Fig. M-25. Further Implications of Alaska's Dene Hydronymic Districts

Kari 2019a:49: "In Kari 1996a, 1996b I first discussed the seven mutually exclusive *hydronymic districts* among Northern Dene languages. The grouping of first, second, and third order streams into regional hydronymic districts must have been the first overtly pragmatic Dene *watershed tenure device"* (sophisticated Dene vernacular collaborations). M-25 adds a layer to Gerad Smith's 2021 Alaska Dene kernel density map to show the two Alaska hydronymic districts: PD ***naʔ** downstream/west :: ***ni·q'ə** upstream/east, as well as part of the ***tuʔ** district in the Yukon Territory. The black dashed line scores the Alaska hydronym boundary on the Yukon and Tanana Rivers. *Question:* what was oldest term for stream among the ancient Dene? *Answer:* it was under negotiation. At Bill Bright's suggestion in 1996 Bright and Kari copyrighted the term "Athabaskan hydronymic districts." Kari is not aware of any other indigenous language family where the same or a similar concept has been posited.

Vajda 2019a:184-5 has useful discussion, "Kari (1996) mapped out seven distinct hydronymic districts within northern Dene territory, each characterized by a primary final combining form (hydronymic formant) used to build names for flowing bodies of water. These districts appear to have remained stable over a considerable span of time (Kari 2010)... a comparison of Dene-Yeniseian hydronymic nomenclature is illuminating for a number of reasons." op.cit:186 "Dene territory is saturated with native place names to the remarkable exclusion of any other layer of pre-European toponyms. This indicates either the family's great age in the given territories, as argued in Kari (1996, 2010), or a strong cultural propensity to replace non-native place names in any newly acquired territory.... Whether due to time depth of occupation or cultural naming practices, or to both factors, Northern Dene territory shows little or no sign of earlier linguistic substrates."

Smith's Dec. 2021 kernel density map groups clusters of Dene names @ 30 m. The current database has *12,452 named features.* (This excludes multilingual names across Dene language boundaries.) The twelve historic-contemporary Alaska Dene languages are ~754,000 km^2 (~291,000 mi^2) in area. The white lines approximate 19th-century band territories among Dene languages as well as for Inupiaq and Central Yupik. To our knowledge, our Alaska Dene place names database is the largest cumulative, drainage-ordered, and consistently analyzed multilingual place names database for adjacent languages of a single language family ever produced. We can query content: there are 216 names with PD **q'ey* 'birch'. We can query interesting feature types such as 162 names with PD **x^{y}əth, -yitth'aʔ* 'ridge'.

ϕ 2 founding lithic reverse hydronymns
Mid. Fork Koyukuk R & Highpower Ck

Dene place name kernel density map by G. M. Smith, 2021

Kari 2019b. Fig. 5b. Nineteen probative place names from Tanana and Copper River Basins

