

Lexicography in the Northern Cape: Methodological challenges in producing a Nluu-Nama-Afrikaans-English dictionary



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AFRICANTONGUE
Professional linguistic consultancy

 **Stellenbosch**
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

forward together
sonke siya phambili
saam vorentoe

NAU
NORTHERN
ARIZONA
UNIVERSITY

Introduction

- Primary focus of this research is the Nluu language and its equivalent translations into:
 - South African Nama
 - Afrikaans (including a local dialect)
 - South African English
- We took into account prior research from early documentation of Nluu to more contemporary research, to create a comprehensive dictionary.
- Funding for this process came from the South African Department of Sports Arts and Culture (DSAC) and directive from African Tongue in collaboration with selected key researchers
- Three dictionary outputs to be released October 2022:
 - Hardcopy
 - App
 - Webportal
- Target users are:
 - #Khomani descendants
 - South African members of the public
 - Local and international researchers
 - (NB: One should be able to use all three outputs without any prior training in linguistics)
- Response to linguistic human rights of the #Khomani people and South African citizens



Early documentation of Nluu

- Previous names and labels for the language:
 - Ilŋ
 - Langeberg Bushmen
 - #Kaururellnai
 - Nlusa
 - Ilŋ !ke
 - S2
 - Sla
 - Slla
 - Gemsbok Park
 - Nlhuki
 - Nlhu
 - #khomani
- The first attempt made at writing Nluu words was probably around 1885 by **Lucy Lloyd**, but unfortunately her original notes have been lost (cf. Güldemann 2017).



Plate 66. Professor L. F. Maingard (left) and Professor I. D. MacCrone (right) with three Bush people

Early documentation of Nluu

- Explorers **Heinrich Pabst** and **Rudolf Pöch** also recorded a few words and perhaps even made audio recordings, though these are as of yet, inaccessible.
- Lucy Lloyd's niece, **Dorothea Bleek** conducted fieldwork on the language mostly between 1901 and 1911, and these notes can be seen today at the Digital Bleek and Lloyd Collection at the University of Cape Town (UCT), along with much more extensive documentation of IXam, a related language.
- The earliest audio recordings of Nluu that we have been able to access were those made on wax cylinders by members of a scientific expedition to the Kalahari in 1936 that were digitised by **Tony Traill** in 1999
- **Clement Doke** and **L. F. Maingard** published important early works on the language as a result of this expedition.
- Several decades later, **Ernst Westphal** made tape recordings of the language which have also been digitised and are available online at the University of Cape Town.
- When Tony Traill was unable to find speakers of the language in the Kalahari Gemsbok Park in 1973, the language was **thought to be extinct...**



Ou Abraham with his daughter Klein Janake, imitating Prof. Maingard (Photo: Rand Daily Mail, 1936)

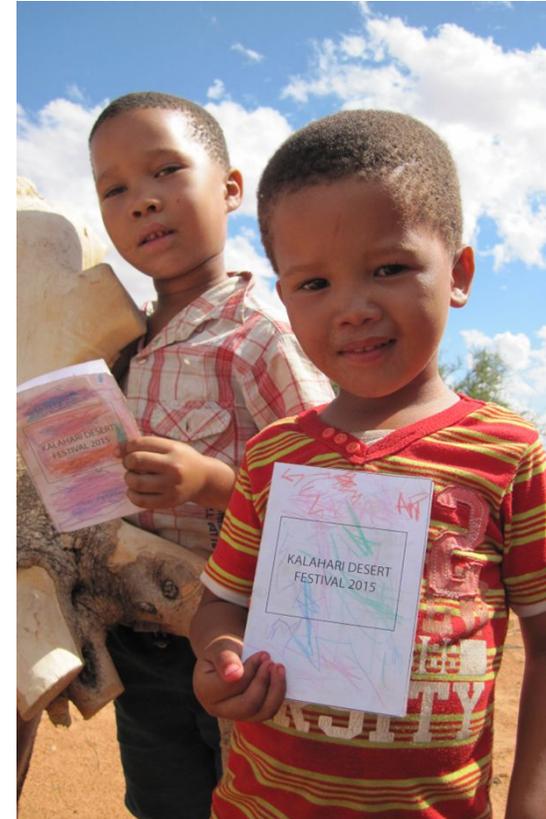
Nluu documentation (1995 - 2010)

- In 1995, **Nigel Crawhall** documented a short word list of the language and he and others made many video recordings that are now available online as part of the #Khomani San | Hugh Brody Collection at UCT. Special Collections.
- **Prof. Levi Namaseb** of the University of Namibia began the work of creating an orthography (spelling system) of the language that was actually used by community members in 1998. He also helped children learn to speak and write the language.
- Later joined by American researchers **Chris Collins, Amanda Miller, Bonny Sands** and **Johanna Brugman** who conducted fieldwork from 2003–2007 supported by the US National Science Foundation. This USA/Namibian collaboration produced a number of articles and a grammar (Collins & Namaseb 2011), as well as the audio archive on which the grammar and this dictionary are based.
- **Mats Exter** (with support from the German Academic Exchange Service (DAAD) and the University of Cologne) did research on the language from 2003–2005, which formed the basis of his 2008 Ph.D. thesis.
- In 2007, with support from the Endangered Languages Documentation Programme (ELDP), a team of researchers based in Germany (**Alena Witzlack-Makarevich, Tom Güldemann, Sven Siegmund, Martina Ernszt-Shaw**) began work on Nluu. They refer to the Eastern dialect of the language as Nlɪŋg (lit. 'home', since the Saasi also refer to themselves as Nlɪŋgʼee or 'Home people'), and the Western dialect as Nluu.



Nluu storybooks and language learning materials

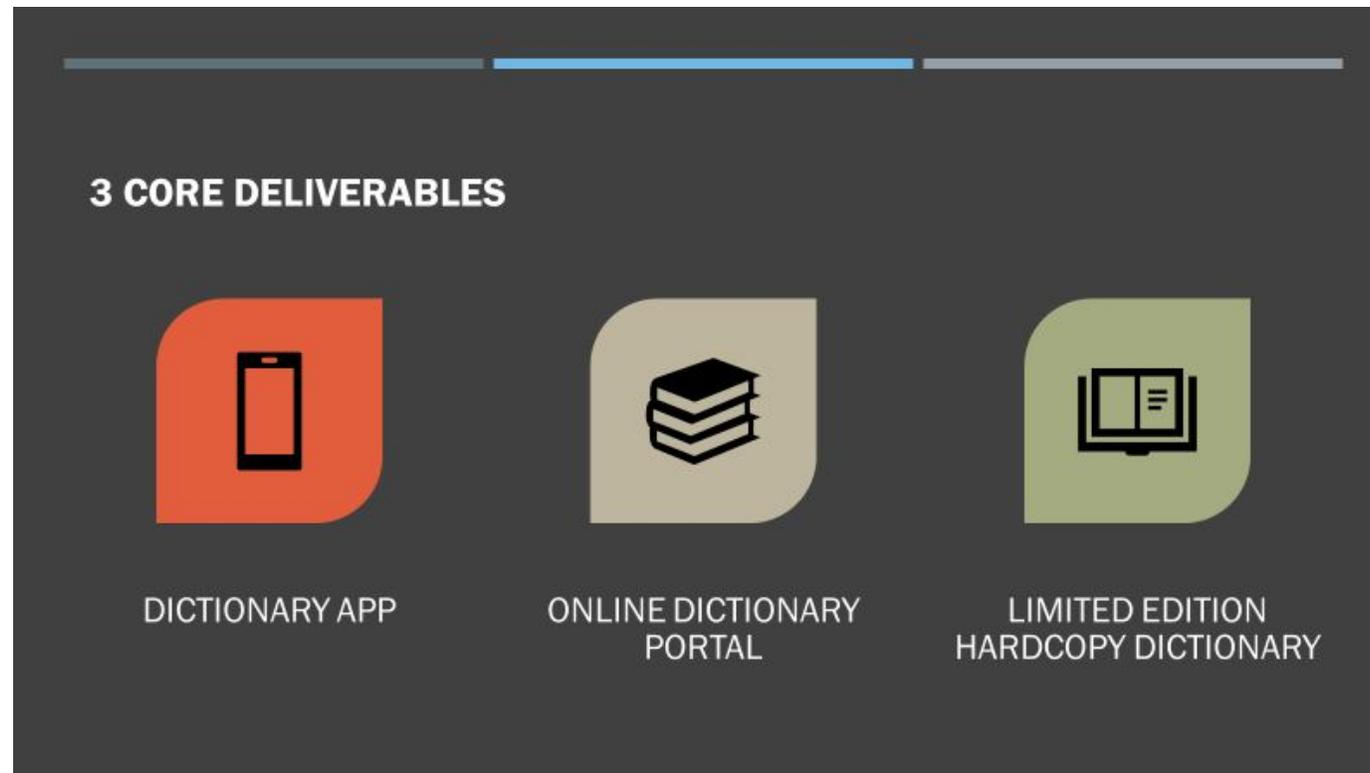
- With the help of a draft version of this dictionary and published research, two Nluu primers were created:
 - by **Ariel Appel**, a student at the Hebrew University in Jerusalem in 2013
 - in 2016 by **Sheena Shah** and **Matthias Brenzinger**, then affiliated with UCT. These researchers were only able to work directly with a single speaker of one dialect of Nluu, Katrina Esau.
- The **South African San Institute (SASI)** produced the book *Ek is Spesiaal/Na ng Spesiaal: Afrikaans/Nlu* in 2012.
- In 2014, a non-governmental organisation called **#Khomani Social Development Group (KhomSoDev)** produced a reader called *Ek kan Nluuki, praat, lees en skryf/I can speak, read and write Nluuki*, based on an unpublished primer by Levi Namaseb and the American linguists mentioned above.
- Ouma Katrina Esau and her granddaughter Claudia Snyman collaborated with the **Puku Children's Literature Foundation** to produce the book *!Qhoi nla Tjhoi/Skilpad en Volstruis/Tortoise and Ostrich*, published in 2021.
- **(PROBLEM: Each of the above we produced using a different orthography, therefore problematic for education and the production of Nluu materials in the future.)**



