 with Nicolas Quint and Abeer M. A. Bashir as the responsible coordinators. Besides the coordinators, a number of scholars participated in the project. Three were from the French partner associations: Claude Rilly and Pascal Boyeldieu, both from LLACAN / CNRS (France), and Stefano Manfredi, associated with SeDYL / CNRS (France).<sup>12</sup> The Sudanese scholars were Maha A. Aldawi, Suzan Alamin, Waleed Mudathir Alshareef, Ahmed Sosal Altayeb, Elnazir Mustafa Mohamed Salih, Elsadig Omda, Helene Fatima Idris, Issamedin Awad, Mona Hashim Ibrahim, and Sawsan A. M. Nashid, who all belong to the Department of Linguistics of Khartoum University.



### **PHC-Napata – Kin terms and anthroponyms in the languages of the Nuba Mountains**

### **PICS - The languages of the Sudan: a typological and areal crossroad**



**Joined workshop and training seminar, Khartoum 10-12 October 2021**

FIGURE 14: Napata and PICS: invitation to a joined workshop

<sup>12</sup> For a list of all participants see:

<https://sudanlinguisticarea.huma-num.fr/participants.html>

All in all, three workshops were held, two in Khartoum (Sudan) in 2019 and in 2021 (the latter one was a joined workshop and training seminar under the umbrella of both, Napata and PICS), while the workshop held in 2020 took place in Villejuif (France). The joined workshop of 2021 focused on *Kinship terms and Anthroponyms in the Nuba Mountains* (see the publication by Manfredi 2023).

### 5.2.3 CASAS

On the African side, the Department of Linguistics established a partnership with the Centre for Advanced Studies of African Society (CASAS), University of the Western Cape, South Africa. In 2009, a workshop dealing with the standardized writing of African languages was organized in Khartoum. Many scientific papers were presented. The output was the launch of a book that consisted of several articles on this theme by the department staff members. It was edited by Mohamed J. Hashim and Abdel Rahim Hamid Mugaddam, and carries the title *Unity and Diversity of Nubian Languages: toward a Standardized Writing System of Nubian Languages* (2012).

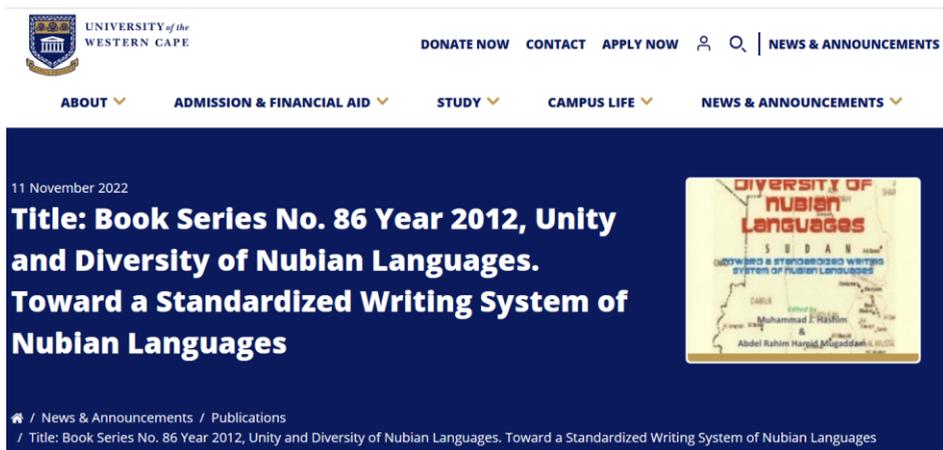


FIGURE 15: Outcome of the collaboration with CASAS

## 5.3 Tagoi project

### 5.3.1 Tagoi documentation project

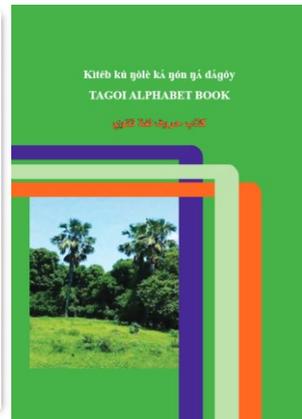
The experience we gained from working with our German colleagues on the documentation project about Tima allowed us to submit our own application. Thus, in 2012, Helene Fatima Idris (Department of Linguistics, Khartoum) applied for a small grant for a project from the Endangered Languages Documentation Programme (ELDP) hosted at SOAS, University of London,

