



Language in Kwän Dék'án' Do

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Acknowledgments

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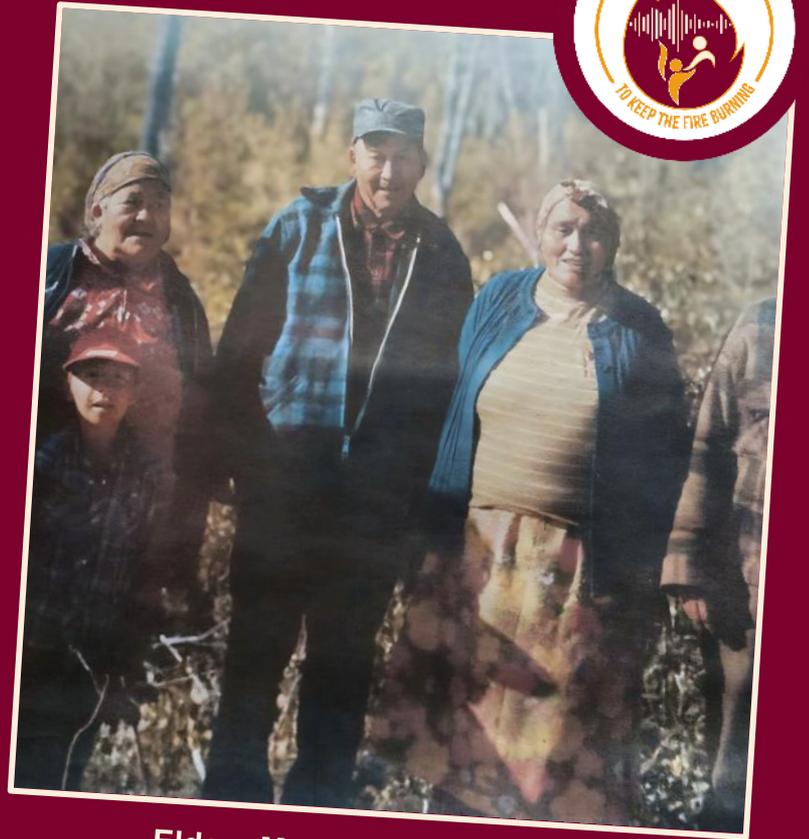
Introduction

Realizing the promise of new technologies to support sustained and renewed language use relies on bringing together **people**, **approaches**, and **resources**.



People

Recognizing and honouring the contributions of past and present **language keepers**, centring this project on the language that they share and have shared.



Elders Mary Hager, Edwin Hager,
Lucy Peter, and Sam Peter (FNNND)



Approaches

Building relationships that connect and support Elders, learners, and other partner individuals and organizations.





Resources

Selectively adopting digital tools that are **appropriate** to Dän Dhá', **adaptable** to other Indigenous languages, and **respectful** of community ownership and control of language and culture.



Helen Buyck and Lucy Peter
(NNBY: Haa Shagoon, S03E07)

Dän Dhá'

(Northern Tutchone)

- ❖ **Dän** (*Dene*) language spoken throughout the central Yukon
- ❖ Active and growing community of **adult language learners** from multiple Yukon First Nations
- ❖ Records of language (*spoken, written*) primarily from **1970s onward**



m̄ Kay sea-gull
 c̄aḡéini magpie
 c̄ə̄ki crow, raven
 j̄ena k̄ə̄a swallow
 č̄ut duck (any kind of)
 d̄ə̄ḡəy swan
 č̄at̄sow mellow-ducks (?)
 c̄ə̄ki m̄é little duck
 (cf. c̄ə̄ki 'crow')
 K̄'a m̄p̄a Ptarmigan
 j̄i grouse
 xa goose
 (K̄. id. same) X̄illu k̄aya mowbird
 áḡə(?) egg
 āḡə p̄aḡ egg-shell
 c̄'u 'tree' and 'spruce'
 č̄i' junco
 k̄ə̄j̄u crane



Handwritten / Archival materials
(ANLA CN-Tutchone, Box 2, f.5-1, p.4)

Pre-digital audio and video recordings (FNNND)



Storybooks and class (Germaine & YN...)



Language apps, signage, and 'born digital' resources

(FNNND Heritage Department, 2024)

Cross-institutional collaborations



With support from several institutions, we are working to **identify** and **integrate language materials** currently housed outside of the community:

- ❖ **Alaska Native Language Archive**
(Fairbanks, AK)
- ❖ **Canadian Museum of History**
(Gatineau, QC)
- ❖ **Yukon Native Language Centre**
(Whitehorse, YT)





Digital tools

Evaluating and selecting mature, well-supported digital tools that ensure **community control and ownership** of language materials:

- Textual and still-image language resources (*e.g., posters, handwritten notes, books, photos, etc.*) → **Transkribus**
- Audiovisual resources (*e.g., digitized A/V recordings, new recordings with Elders*) → **ELAN**



1. <https://transkribus.eu/>

2. <https://archive.mpi.nl/tla/elan>



Drop files here or [browse files](#)

Note: Accepted file formats are JPEG/JPG, TIFF, PNG (20MB), or PDF (512MB) Maximum file number is 3000 for images and 200 for PDFs. Maximum file name length is 180 characters. This includes folder names if you upload folders. [More info.](#)

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lhkún Zhát
In My House
Catherine Germaine
Northern Tutchone Language

Page 1

Ję ihchaw et'i.
This is my (middle) brother.

lhchaw tso dédelí.
My (middle) brother is packing in wood.