Objectives with DSAC grant

Project title: Digital Dictionary Resources for Nluu (2020-2022)

Objectives: to deliver a **physical** and **digital dictionary** in four languages: **Nluu, South African Nama (NKK), Afrikaans and English**. This resource will be made available digitally for free, with free limited edition hard copies available for the #Khomani people. (The output to be verified by PanSALB)



Team members

Chief editors: Bonny Sands, Kerry Jones

Editorial team: Chris Collins, Alena Witzlack-Makarevich, Sylvanus Job, Francoise (Betta) Steyn, Dietloff van den Berg, Dotty Mantzel, Willem Damarah

Computational linguist: Menno van Zaanen

Additional authors/contributors:

Linguists: Amanda Miller, Levi Namaseb, Johanna Brugman, Mats Exter

Nluu language: Anna (Antjie) Kassie, Griet Seekoei, Katrina Esau, Hannie Koerant, Andries Olyn, Hanna Koper, Vytjie IAbaka Koper, Simon Sauls, IUna Rooi, Kheis Brou, Elsie Vaaalbooi

Nluu Language Authority: Katrina Esau, Claudia Snyman, David van Wyk, Mietjie Sussie Bok

Nama language: Willem Damarah, Lys Kruiper Pietersen (Oulet), Isak Kruiper, Lydia Kruiper (Sakkas), Leonard Gewersk

Afrikaans language: Fritz Jagers, Magdalena James, Hanneltjie van der Westhuizen

Digital Dictionary Resources for Nluu (2003-2007)

- This dictionary is based on extensive digital audio recordings of two distinct dialects of the Nluu language, labelled Eastern and Western. (Note however, that it seems that there may have been additional dialects in the past.) The majority of the words in this dictionary were recorded by the USA/Namibian researchers, through a methodology of direct elicitation.
 - E.g.: groups of Nluu speakers were asked in Afrikaans ‘How do you say cat?’
 - Speakers would typically reply in a mixture of Afrikaans and Nluu, e.g. *Ek sê mOoa*. Some words were easy to translate but others had to be verified through the use of pictures, descriptions or long discussions.
 - After verifying a few dozen words, these researchers would then record the target words in the frame sentence ‘I say ____.’ (*Na ka ____.*), repeated 3 times per speaker. Researchers attempted to record every word with both Eastern and Western dialect speakers, but the limited availability of the former meant that they did not always achieve this.



Digital Dictionary Resources for Nluu (2021-2022)

- The second major source of dictionary entries was from recordings made by Kerry Jones from African Tongue in 2021-2022 with Katrina Esau and the help of Nluu Language Authority (NLA) members: Claudia Snyman, David van Wyk and Sussie Bok.
 - Kerry visited Upington several times to re-record Nluu words in cases where the original sound file was either of poor quality, missing or corrupt.
 - She also elicited new words from Ouma Katrina relating specifically to more modern concepts such as 'app', and 'Coronavirus (COVID-19)'.
 - A series of ten community newsletters were created by African Tongue to share project progress with community members, provide input and feedback as well as wordlists for further verification. Throughout this process more than 1000 Nluu words were digitally recorded.



Digital Dictionary Resources for Nluu (2003-2022)

- Some additional entries are based on the documentation of sentences and stories by USA/Namibian researchers Profs. Collins and Namaseb, and others were contributed by Prof. Witzlack-Makarevich from the extensive recordings of unelicited (i.e. more naturalistic) speech made by her, Tom Güldemann, Sven Siegmund and Martina Ernszt-Shaw.
- Additional words (especially place names and names of people) were verified using the video footage with matching transcript files from the #Khomani San | Hugh Brody Collection at UCT.
 - This collection houses photographs, audio, video and transcript data featuring the #Khomani people and their languages.
 - Over 300 transcripts have been created so far, this process was overseen by Kerry Jones from African Tongue from 2014 to 2022 and is on-going, this content can be accessed via UCT libraries, Special Collections.



Digital Dictionary Resources for Nluu (2021-2022)

All of the audio and textual documentation used in this dictionary is housed in a collection at the South African Centre for Digital Language Resources (SADiLaR).

- This includes Nluu recordings, South African Nama and a local variety of Afrikaans known by the speakers as *Onse Afrikaans* or *Our Afrikaans*.
- All data collected between 2001 and 2022 were collected from mother tongue speakers of the target languages on site in Upington, Askham and Witdraai in the Northern Cape.
- Once the team from African Tongue had exhausted all options and recorded as much outstanding data as possible, and verified entries with the Nluu Language Authority, the data cleaning process began.
- With the direction of Menno van Zaanen from SADiLaR, a Digital Humanities professor, and the help of the team's language editors, final verification could be made for each entry in all four languages.
- A script was developed that is used to convert the cleaned dataset into a sophisticated dictionary found in the dictionary proper of this publication.
- The information in the dataset was also converted to allow access through a web-portal and a mobile phone app.

A proud moment in our long journey to make the outputs of our research accessible to the general South African public and beyond as freely as possible with a key focus on user-friendliness and linguistic inclusion.