UK. With the active support by Professor Dr. Birgit Hellwig (Cologne), the Department of Linguistics got the funding. The project is titled *A preliminary linguistic survey of the Tagoi language, Nuba Mountains, Sudan*. The project's team consisted of three staff members: Helene Fatima Idris, Abeer M. A. Bashir and Suzan Alamin (primary investigator), supported by representatives of the Tagoi community in Khartoum. Birgit Hellwig supported the project throughout its entire duration with her extensive experience.

The outcome of this project was the documentation of the language via the collection of electronic data which was later archived in the Endangered Languages Archive.<sup>13</sup> The central theme of the Tagoi project was the focus on giving a sociolinguistic perspective on the Tagoi speech community, as well as on describing the phonological and the morphological structure of the Tagoi language. Several articles were published, among them "Noun class genders in Tagoi" by Abeer M. A. Bashir (2018) and "The Tagoi pronominal system" by Suzan Alamin (2015).

### 5.3.2 Tagoi orthography development

At the request of the Tagoi community, the Tagoi Orthography Development Project was conducted in 2016-2018. It was funded by a Haycock Research Grant from the British Institute in Eastern Africa. Almost all members of the department were involved, taking on different tasks.



FIGURES 16 and 17: At one of the Tagoi workshops / *Tagoi Alphabet Book*

During the project to develop the Tagoi orthography, the Department of Linguistics faced many challenges. One of these was that none of the participants had any previous experience of creating an orthography. To overcome this, the department held numerous meetings, conferences and workshops with the Tagoi

<sup>13</sup> <http://hdl.handle.net/2196/00-0000-0000-0002-A34E-9>

language consultants. In May 2016, for example, a three-day workshop was held at the Yousif Alkhalifa Center for Writing Languages in Arabic Script at the International University of Africa (Khartoum). The main topic was to investigate the possibility of creating an orthography for Tagoi in Arabic script. In the end, the Tagoi Language Committee opted for an IPA-based Roman script. In August of the same year, Professor Dr. Pascal Boyeldieu from the CNRS, France, led a two-week workshop on phonological and tonal analysis of the Tagoi language to build up expertise.

The major achievement for the community was the publication of the *Tagoi Alphabet Book* edited by Helene Fatima Idris, Abeer M. A. Bashir, Sawsan A. M. Nashid, Mona Hashim Ibrahim and Ahmed Sosal Altayeb in April 2018. The contribution on “Language and identity construction among the Tagoi of the Sudan” by Sawsan A. M. Nashid (this volume) is also based on data obtained in the two Tagoi projects.

#### 5.4 Fourth Conference on Nuba Mountain languages

In February 2023, the Department of Linguistics in Khartoum was happy to host the fourth Nuba Mountain Languages Conference. It was an overwhelming event. All members of the department, as well as the students, did their best to make it unforgettable.



FIGURE 18: Conference poster of the fourth NML Conference

This conference could not have been realized without the support from our French and German colleagues, plus the sponsoring institutions, namely the Université franco-allemande/Deutsch-Französische Hochschule, LLACAN, CEDEJ, SeDYL, Labex EFL, INALCO, CNRS, the Ambassade de France au Soudan, the University of Khartoum and the University of Cologne.

Experienced researchers from different countries, as well as students from Germany, France, Poland and Sudan, presented their research to colleagues and interested lay people. Vivid discussions followed each presentation. Some of the talks turned into contributions which were selected for publication in this volume.

This was the last event before the violent conflict between two rival armies started in Khartoum, soon spreading over most of the country.

## 6 Conclusion

The previous sections hopefully showed the significant impact the Department of Linguistics has had on the study of Sudanese languages and on the diversity of indigenous language communities in Sudan. Over time, the department has gained a good reputation among the different Sudanese cultural sectors, such as the Summer Institute of Linguistics (SIL) in Sudan, the National Council for Cultural Heritage and Promotion of National Languages, and the Ministry of Culture and Information. This has also built bridges of trust and friendship between these institutions, and also with institutions worldwide, as mentioned above. Let's take this opportunity to pray for Sudan and call for peace, hoping that the department can regain its influence and spirit. There remains much to be done for Sudan, its languages and its people.