Yehkah
He is wear

Edhó má
He is wear

Kensun
He is wear

Region 1

- 1 lhkún Zhát
- 2 In My House
- 3 Catherine Germaine
- 4 Northern Tutchone Language
- 5 Page 1
- 6 **Ję ihchaw et'i.**
- 7 This is my (middle) brother.
- 8 lhchaw tso dédelí.
- 9 My (middle) brother is packing in wood.
- 10 Yehkah yéch'āw hí nénéht'un.
- 11 He is wearing winter clothing.



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	A	B	C	D	E	F
1	id	annotation-text	annotation-translation	source	language	variety
2	a1	lhkún Zhát	In My House	Catherine Germaine	Northern Tutchone (ttm)	Mayo
3	a2	Ję ihchaw et'i.	This is my (middle) brother.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
4	a3	lhchaw tso dédelí.	My (middle) brother is packing in wood.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
5	a4	Yehkah yéch'āw hí nénéht'un.	He is wearing winter clothing.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
6	a5	Edhó má t'édéhnnyák.	He is wearing moose skin mitts.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
7	a6	Kensun t'éhe'yó.	He is wearing moccasins.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
8	a7	Ję ihdyó et'i.	This is my (middle) sister.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
9	a8	lhdyó tu eka.	My (middle) sister is packing water.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
10	a9	Ts'a néht'un thądéh'ę.	She is wearing a knitted hat.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
11	a10	'Yak néhtaw t'éhede.	She is wearing a warm jacket.	Catherine Germaine	Northern Tutchone (ttm)	Mayo
12						

ttm-YNLC-2001 Ready Accessibility: Good to go 177%





Progress – Textual resources

- **2,257 pages** of digitized Dän Dhá' language materials from **65 scanned resources** (*language booklets, posters, historical fieldnotes, etc.*) fully reviewed and corrected
- **13,000+ words and expressions** in Indigenous languages (primarily Dän Dhá') identified and tagged across these resources



Progress – Audio and video resources

- **30+ hours** of digitized audio and video recordings provided by two partner organizations (*segmentation, transcription, and translation now underway*)
- Current archival research and digitization in major collections at two other organizations





Next Steps

- Working with partner organizations to identify, digitize, and **'bring home' more language resources** for Dän Dhá'
- **Delving deeper** into the available resources (*into vocabulary, expressions, language patterns*)
- Finding creative ways of **addressing possible 'gaps'** in existing resources—what words, expressions, and language patterns would people *like* to use, but aren't in those sources?



Northern Tutchone Grammar Sketch





Acknowledgment

First, we acknowledge gratefully the speakers and community who provided all of the language data in this presentation.

The language team on this project includes 24+ undergraduate and MA research assistants, Louise Koren, and Prof. Chris Cox. All data was provided by the Yukon Native Language Center.



Purpose of Project

- ❖ Why are we doing this? How does a grammar sketch help the project? There are lots of answers to this question
- ❖ It is pedagogically valuable. It is much more difficult, and impossible for non-speakers, to develop pedagogical materials without descriptive grammar.
- ❖ A descriptive grammar can help teach AI about the language.
- ❖ Descriptive grammar is a valuable resource for linguists.