Dictionary App

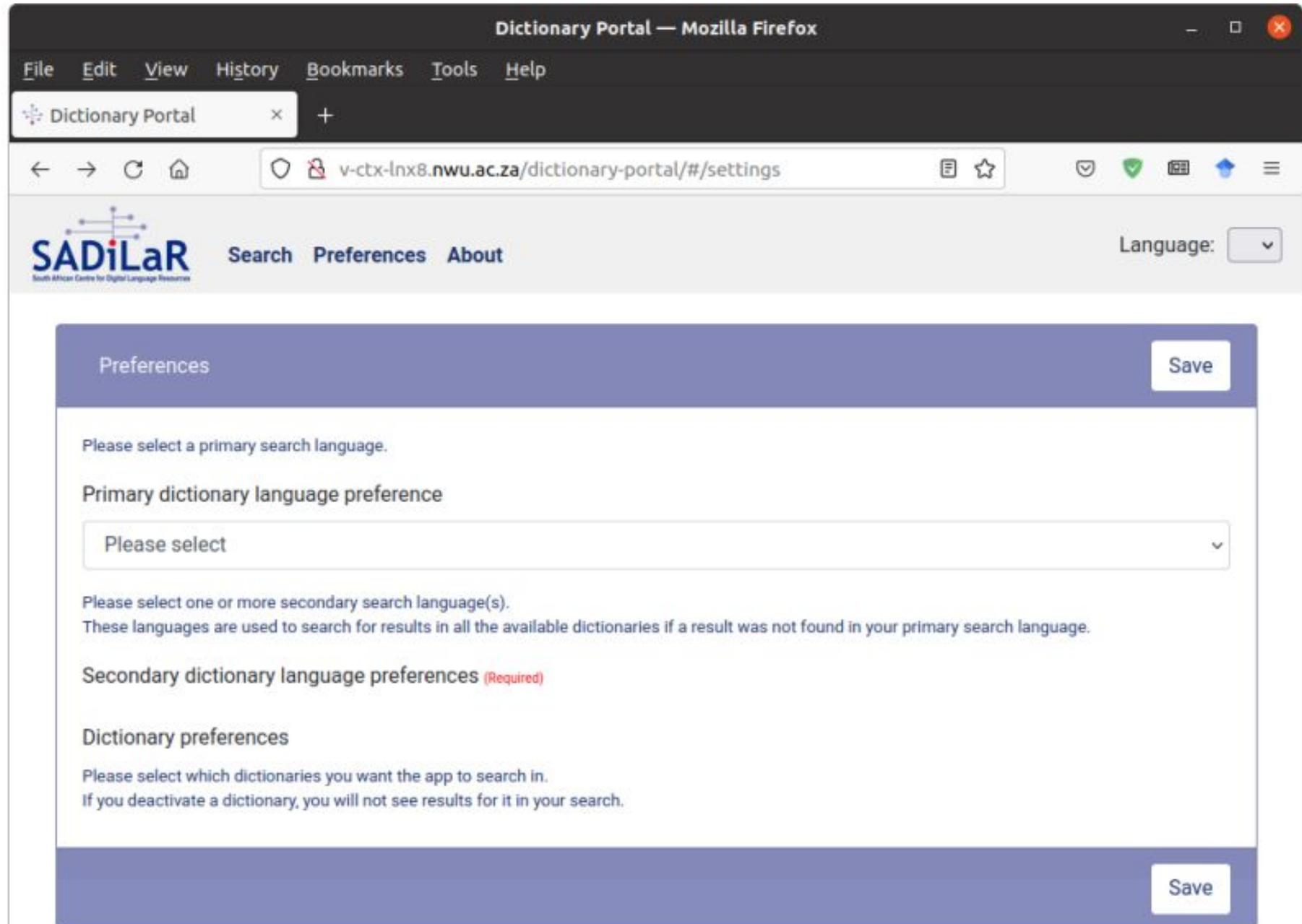
- Made in collaboration with South African Centre for Digital Language Resources (SADiLaR)
- Human Language Technology call for funding via DSAC
- Conversion program
 - Takes spreadsheet as input
 - Performs sanity checks
 - Generates files in correct formats
 - Written in Python
 - Availability and versioning on GitHub:
https://github.com/mvzaanen/N-uu_conversion
- LATEX typesetting language used for formatting
- Automatically generated from spreadsheet
 - Changes in spreadsheet automatically percolate to dictionary in the form of a pdf
 - LATEX handles layout, special characters...
- Application on mobile device
 - Download app from Google Play Store or IOS
 - Download dictionary (option with or without audio depending on device storage)
- Functionality
 - Partial matches are supported
 - Keyboard with special characters provided
 - Additional information also provided
 - Part of speech
 - IPA
 - Audio recordings



App startup screen
(artwork still to be added)

**Dictionary
web-portal:
select language**

***(search results
will be in all 4
languages with
extra info)***



Dictionary Portal — Mozilla Firefox

File Edit View History Bookmarks Tools Help

Dictionary Portal x +

v-ctx-lnx8.nwu.ac.za/dictionary-portal/#/settings

SADiLaR South African Centre for Digital Language Resources

Search Preferences About

Language: ▾

Preferences Save

Please select a primary search language.

Primary dictionary language preference

Please select ▾

Please select one or more secondary search language(s).
These languages are used to search for results in all the available dictionaries if a result was not found in your primary search language.

Secondary dictionary language preferences **(Required)**

Dictionary preferences

Please select which dictionaries you want the app to search in.
If you deactivate a dictionary, you will not see results for it in your search.

Save

Logistical and practical challenges

- Application to DSAC for financial and institutional support was in 2019
- Feedback early 2020 - application granted
- Global pandemic and lockdown!
 - Grant, project plan and budget closed for adjustment
 - High risk working with last known remaining speaker of Nluu
 - Extra protocol in place
 - Adjustment of fieldwork plans
 - Online collaboration ramped up
 - Necessity for flexibility in project plan
 - Price increases due to economic strain
 - Many local airlines went under financially, limited transport and goods etc.



#Xanisi a ke, gli de Kx'uua ng Nluu #xoaki huniKi, ni xng nllaa, ni nllaa:
Sa jaqn nla u

Nē #khanis ge INūgowab !hoa-aon hoan !aroma ge dīhe,
hā ge in tsi nēsi hān tsi hāna !khō#gā hāse:
Sadu !kha da ge !gū garu

Hierdie boek is gemaak vir alle Nluu-sprekers, die wat was en die wat is:
Ons loop saam met julle

This book was made for all Nluu speakers, both past and present:
We walk with you



Antjie Kessie, Hanna Koper, Kheis Brou, Griet Bott, Uuna Rooi, Vytjie !AbaKa Koper, Katrina Esau

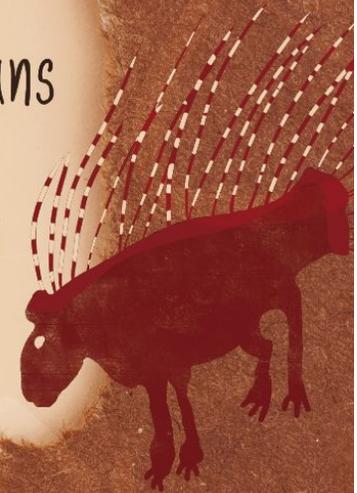
Nluuki
•
Namagowab
•
Afrikkans
•
English



Nluuki



Namagowab
Afrikaans
English



#Xoaki#xanisi • Midi di #khanis • Woordeboek • Dictionary
Chief editors: Bonny Sands & Kerry Jones