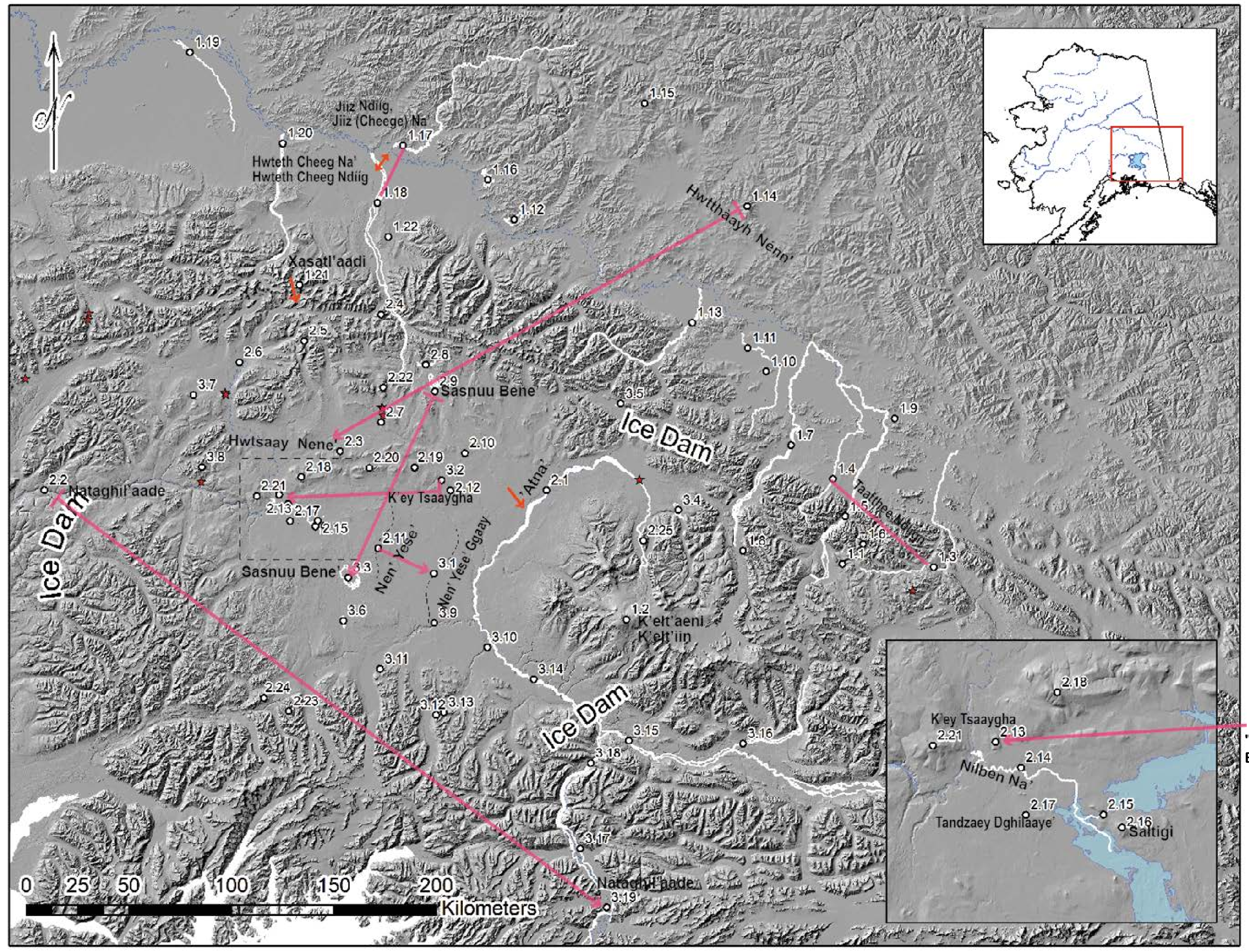
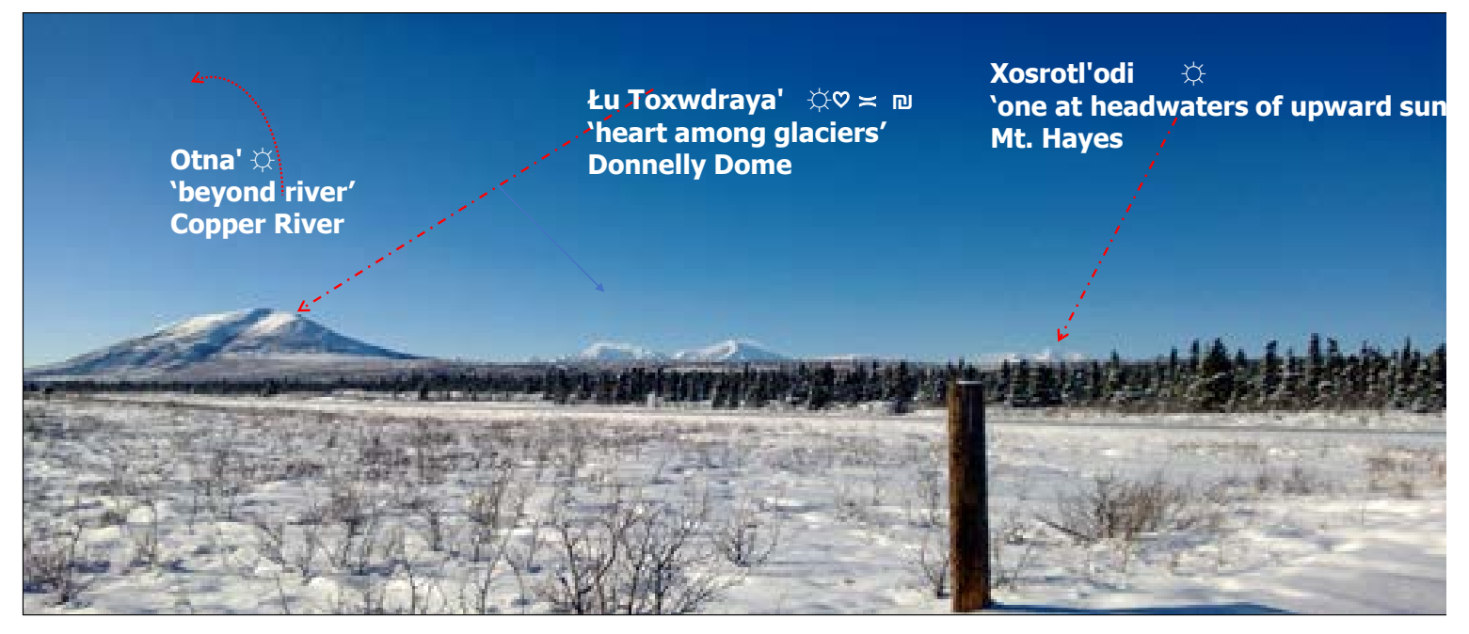