December Lessons



Possessives
Chart of Possessive Prefixes

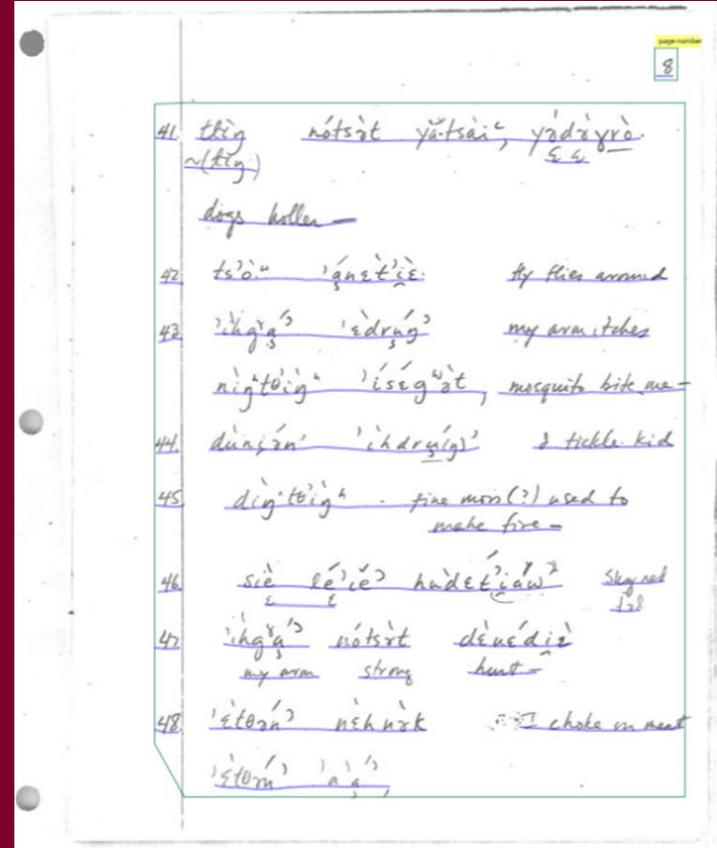
my	.ih-	.our	.nah-
your (singular)	.in-	your (plural)	.nah-
his/her	.u-	.their	.hu-

1. my house	.ihkó	4. our house	.nahkó
2. your house	.inkó	5. your (pl.) house	.nahkó
3. his/her house	.ukó	6. their house	.hukó

Page number
Northern Tutchone Language Lessons Page 24

Challenges in Writing a Grammar

- Northern Tutchone has no previous grammatical description. Everything must be observed in documented language or inferred from pan-Dene principles.
- Sources can be difficult to interpret. There is no common orthography, so the same word may be written differently in various sources. Ritter's orthography is especially difficult.
- Dialectal variation. Is a given word or construction common across Northern Tutchone, or is it unique to a dialect?



Northern Tutchone Verb Morphology

- Northern Tutchone and other Dene languages have a very distinctive polysynthetic, prefixing *verb complex*.
- Verbs are headed by a word-final stem syllable. They are preceded by a string of prefixes that grow in relevance as they approach the stem.
- Verbs of positioning and movement are *classificatory*: the verb stem changes depending on the noun's characteristic (clothlike, animate, etc.)

•*ts'ət* *nedihtšy'*

ts'ət *ne-* *#-d-* *i-* *ł-tšy'*

blanket ITER-#-QUAL-1SG.PRES-ł-handle.clothlike

'I pick up a blanket'



<p>'<i>ù-tł'</i>- 3sg.POSS- palm-</p>	<p>#</p>	<p>-i-</p>	<p>ŋ-</p>	<p>ø-</p>	<p>-tšút position food</p>
<p>Disjunct</p>	<p>Conjunct</p>			<p>Stem</p>	
<p>'<i>utł'įntšut</i> 'give him something to eat'</p>					



Searching in Transkribus (Example)

bus.org/search?term=where

n_Tutchone
/Workshop
984.pdf

C-1996-
e_Germain
Tsehgan_Dr
h

ermaine-

Of_Old_Way
ture_Gener
irst_Nation
Nyak_Dun

C-2006-
n_Tutchone
/Session_5
rst_Nation_
06

C-2003-
all_Tom_Tsa
n_Nechi_Do
Tom_Goes
to_The_Bus
mp

C-2008-
all_Denyak_
zhe_Huntin
oose

C-2001-

... d days people knew the places **where** fish **were** running When **there** was no food they would go to such a p
there was no food and people **were** beginning to starve Men hunted for moose without any success they cou
grouse not even a rabbit People went to that lake and when they got **there** they ...

where fish were running. When there was	Mbát yindän t
where fish were running. When there was	Mbát yindän t
where fish were running. When there was	Mbát yindän t
One time there was no food and people	héejé dē hūyū P
were beginning to starve. Men hunted for	hūyū ðeendäl he
that lake, and when they got there, they	łımch'ō eju łu t

/ tce_ttm-YNLC-2001-Community_Language_Instructor_Training_February_2001 / Page 39

... men found the dead bear just **where** the women had said it wo ...

The men found the dead bear just **where** the women

/ ttm-YNLC-2001-Northern_Tutchone_In_Service_February_2000_May_2001.pdf / Page 49

... 3 Konké jã **Where** is the gun Unáa konké **There** is the gun 4 Män mé'oned ...

Where is the gun?	There is the gun.
Where is the gun?	There is the gun.



Question Formation in Northern Tutchone

Example: Questions with *where?*

- (A) Asking about the location of an action/state (*where is the dog sitting?*)

- (B) Asking about the location of an object (*where is the trap?*)

- Different dialects are spoken in different communities

Action/State: 'Where is the dog sitting?'

<u>Dialect</u>			
Caramacks	tlín dog	jun where	hede sit
Mayo	Indyō where	tlín dog	ténéh'e sit

Object: Where is the trap?

<u>Dialect</u>		
Caramacks	Khyál trap	jā where
Mayo	khyá trap	yedyá where



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