Sample view from spreadsheet

C	F	G	H	I	J	K	L	O	P	Q	S	T	U
Orthography 1	English	Part of Speech,	Parentheticals, English	Recordings	Dictionary Recording	Semantic code	IPA	Afrikaans community feedback	Afrikaans: community feedback Local Variety	Afrik Parentheticals	Nama Feedback	Nama recording	Nama Parentheticals
glaats'uruke	shrew	noun	lit. 'night' + 'mouse'	S12_353_AO, S12_353_JK, S12_353_KE	nu_dict_S12_353_JK	N01.04.k.	ʒlaats'uruke	skeerbekmuis; klaasneus	nagmuis	let. 'nag' + 'muis'	!haudurus		!oa!ū. '!ui' + 'durus'
lx'âu	dassie; rock hyrax	noun		L04_111_AO, L04_111_hk, L04_111_KE, STE-462	nu_dict_L04_111_AO	N01.06.	lɣ'ǎū	dassie; klipdassie			!âus		
n!âu	hare	noun		P03_102_AK, P03_102_GS, P04_130_JK, P04_130_KE	nu_dict_P03_102_AK	N01.07.	ʒ!ǎū	haas			!ôas		
!au	springhare	noun		P03_103_AK, P03_103_GS, S14_472_AK, S14_472_AO, S14_472_GS	nu_dict_s14_472_AO	N01.08.	!əu	springhaas			ʒgōb		
lx'oqesi	hedgehog	noun	cf. 'star', 'shooting star'	S12_379_AO, S12_379_JK, S12_379_KE, S32_1138_AK, S32_1138_GS	nu_dict_s12_379_JK	N01.09.a.	lɣ'o'esi	krimpvarkie		vgl. 'ster', 'verskietende ster'	!gamiros		!khāti '!gamiros', '!nāra '!gamiros'
!qhooke	porcupine	noun		P04_138_JK, P04_138_KE, S01_10_AK, S01_10_GS, L02_47_hk	nu_dict_102_47_hk	N01.09.b.	!q'ooke	ystervark			!noab		
lx'abi	pangolin	noun		S12_355_AO, S12_355_JK, S12_355_KE, L02_48_hk, L02_0048_JK, L05_152_AK, L05_152_AO, L05_152_hk	nu_dict_s12_355_JK	N01.10.	lɣ'əβi, lɣ'eβi	ietermagog	ystermagog; rolvark		!khommi		
!qhama	aardvark; antbear	noun		P03_94_AK, P03_94_GS, P10_482_AK, P10_482_GS, S12_356_AO, S12_356_JK, S12_356_KE	nu_dict_s12_356_KE	N01.11.	!q'ama, !q'ama	aardvark; erdvark			!khuwub		
!au	honey badger; ratel	noun		L04_110_KE, L04_110_AO, L04_110_hk, L04_110b_hk, L02_46_hk, L02_0046_JK, STE-103.wav, STE-862 (first and third tokens)	nu_dict_L04_110b_hk	N01.12.1.	!əu	ratel			!harseb		

Sample page from dictionary after running script conversion

(top half of page shown)

||qorosi Oû
claw
||qorosi Oû (T1) [||qorosi Oû] **Nama:** †khariga†onnes **Afr:** kleintoontjie **Eng:** little toe
||qorosikajaoke (T1) [||qorosikajaoke] **Nama:** |khunu|aegub **Afr:** spasie tussen tone **Eng:** space between toes **Nama:** loa!ū. 'khumus' + 'ās' **Afr:** let. 'toon' + 'gate' **Eng:** lit. 'toe' + 'holes'
||qun||qhaa (T1) [||qun||q^haa] **Nama:** |norab **Afr:** bobbejaan **Eng:** baboon
||u (T3) [||u] **Nama:** tama **Afr:** nie **Eng:** not **Nama:** ai|g. *Ng ||u ng ku.* 'Tita ge ||nāti mī tama.' **Afr:** bv. *Ng ||u ng ku.* 'Ek het dit nie gesê nie' **Eng:** e.g. *Ng ||u ng ku.* 'I did not say that.'
||ukqosi, ||ukqoasi (T1) [||uqosi, ||uqoasi] **Nama:** xam|gāgu **Afr:** dekgas **Eng:** grass used for thatching **Nama:** gāxū xam|gāgu; *Stipagrostis ciliata var. capensis* **Afr:** langbeenboesmangras; *Stipagrostis ciliata var. capensis* **Eng:** tall Bushman grass; *Stipagrostis ciliata var. capensis*
||un (Western), ||uic (Eastern) (T1) [||un (Western), ||u^c (Eastern)] **Nama:** |oab, pipib **Afr:** penis **Afr^{ons}:** piepieman, tollie **Eng:** penis
||uni (T2) [||uni] **Nama:** ka, (NKK: kā) **Afr:** weg wees, verlore wees, verdwyn **Eng:** be lost, disappear, be gone
||uru (T1) [||uru] **Nama:** ||gurus **Afr:** kwarts **Afr^{ons}:** vuurklip **Eng:** quartz **Nama:** ||aupexa ra mûlkharu!nāsen |uis xūna xons tsī |aesa khaus |aroma ra sisenūhes **Afr:** 'n deurskynende klip gebruik om mee te maal en 'n vonk kan maak om 'n vuur aan te steek **Eng:** a clear stone used for grinding and for striking a fire
||uu (T1) [||uu] **Nama:** †hommi **Afr:** sprinkaan, groensprinkaan **Eng:** grasshopper, locust, katydid **Nama:** |nisi '||iririb' **Afr:** moontlik ook 'kriek' **Eng:** possibly also 'cricket'
||uu (T2) [||uu] **Nama:** |khā, hora **Afr:** opskep **Eng:** scoop **Nama:** ai|g. māi-ets ga horao **Afr:** bv. wanneer mieliepap opgeskep word **Eng:** e.g. when dishing mealiepap
||uu (Eastern) (T1) [||uu (Eastern)] **Nama:** hai!gō!gōs, hai!gō!gōb **Afr:** houtkapper **Eng:** woodpecker **Nama:** AKs xas tsīna ra sisenūhe **Afr:** ook gebruik deur AK **Eng:** also used by AK
||x'ā (T1) [||x'ā, ||x'ā] **Nama:** |nāb, (NKK: ||khoms) **Afr:** maag, pens, rumen **Afr^{ons}:** grootpens **Eng:** stomach, belly, rumen **Nama:** kai ||khoms ||gae!gāxa |gurun dis

koeniebos, taaibos, garrabos, *Rhus undulata* **Afr^{ons}:** |karo-boom, kareebos **Eng:** kuni-bush, *Rhus undulata*
||x'āsun (T1) [||x'āsun, ||x'āāsun] **Nama:** |haub **Afr:** maagvet, pensvet **Afr^{ons}:** |nap **Eng:** stomach fat **Nama:** loa!ū. 'nāb' + 'kaub' **Afr:** let. 'maag' + 'vet' **Eng:** lit. 'stomach' + 'fat'
||x'āOû (T1) [||x'āOû] **Nama:** |arab **Afr:** melkpens **Eng:** abomasum **Nama:** n.m.ln. ||gae!gāxa |gurun di †khari ||khoms **Afr:** d.w.s. die kleinpens van 'n herkouer **Eng:** i.e. the small stomach of ruminants
||x'oe (T1) [||x'oe] **Nama:** †nuis **Afr:** vagina, vroulike geslagsdele **Eng:** vagina, female genitals
||x'oenucu (T1) [||x'oenucu] **Nama:** |hammi **Afr:** kitoris **Eng:** clitoris **Nama:** loa!ū. 'loms' + '†guis' **Afr:** let. 'vagina' + 'neus' **Eng:** lit. 'vagina' + 'nose'
||x'oesi (T1) [||x'oesi, ||x'oisi] **Nama:** †noms **Afr:** kool, vuurkool **Eng:** coal **Nama:** |nai |khai, †nū †oms tmk.io noxopa a ūitsama |apa †oms **Afr:** swart en koud of gloeiend **Eng:** black and cold or glowing
||x'oo (T2) [||x'oo] **Nama:** ||ha, (NKK: ||hā) **Afr:** kap **Eng:** chop
||x'ooc'aqe (T2) [||x'ooc'a^se] **Nama:** ||ha†hu, (NKK: ||hā†khū, ||hā|uri) **Afr:** fynkap, fynkerf **Eng:** chop up finely
||x'oo||hu (Western), ||x'oo||hu, ||x'oo||hubu (Eastern) (T2) [||x'oo||^hu (Western), ||x'oo||^hu, ||x'oo||^huβu (Eastern)] **Nama:** ||ha||na, (NKK: ||hā||nā) **Afr:** afkap **Eng:** chop off
||x'oo†hii (Western) (T1) [||x'oo†^hii (Western)] **Nama:** hai!gō!gōs, hai!gō!gōb **Afr:** houtkapper **Eng:** woodpecker **Nama:** AKs xa sisenūhe tama **Afr:** nie gebruik deur AK nie **Eng:** not used by AK
||x'oqe (T2) [||x'o^se] **Nama:** †ara, †ara†ui, tsoraxū **Afr:** spoeg, spuug **Eng:** spit
||x'oqeke, ||x'oqleke (T1) [||x'o^seke, ||x'o^sek^je, ||x'o^sleke, ||x'o^slik^je] **Nama:** †āb, tsāb **Afr:** spoeg, spuug **Eng:** saliva
||x'oqekx'āi (T2) [||x'o^sekx'āi] **Nama:** †ara-ai, †āb |khā |ā|ā **Afr:** spoeg na, iemand natspoeg **Eng:** spit at, wet someone with saliva
||x'oqesi (T1) [||x'o^sesi] **Nama:** |gamiros **Afr:** krimpvarkie **Eng:** hedgehog **Nama:** ||khāti '|gamiros', '||nā ra |gamiros' **Afr:** vgl. 'ster'; 'verskietende ster' **Eng:** cf. 'star', 'shooting star'