## References

- Abdelhay, Ashraf, Al-Amin Abu-Manga & Catherine Miller. 2017. Language policy and planning in Sudan from local vernaculars to national languages. In Barbara Casciari, Munzoul A. M. Assal & François Ireton (eds.), *Multidimensional Change in Sudan (1989–2011) – Reshaping Livelihoods, Conflicts and Identities*, 263-280. New York/Oxford: Berghahn.
- Alamin, Suzan. 2012. *The Nominal and Verbal Morphology of Tima*. Cologne: Rüdiger Köppe.
- Alamin, Suzan. 2015. The Tagoi pronominal system. *Occasional Papers in the Study of Sudanese Languages* 11. 17-30.
- Bashir, Abeer M. A. 2010. *Phonetic and Phonological Study of the Tima Language*. Khartoum: University of Khartoum dissertation.

- Bashir, Abeer. 2018. Noun class genders in Tagoi. In Gertrud Schneider-Blum, Birgit Hellwig & Gerrit J. Dimmendaal (eds.), *Nuba Mountain Language Studies – New Insights*, 153-173. Cologne: Rüdiger Köppe.
- Dimmendaal, Gerrit J. 2009. Tama. In Gerrit J. Dimmendaal (ed.), *Coding Participant Marking: Construction Types in Twelve African Languages*, 305-329. Amsterdam/Philadelphia: John Benjamins.
- Hashim, Mona, Suzan Alamin & Gertrud Schneider-Blum. 2020. Arabic borrowings in Tima. *Faits de Langues/Journal of Language Diversity* 51 (1) (special issue *Langues des Monts Nouba / Languages of the Nuba Mountains*, ed. by Nicolas Quint & Stefano Manfredi). 175-196.
- Hashim Muhammad J. & Abdel Rahim Hamid Mugaddam (eds.). 2012. *Unity and Diversity of Nubian Languages*. Cape Town: The Centre for Advanced Studies of African Society (CASAS).
- Hellwig, Birgit & Gertrud Schneider-Blum. 2014. Tabaq: In a state of flux. *Dotawo – A Journal of Nubian Studies* 1. 63-81.
- Idris, Helene Fatima, Abeer M. A. Bashir, Sawsan A. M. Nashid, Mona Hashim Ibrahim & Ahmed Sosal Altayeb (eds.). 2018. *Kiteb kú ñòlè ká ñón ñá dígóy – Tagoi Alphabet Book*. Khartoum: Khartoum University Press.
- Ismail, Khaleel. 2015. Tabaq kinship terms. *Dotawo – A Journal of Nubian Studies* 2. 231-243.
- Karouri, Abdul Munaem Al Hassan. 2011. *Notes on the history of the Department of Linguistics*. Unpublished.
- Khalifa, Jabreldar Khalifa. 2015. An initial report on Tabaq knowledge and proficiency. *Dotawo – A Journal of Nubian Studies* 2. 245-270.
- Korsha, Abdalla Nasraldeen, Hamid Kafi Daldoom Amin & Gertrud Schneider-Blum (eds.). 2009. *Ṭāmáá Dùmùrík – kátáwó'ná tètèkílí*. Khartoum.
- Manfredi, Stefano. 2023. An areal typology of kin terms in the Nuba Mountain languages. *Journal of African Languages and Linguistics* 43 (2). 199-247.
- Meerpohl, Meike. 2012. *The Tima of the Nuba Mountains (Sudan) – A Social Anthropological Study*. Cologne: Rüdiger Köppe.
- Quint, Nicolas & Stefano Manfredi (eds.). 2020. Languages des Monts Nouba / Languages of the Nuba Mountains. *Faits de Langues/Journal of Language Diversity* (special issue) 51(1).
- Schneider-Blum, Gertrud. 2013. *A Tima-English Dictionary*. Cologne: Rüdiger Köppe. (online version: <http://tima-dictionary.mine.nu/>)
- Schneider-Blum, Gertrud (ed.). 2013. *Ṭāmáá Dùmùrík*. Cologne: Rüdiger Köppe.
- Schneider-Blum, Gertrud, Birgit Hellwig & Gerrit J. Dimmendaal (eds.). 2018. *Nuba Mountain Language Studies – New Insights*. Cologne: Rüdiger Köppe.