Fig. M-8. Three Ancient Tanana Valley Place Names

☼ *overtly informative;* ₪ *environ. change;*
♡ anatomical; ≍ pass-marker



Kari 2019b introduces is a theory of Dene prehistory called "The Proto-Dene Lex Loci ('law of locations')." The PDLL is a theory of Dene prehistory inspired by Edward Sapir's 1916 "Time perspective in Aboriginal North America." The PDLL draws upon two data sets: a) Alaska Dene place name networks grouped by drainages, and b) Lexware dictionary files for eight contiguous Alaska Dene languages.

The PDLL employs a battery of symbols and terms that promote comparisons and interdisciplinary discussions of place name and word field data (such as fish, vegetation, lithics). The supplemental tables with Kari 2019b outline the interplay between features of rule-driven Dene Generative Geography and Time Perspective Traits. Over fifty specific traits are identified; name provenance, environmental change, pragmatic watershed tenure devices, reverse hydronyms, name ensembles, archaisms in names, reanalysis and opacity in names, and non-Dene substrate candidates. These concepts can be applied to lexemes in the LTDD dictionary or to the large Alaska Dene geographic name network.

Overt information in three well-known names demonstrate that early Tanana Valley Dene names preceded those of Copper River Basin (rather than the reverse): **'Otno'** Copper River [see **'en,'o^4**]; and **Łu Toxwdraya'** Donnelly Dome [see **łu, dray'**]; and **Xosrotl'odi** (Lower Tanana) Mount Hayes, [see **xo^2, sro^1, tl'o, t^2 d^3, (y)i**]. Tracking Dene geolinguistic data in Copper River Basin, Kari 2019b argues that 15 to 17 Ahtna/Dene place names were coined at high water levels of Glacial Lake Atna. VanderHoek et al. (to appear) documents four decantings of Glacial Lake Atna during during the 11th millennium BP. PDLL concepts and hypotheses are presented in several LTDD figures M-12, M-14, M-24, M-25, M-29 and Appendices D and H2.

Photo by James Kari

The three languages with the most accurate and complete coverage are Dena'ina, Ahtna and Lower Tanana.The 2021 map does not accurately depict name coverage for Koy. and Gwi. where many recorded names have not been merged into drainage files. Other languages with good potential for expansion include Tanacross, Upper Tanana, and Upper Kuskokwim. The Alaska Dene d.b. could eventually contain 15,000 named features.

The Alaska Dene p.n. network and the PDLL theory continue to raise stimulating *time perspective hypotheses.*

a) The two most striking *reverse hydronyms* in the west Alaska ***naʔ** district are lithic names *Tthe·t'e·s^r Ni·q'ə* 'rock black stream' for Highpower Ck, at the corner of the Central-Southern Alaska Range (near Telida), and *Tthe·q'a·ł Ni·q'ə* 'whetstone stream', Middle Fork of the Koyukuk R. These *watershed tenure* devices reflect profound trail reconnaissance and lithic prospecting in two founding place names (*symbol* ϕ). Of course, the Dene snowshoe must have been invented in that time frame.

b) The Alaska Dene place name networks extend far beyond the historic Dene historic language and band boundaries. Dene bands must have had larger territories, say 6000 to 8000 years ago. This supports Ben Potter's 2010 assessment that the peak spread of Northern Archaic archaeology correlates with Dene.

c) Dene place names can be etymologized and analyzed even when they plausibly appear to be over 10 millennia in age as in the Tanana and Copper River Basins. Kari 2019b:70 "The resilience and durability of the Dene names are due in part to (1) unique typological features of Dene grammar (simplex nouns and postpositions and complex verbs with templatic word formation (Kari 2010a) and (2) the vital orienteering, logistical, and auto-instructional features of Proto-Dene generative geography.