Size of lexicon

over 1600 entries, which includes:

- *compounds, which are spelled as 1 word:*
 - nlaallaba 'skull'
 - ts'axam!qhaa 'tears'
 - †hûull'e 'jump away'
 - †hûukî 'jump about, hop'

- *phrases & idioms, which are spelled as separate words:*
 - n!âu ke cxaa 'daybreak' (lit. 'when the hare tears')

 - kalloqnoke ʘ'ui'iki 'lung disease, tuberculosis'
 - ts'axam!qhaake jaqn 'weep'

Proper names (given in the introduction)

Personal Names

!Adai [lədəi] a man's personal name; Petrus Vaalbooi's traditional name; previously transcribed as *Medai*, *Mede* (for example, in the †Khomani San Hugh Brody Collection)

Place Names

Ku !Hoe [ku !hoe] Nama: !Noes Afr: Swartpan Eng: Swartpan

lit. 'is like black'; the Nama name means 'patch of black thorns'. 27.2850° S, 20.7456° E

Note: this pan has a shiny, black appearance; the Nama name appears to be chosen for the similarity in pronunciation & meaning to the (presumably, original) Nuu name

Greetings and common phrases

Ng ll'a., **Na ll'a.** [ŋ ʎʰa, na ʎʰa.] go away. i.e. 'I'm going now'; said upon departure as a way to say 'goodbye'

Nluu orthography challenges

Nluu Language Authority decisions (with linguistic input) regarding the spelling of:

loanwords

diarsi [diɪrsi] 'door' (< deur)

tafelsi [tafɛlsi] 'table'

reduced vowels

ɛ̃*aasin* [ɛ̃aasin, ɛ̃aasin] 'put on' (e.g. bracelet, clothes)

vowel length

cu 'mouth, lips'

cuu 'hear, understand'

coronal obstruents

coe [cʷe] 'ostrich' (Other attested spellings: *cue*, *tjhoi*, *tjoi*, *tyoe*)

choe [cʰʷe] 'be naked'

tsyhoe [t͡sʰʷe] 'be crazy'

South African Nama orthography challenges

- SA Nama less detailed documentation compared to Namibian varieties
- Namibian variety considered the standard where South African speakers feel that there is a significant difference and therefore should have their own orthography and dictionary etc.
- Approximately 52 450 mother tongue speakers of Khoekhoe in Namibia (Namibian National Household Census 2011:68)(11% of population) compared to approximately 3000-3500 in South Africa (Witzlack 2006: 11) (0,0003% of population)
- Literacy rates in the mother tongue in South Africa are low with very few speakers confident in their literacy skills if any
- Only 2 schools in South Africa that offer mother tongue instruction at JP levels only and not full time compared with Namibia who have mother tongue instruction from grade R to university level.
- No set curriculum or resources (most resources are imported from Namibia if at all)
- Little or no media presence in the language

Solutions for the purposes of this project:

- Use Namibian standard when SA Nama and Namibian Khoekhoe was the same (in general SA speakers preferred the use of less tone markers than NKK to assist with literacy and user-friendliness)
- When there was a difference between SA Nama and Namibian Khoekhoe, SA Nama was mentioned first and Namibian second in brackets - e.g.: duiker - **dôas**, (NKK: **lnâus**)
- Less than 10% of Nama entries had a difference between SA Nama and Namibian Standard.

South African Nama examples

Type of difference	SA Nama	NKK	English
tone	xolkhā	xōlkhā	be next to
nasalisation	hî-i	hî-î	no
vowel	!goreb lkhinis; lkhinas	!goareb lkhenas	zebra helmeted guineafowl
gender marker	!nais laras*	!naib larab	camel termite mound
semantic (i.e. real-world referents differ)	!gaes !gais	lgaus !gaes, lgaus	horned adder puff adder
dialectal	xoerxoeri (used in Riemvasmaak and the Southern Kalahari) xûixûiseb (used in the Southern Kalahari region only)	xoexoes	crowned lapwing (crowned plover)
word structure	turu!khobab	turureb	secretary bird

* †geberu-oms is another SA Nama term for 'termite mound'

South African Nama examples with unrelated roots to NKK variety & speakers don't recognise NKK variety

SA Nama	NKK	English
‡nāb	!naixarab	meerkat
dôas	Inâus	duiker
dôarob	Inâurob	duiker lamb
!nâillnâises	!nanikemûs, !narobes	gecko
toroanib	!gabas!nâllgoeb	spotted thick knee (spotted dikkop)
‡nū-anib	‡gāllgoeb, apuhĭob	nightjar
!hanikexau-oms	!gâ-oms	sociable weaver nests
!khurdoes	!nabaris	sandgrouse

Two Afrikaans varieties

- In the Northern Cape, Afrikaans is spoken by 53,8% of the population and therefore the most prevalent language spoken in the province (www.statssa.gov.za). This phenomenon extends to the Kalahari region and has been the lingua franca between speaker groups of different languages (e.g: Nluu, Nama, Dutch, German, Setswana, Kora, IAuni etc) for over 100 years.
- Many mother tongue Nama speakers in South Africa have undergone language shift to Afrikaans over the generations.
- The language of instruction in local schools in the Kalahari is mostly Afrikaans followed by English
- We included two varieties of Afrikaans in this project, standard Afrikaans and local Afrikaans referred to as “Onse Afrikaans” to assist with accurate translations of Nluu and Nama entries and to document a lesser known variety of Afrikaans as spoken by Kalahari residents

Onse Afrikaans vs Standard Afrikaans

Type of difference	Onse Afrikaans	Standard Afrikaans	English
phonological	ystermagog	ietermagog	pangolin
semantic	zoemby; helikopter, vliegtuigietjie (lit. aeroplane + diminutive marker)	groen en geel tor	green and yellow beetle (one ties a string to it & flies it around like a small pet aeroplane)
etymology of root used in compound	!oeroegaatjie	oorbelgaatjie	hole in earlobe
lexical semantics of roots used in compounds	poepratel (fart badger) geletjiewitkwas	stinkmuishond witkwasmuishond	striped polecat yellow mongoose
Locally unique root	tirk tokkelorrie	boomakkedis duisendpoot	skink millipede
Old (archaic) Afrikaans	algar waffer	almal watter	all (people) which

Unique Afrikaans words never recorded before

Onse Afrikaans	Standard Afrikaans	English
ketok	stokstertmeerkat	suricate
tirk	akkedis	skink
klipkappertjie	grondgeitjie	ground gecko
pokkelorrie	duisendpoot	millipede
juu	miskruier	dung beetle
toon	eweknie	peer

None of these forms occur in *Annerlike Afrikaans*, the 500+ page dictionary of non-Standard Afrikaans (Prinsloo 2008)