Tima Language Committee. 2011. *Tàmáá Dùmùrík: kècèrcèrél kídàwún – Tima Language: writing course*. Khartoum.

**Arabic sources:**

داؤود، محمد داؤود محمد (Dawod, Mohamed). 2017. التعريب في جامعة السودان للعلوم التكنولوجية 1991-2015 رؤية تقديمية. مجلة العلوم والتقانة: في العلوم الانساية. المجلد 18, العدد 3 (30 سبتمبر/أيلول 2017)، ص ص. 120-134، ص. 15.

<https://search.emarefa.net/detail/BIM-836207>

جاه الله، كمال (Jah Allah, Kamal). 2015. تجربة مركز يوسف الخليفة في كتابة اللغات الإفريقية بالحرف العربي: البعد التاريخي والتطور التقني. [mandumah.com](http://mandumah.com)

عثمان ابراهيم عثمان (Osman, Ibrahim Osman). 2010. التعريب قضية التعليم المحورية (1). [sudanile.com](http://sudanile.com)



The Department of Linguistics, Faculty of Arts, University of Khartoum  
(2018-2023)



Preparations for the 4<sup>th</sup> Nuba Mountain Languages Conference  
(February 2, 2023)



To keep everyone in a good mood during the conference  
(February 7, 2023)



Impressions from the excursion to Sabalouga after the 4<sup>th</sup> NML Conference  
(February 8, 2023)



At the Begrawiya Pyramids (February 8, 2023)  
(photos: Gertrud Schneider-Blum)

## List of Contributors

*Suzan Alamin*

Department of English and Translation / Department of Linguistics  
University of Jeddah / University of Khartoum  
Jeddah, Saudi Arabia / Khartoum, Sudan

*Maha A. Aldawi*

Department of Linguistics / Department of Linguistics  
University of California San Diego / University of Khartoum  
La Jolla, USA / Khartoum, Sudan

*Abeer M.A. Bashir*

Al Zahra College for Women  
Madinat AL-Irfan  
Muscat, Sultanate of Oman

*Roger M. Blench*

McDonald Institute for Archaeological Research  
University of Cambridge  
Cambridge, Great Britain

*Pascal Boyeldieu*

LLACAN, UMR 8135 (CNRS / EPHE / INALCO)  
Paris / Villejuif, France

*Colin Fauré*

LLACAN, UMR 8135 (CNRS / EPHE / INALCO)  
Paris / Villejuif, France

*Ahmed Hamdan*

Al-Neelain University  
Khartoum, Sudan

*Wafa Hussein*

LLACAN - UMR 8135 (CNRS / EPHE / INALCO)  
Paris / Villejuif, France

*Helene Fatima Idris*

Department of Linguistics  
University of Khartoum  
Khartoum, Sudan

*Jan Junglas*

Humboldt University of Berlin  
Berlin, Germany

*Siddig Ali Karmal Koko*

(independent researcher)  
Omdurman, Sudan

*Sawsan Abdel Aziz Mohammed Nashid*

Department of Linguistics  
University of Khartoum  
Khartoum, Sudan

*Russell Norton*

Theological College of Northern Nigeria  
Bukuru, 930008 Plateau State, Nigeria

*Nicolas Quint*

LLACAN - UMR 8135 (CNRS / EPHE / INALCO)  
Paris / Villejuif, France

*Milo Reinmöller*

Radboud University  
Nijmegen, The Netherlands

*Sharon Rose*

Department of Linguistics  
University of California San Diego  
La Jolla, USA

*Gertrud Schneider-Blum*

SFB 1252 - University of Cologne  
Cologne, Germany

*Heleen Smits*

Leiden University, ASCL  
Leiden, The Netherlands