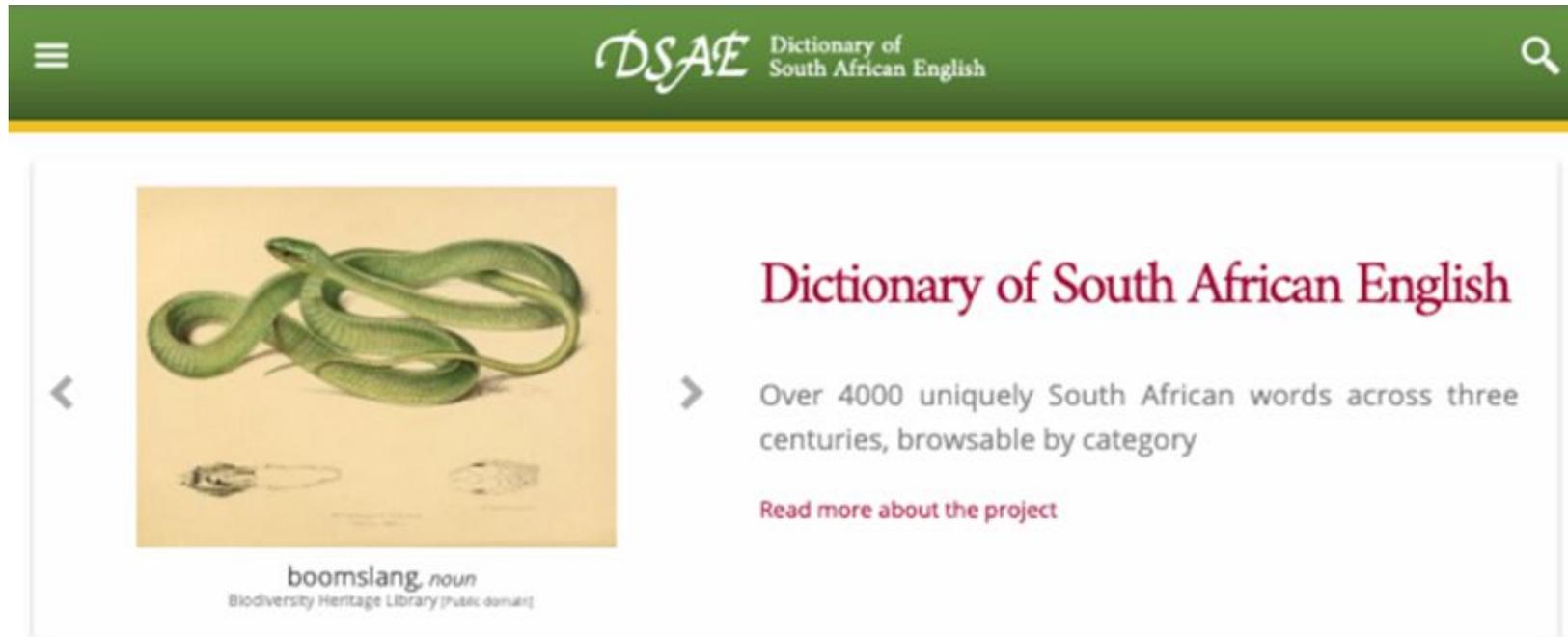
Clicks in Onse Afrikaans

Onse Afrikaans	English	Standard Afrikaans	Nluu	Nama	Transcriptions
leip; lkeip	aardwolf	aardwolf	!oo	lgib	[leip, lkəip]
‡orep; ‡'orep; klopkloppie	titbabbler	tinktinkie	‡'oqe‡'oqe	‡oreb	[g‡orep, ‡orep, ‡ʔorep, ‡orep], ʔorep, ‡ʔorep]
!nharagap; Inaragap; lharagap	saliva in throat	dik spoeg; ghwel	!harasi	!harab(s)	[^h arəχə, n! ^h arəχə, nlarəχə, ŋlarəχəp, n! ^h arəχəp]
!oenietjie	elbow	elmoog	!uni	!unib	[!uniki], note the adaptation to Afrikaans spelling
Inhas	uterus	baarmoeder	ll'haasi	llhās	[nlas, n! ^h as], note loss of click type and accompaniment distinctions

Nama is the likely source of most Onse Afrikaans click words

South African English

- For the purposes of this project, we are using standardised **South African English** to cater for a South African audience.
- This content also makes the other 3 languages accessible to the international market of students and teachers
- South African English as over 4000 uniquely South African words not found in other varieties of English around the world
- Edited by Dotty Manzel from the Dictionary Unit for South African English at Rhodes University



The screenshot shows the top navigation bar of the Dictionary of South African English (DSAE) website. The bar is green with a white hamburger menu icon on the left, the DSAE logo and text 'Dictionary of South African English' in the center, and a white magnifying glass search icon on the right. Below the navigation bar is a white content area. On the left side of this area is a photograph of a green boomslang snake, with two small inset images of its head and tail below it. To the right of the photograph is the title 'Dictionary of South African English' in a red serif font. Below the title is the text 'Over 4000 uniquely South African words across three centuries, browsable by category' in a grey sans-serif font. At the bottom right of this section is a red link that says 'Read more about the project'. Below the photograph, the word 'boomslang' is written in a bold, black, sans-serif font, followed by the word 'noun' in a smaller, italicized font. At the very bottom of the page, the text 'Biodiversity Heritage Library (public domain)' is displayed in a small, grey font.

DSAE Dictionary of South African English

Dictionary of South African English

Over 4000 uniquely South African words across three centuries, browsable by category

[Read more about the project](#)

boomslang, noun
Biodiversity Heritage Library (public domain)

Examples of South African English

English

BBQ

suricate

oryx

candy

leather whip

marijuana

spear

type of walking stick

South African English

braai

meerkat

gemsbok

sweets

sjambok

dagga

assegai

knobkerrie



User-friendly linguistic outputs

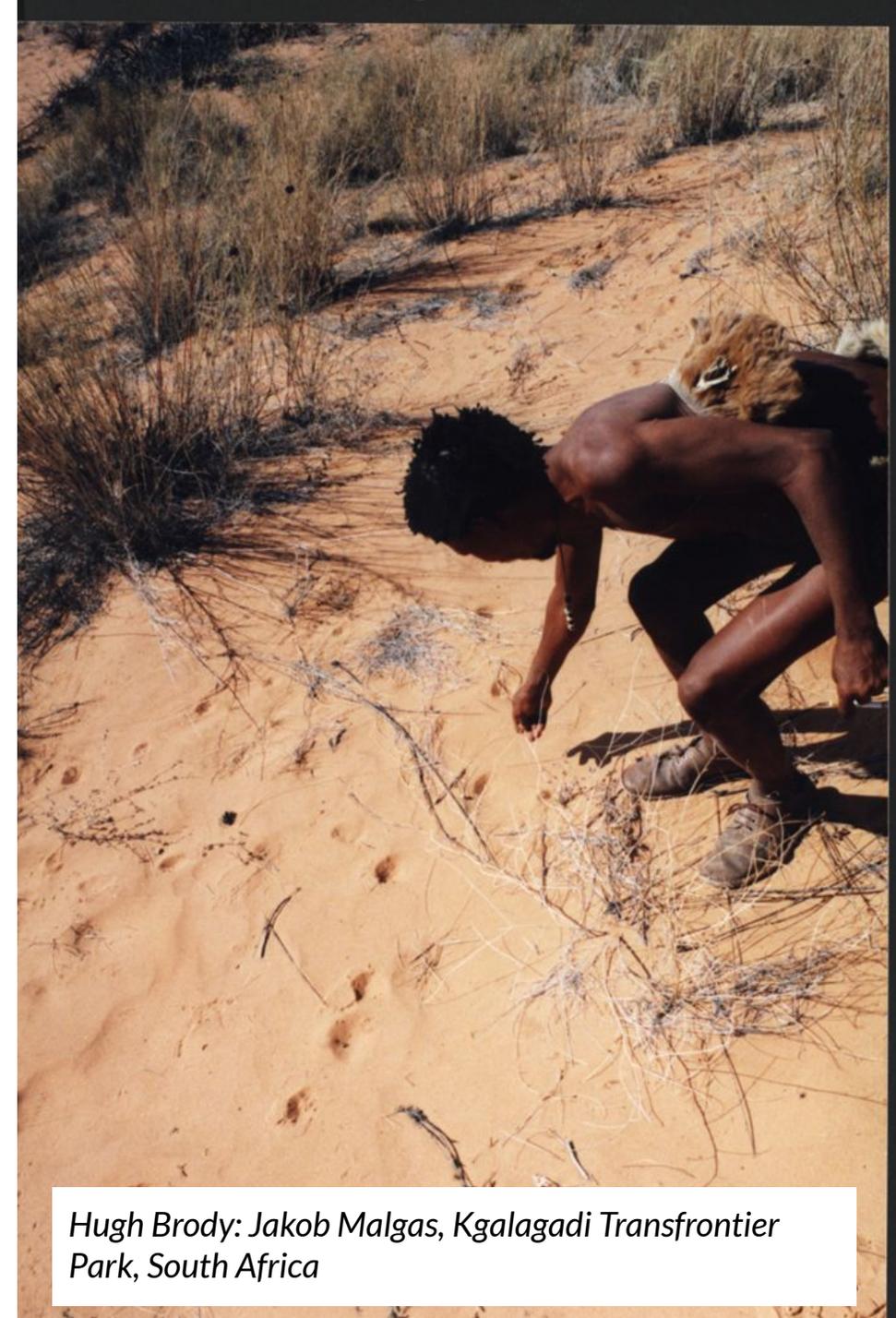
- The aim is to produce scientifically sound resources that are user friendly for a diverse audience
 - #Xhomi descendants
 - South African members of the public
 - Local and international researchers
- An inclusive multilingual set of outputs to facilitate:
 - practical language use
 - language awareness
 - language documentation and preservation
- **ACCESSIBILITY** to outputs for all
 - an important factor when conducting scientific enquiry in general
 - an ethical matter, most especially, with speakers of endangered languages



Conclusion

- involvement of local stakeholders increases community ownership of the language
- feedback from those using the orthography led to improvements in the orthography
- better understanding in the community of differences between Nluu and Nama achieved through checking entries
- documentation of non-standard, local varieties led to a more complete documentation of languages in the Northern Cape
- feedback from NLA and different teams of linguists led to improvements in translations
- involvement of lexicographers & a computational linguist led to a more professional output
- strong commitment by South African government to support local endangered languages - but in order for them to do so they need coordinated, professional and local collaboration

Teamwork requires leadership, hard work and commitment, but leads to better outcomes overall



Hugh Brody: Jakob Malgas, Kgalagadi Transfrontier Park, South Africa

References

- Appel, Ariel (compiler). (2013). "We are N!uu hunters" "C-a lx'oa N!uu-ki". Language-Hunting adapted to #Khomani San N!uu-ki. A conversational-fluency oriented approach to N!uu-ki acquisition and indigenous language revitalization. Available online: <https://groups.google.com/group/language-hunters/attach/db688ed8e3c43ddf/Nuu%20Hunting%20-%20for%20print%20almost%20final.pdf>
- Auer, Daniel. (2018). Die Analyse des N!ng-Idiolekt von Kaiki aus Roidam. B.A. thesis, Humboldt-Universität zu Berlin.
- Bleek, Dorothea F. (1929). Comparative Vocabularies of Bushman Languages. University of Cape Town, School of African Studies Publications. Publications from the School of African Life and Language. University Press. Cambridge.
- Bleek, Dorothea F. (1956). A Bushman Dictionary. ed. H. Hoenigswald. American Oriental Series, 41. New Haven, Connecticut: American Oriental Society.
- Boden, Gertrud. (2014). N!ng kinship terminology – salvage documentation with the last speakers. Southern African Khoisan Kinship Systems. ed. Alan Barnard & Gertrud Boden. (Quellen zur Khoisan-Forschung / Research in Khoisan Studies, 30). Cologne: Rüdiger Köppe. pp. 63-84.
- Chebanne, Andy. (2010). The role of dictionaries in the documentation and codification of African languages: The case of Khoisan. Lexikos 20 (AFRILEX-reeks / series 20: 2010): 92-108.
- Collins, Chris. (2005). The absence of the linker in double object constructions in N!uu. Studies in African Linguistics, 33(2): 163-198.
- Collins, Chris. (2019). Click Pronouns in N!uu. In The Linker in the Khoisan Languages. Oxford University Press, Oxford.
- Collins, Christopher & Levi Namaseb. (2011). A Grammatical Sketch of N!uuki with Stories. (Quellen zur Khoisan-Forschung / Research in Khoisan Studies, 25). Cologne: Rüdiger Köppe.
- Crawhall, Nigel. (2003). The rediscovery of N!u and the #Khomani land claim process in South Africa. Maintaining the Links: Language Identity and the Land: Proceedings of the Seventh FEL Conference, Broome, Western Australia, 22-24 September 2003. ed. Joe Blythe & R McKenna Brown. Bristol: Foundation for Endangered Languages. pp. 13-19.
- Crawhall, Nigel. (2004). !Ui-Taa Language Shift in Gordonia and Postmasburg Districts, South Africa. PhD thesis, University of Cape Town. Available online: <https://open.uct.ac.za/handle/11427/7430>
- Crawhall, Nigel. (2005). Too good to leave behind: The N!u language and the #Khomani people of Siyanda District. Language and Identities in a Postcolony: Southern African Perspectives. ed. Rosalie Finlayson & Sarah Slabbert. (Schriften zur Afrikanistik Band 10). Frankfurt: Peter Lang. pp. 67-89.
- Dart, Raymond A. (1937). The hut distribution, genealogy and homogeneity of the !Auni-#Khomani Bushmen. Bantu studies, 11: 159-174.
- Doke, C. M. (1936). An outline of #Khomani Bushman phonetics. Bantu Studies, 10(4): 433-461.
- Ernszt, Martina. (2012). On the different uses of the deictic directional verbs 'go' and 'come' in N!ng. Directionality in Grammar and Discourse: Case Studies from Africa. ed. Angelika Mietzner & Ulrike Claudi. Cologne: Rüdiger Köppe. pp. 115-126.
- Ernszt, Martina, Alena Witzlack-Makarevich & Tom Güldemann. (2015). Valency in N!ng. Valency Classes in the World's Languages. Vol. 1: Introducing the Framework, and Case Studies from Africa and Eurasia. ed. Andrej Malchukov & Bernard Comrie. (Comparative Handbooks of Linguistics, 1). Berlin: De Gruyter Mouton. pp. 185-220.

- Esau, Katrina. (2021). !Qhoi nla Tjhoi / Skilpad en Volstruis / Tortoise and Ostrich. Story by Katrina Esau, as told to Claudia Snyman. Illustrations by Stanley Grootboom. Cape Town: David Philip Publishers.
- Exter, Mats. (2008). Properties of the Anterior and Posterior Click Closures in N!uu. Ph.D. thesis, Universität zu Köln. Available online: <http://kups.ub.uni-koeln.de/4979/>
- Güldemann, Tom. (2014). 'Khoisan' linguistic classification today. Beyond 'Khoisan': Historical Relations in the Kalahari Basin. ed. Tom Güldemann & Anne-Maria Fehn. Amsterdam: John Benjamins. pp. 1-41.
- Güldemann, Tom. (2017). Casting a wider net over N!ng: The older archival resources. *Anthropological Linguistics*, 59(1): 71-104.
- Haacke, Wilfrid H. G. & Eliphas Eiseb. (2002). A Khoekhoegowab dictionary, with an English-Khoekhoegowab Index. Windhoek: Gamsberg Macmillan.
- Jones, Kerry. (2019). Contemporary Khoesan languages of South Africa. *Critical Arts: A South-North Journal of Cultural & Media Studies*, 33(4-5): 55-73. DOI: 10.1080/02560046.2019.1688849
- Jones, Kerry & Sanjin Muftic. (2020). Endangered African languages featured in a digital collection: The case of the #Khomani San | Hugh Brody Collection. Proceedings of the First Workshop on Resources for African Indigenous Languages (RAIL). Language Resources and Evaluation Conference (LREC 2020), Marseille, 11-16 May 2020. ELRA. pp. 1-8.
- Kilian, Kelly. (2020). Tum?i: A Phonetic & Phonological Analysis of a Khoisan Variety. Calgary: University of Calgary MA thesis. Available online: <https://prism.ucalgary.ca/handle/1880/111508>
- Maingard, L. F. (1937). The #Khomani dialect of Bushman: its morphology and other characteristics. *Bushmen of the Southern Kalahari*. ed. J.D. Rheinallt Jones & C.M. Doke. Johannesburg: University of the Witwatersrand Press. pp. 237-275.
- Mannetti, Lelani. (2011). Understanding Plant Resource Use by the #Khomani Bushmen of the southern Kalahari. M.S. thesis, University of Stellenbosch. Available online: <https://core.ac.uk/download/pdf/37326298.pdf>
- Miller, Amanda L. (2010). Tongue body and tongue root shape differences in N!uu clicks correlate with phonotactic patterns. *Turbulent Sounds: An Interdisciplinary Guide*. ed. Susanne Fuchs, Martine Toda & Marzena Żygis. Berlin: Mouton de Gruyter. pp. 245-279. Available online: https://cpb-us-w2.wpmucdn.com/u.osu.edu/dist/4/25187/files/2016/01/7Miller_final-23qvm.pdf
- Miller, Amanda L., Johanna Brugman, Bonny Sands, Levi Namaseb, Mats Exter & Chris Collins. (2007). The sounds of N!uu: Place and airstream contrasts. (ed. Hye-Sook Lee & Pittayawat Pittayaporn. Ithaca, NY: CLC Publications). Working Papers of the Cornell Phonetics Laboratory, 16: 101-160. Available online: <https://zenodo.org/record/3731533>
- Miller, Amanda, Johanna Brugman, Bonny Sands, Levi Namaseb, Mats Exter & Chris Collins. (2009). Differences in airstream and posterior place of articulation among N!uu clicks. *Journal of the International Phonetic Association*, 39(2): 129-161. Available online: https://cpb-us-w2.wpmucdn.com/u.osu.edu/dist/4/25187/files/2016/01/JIPA_AMiller_published-1u7kmdn.pdf
- Namaseb, Levi. (2006). Language, Environment and Community in Storytelling of Khoekhoe, #Khomani, English and Afrikaans in Southern Africa. PhD dissertation. Graduate Department of the Centre for Comparative Literature, University of Toronto.
- Namaseb, Levi. (2016). The study of the elements of literary history of the Khoekhoe and #Khomani languages of Southern Africa. Or Words to That Effect: Orality and the Writing of Literary History. ed. Daniel Frank Chamberlain & J. Edward Chamberlain. Amsterdam: John Benjamins. pp. 217-242. DOI:10.1075/chlel.xxviii.16nam
- Namaseb, Levi, Willem Damarah, KhomSoDev, South African San Council, SASI, Dea Vaalbooi, Claudia du Plessis, Sussie Bok, Petrus Vaalbooi, Bonny Sands, Amanda Miller, Chris Collins & Johanna Brugman. (2014). Ek kan N!uuki, praat, lees en skryf/ I can speak, read and write N!uuki. Keimoes & Upington: KhomSoDev & ASSMANG Iron Ore Khumani Mines.

Sands, Bonny (ed.). (2020). Click Consonants. (Empirical Approaches to Linguistic Theory, 15). Leiden: Brill.

Sands, Bonny, Amanda L. Miller & Johanna Brugman. (2007). The lexicon in language attrition: The case of Nluu. Selected Proceedings of the 37th Annual Conference on African Linguistics. ed. Doris L. Payne & Jaime Peña. Somerville, MA: Cascadilla Proceedings Project. pp. 55-65. Available online: <https://www.lingref.com/cpp/acal/37/paper1595.pdf>

SASI. (2012). Ek is Spesiaal / Na ng Spesiaal: Afrikaans / Nlu. Kimberley, South Africa: Suid Afrikaanse San Instituut (SASI).

Sauls, Gertruida, Tommy Busakhwe & Willem Damarah. (2004). The #Khomani San community, Nlu language, Siyanda District, South Africa. Penduka II Declaration on San languages in education. Penduka II: Second WIMSA International Conference on San Languages in Education, Penduka Training Centre, Katutura, Namibia, 31 August to 2 September 2004. Windhoek, Namibia: Working Group of Indigenous Minorities in Southern Africa (WIMSA). pp. 28-30.

Shah, Sheena & Matthias Brenzinger. (2017). Writing for speaking: The Nluu orthography. Creating Orthographies for Endangered Languages. ed. Mari C. Jones & Damien Mooney. Cambridge: Cambridge University Press. pp. 109-125.

Shah, Sheena & Matthias Brenzinger in collaboration with Katrina Esau, Claudia Du Plessis & Mary-Ann Prins. (2016). Ouma Geelmeid ke kx'u l|xalxa Nluu = Ouma Geelmeid gee Nluu = Ouma Geelmeid teaches Nluu. Cape Town: CALDi, University of Cape Town. Available online: <https://open.uct.ac.za/handle/11427/17432?show=full>

Traill, Anthony. (1999). Extinct: South African Khoisan languages. Compact disc & booklet. Johannesburg: Department of Linguistics, University of the Witwatersrand.

Traill, Anthony. (2002). Khoisan languages. Language in South Africa. ed. Raj Mesthrie. Cambridge: Cambridge University Press. pp. 27-49.

Witzlack-Makarevich, Alena. (2022/forthcoming). Idiolectal and dialectal variation in Nlŋg. Proceedings of the 24. Afrikanist*innentag (provisional title). ed. Lee J. Pratchett & Axel Fanego Palat. Cologne: Rüdiger Köppe.

Digital collections

Bleek, Dorothea F. (1910-1911). Notebooks on the Langeberg Bushmen. (Bleek Collection: BC151 A3.1, BC151 A3.2 & BC151 A3.3) & notes taken in Rietfontein (BC151 A3.4). The Digital Bleek & Lloyd. Rare Documents and Manuscripts Department, University of Cape Town. Available online: <http://lloydbleekcollection.cs.uct.ac.za/books.html>

Brody, Hugh. (2016). #Khomani San Hugh Brody Archive, University of Cape Town. <http://digitalcollections.lib.uct.ac.za/khomani>

Brody, Hugh. (forthcoming). #Khomani San | Hugh Brody Collection. Ibal Digital Collections, UCT <https://ibali.uct.ac.za/s/ibali/page/welcome>

Collins, Chris & Bonny Sands. (2007). Description of N!uu: Endangered Languages Archive. <https://www.elararchive.org/dk0423> Handle: <http://hdl.handle.net/2196/00-0000-0000-000F-BF5D-3>.

Güldemann, Tom & Alena Witzlack-Makarevich. (2014). Text documentation of N!uu. Endangered Languages Archive. Available online: <http://hdl.handle.net/2196/00-0000-0000-0002-F81F-F>

Collins, Chris & Bonny Sands. (2022). N!uu language archive. SADiLaR (forthcoming)

Shah, Sheena. (2018). Documentation for the revitalisation of N!uu. Endangered Languages Archive. Available online: <http://hdl.handle.net/2196/00-0000-0000-0010-D127-2>

Slingsby, Thomas; Jones, Kerry; Muftic, Sanjin; Walker, Andrea; Goslett, Deidre; Steyn, Françoise (Betta) (2021): Places of the #Khomani San | Hugh Brody Collection. University of Cape Town. Dataset. <https://doi.org/10.25375/uct.16573217.v1>

Westphal, Ernst O.J. (1961 & 1967). [Gemsbok Park/N!huki/N!hu sound recordings and fieldnotes]. University of Cape Town. Libraries. Manuscript and Archives Dept. BC1143, Ernst Westphal Papers. Available online: <https://digitalcollections.lib.uct.ac.za/ernst-westphal-san-languages>