d) Various PDLL patterns among the c. 12,500 rule-driven Dene place names (patterned duplications, reverse hydronymns, geoduplicates, oronymn shifts, name provenance) reflect a gradual downstream or east-to-west diachronic trajectory. This trend argues against Fortescue and Vajda's 2022 proposal for a mid-Holocene entry of Na-Dene languages into Western Alaska.

e) Vajda 2010:68, 2019a has considered possible Dene hydronym cognates for current and former Yenisiean occupation areas in Siberia, see discussion in Fig. M-39.

Lower Tanana Dene Dictionary: Advances in Dene Lexicography, Word Formation, and Alaska Prehistory

James Kari, AkAA, March 4, 2022

Work sponsored in 2017-2020 by National Science Foundation #1664455 (BCS) "Linguistic and Ethnographic Investigations of Place Names and Narratives in Two Alaska Dene Languages: Toklat (Lower Tanana) and Middle Tanana [taa]." Work in 2019-2022 has been sponsored by College of Rural and Community Development, UAF.

Lower Tanana Dene Dictionary
to appear in 2023, Alaska Native Language Center
compiled and edited by James Kari, book design by Leon Unruh

Introduction ………… 40 pp
Table of Headwords revised Feb. 10, 2022 11
main entries, 31 sections: ………… 455
section order: Ø ' b ch ch' d dl dr dz g gh/x h j k k' l/ł n sh t t' tl tl' tr tr' ts ts' tth tth' y/s z/szr/sr
plus 40 main entry figures
Appendices
A. Recent Alaska Dene Lexicography
B. Dene Interrupted Synthesis Word Formation (DISWF)
C. Lower Tanana Classificatory Verbs………… 4
D. Place names research, generative geography, and riverine directionals………… 9
E. Numerals in Lower Tanana………… 3
F. Lower Tanana Kinship………… 4 pp
G. Loan Words in Lower Tanana………… 17 pp
H. Figure groups not in main entries: H1-anatomy, H2-fish &fishing, H3 Shelter…………25 pp
I. Lower Tanana Word Initial index ……………………… 67 pp.
English Finderlist……………………… 169
References………………………8
estimated page count 1100 pages

The LTDD is a resource on and for the Lower Tanana Dene language, for the **tr'utthatna** 'the ancestors' and their modern-day descendants. The forthcoming LTDD is a mid-sized dictionary compiled by Kari in his Lexware Dene band label © format. Vers. 3.1 consolidates nearly all of the primary data for LT at the Alaska Native Language Archive from the years 1903 to 2001. LT is a highly conservative Dene language with stem-initial/stem final distinctions for the tl, tth, ts, tr, ch series; full PD positive-negative inflectional paradigms; and verb forms that are transparent at both surface and underlying levels.

The range of information in the LTDD represents the words, the skills and ideas of over 40 expert LT speakers and is eclectic and highly interdisciplinary. The format of the LTDD is naturalistic to this Dene language's root-morpheme inventory and to its grammar. The LTDD has over 9600 example sentences, based upon over fifty texts by LT speakers. Also 350 quotes by expert speakers (Laura Anderson, Peter John, Hester Evan, others) make for interesting reading on biology, cultural beliefs, or skills. The Figures and Appendices summarize specializations such as anatomy, numerals, Dene Generative Geography with LT place names in the Fairbanks area as well as ethnohistoric facts about the Chena band.

The best place for first-time users of the LTDD to gauge the scope of this dictionary is to read through the Table of Headwords: pp. 1-11. **See Table of Headwords**

What Kari 2019a calls "high volume Dene lexicography" refers to the software, methods and pace for working with three Dene dictionaries concurrently (LT, MT and Den) during 2017-2021. Compared with the KAD 2000, the LTDD has a smaller root inventory with more rigorously grouped sub-entries. Often tag definitions can be standardized between LT and Dena'ina. Root-type conventions allows groups of entries to be compared within LT or with Dena'ina. **See A-1 Folding the Lines**

Dene grammatical terminology spans more than 125 years, and most terms and abbreviations used for LT word categories, verb themes, aspects, and specific prefix positions are exactly the same as those for the 1990 AAD and the 2000 KAD. Working with revisable verb complexes for both LT and Den in *Indesign,* we have conventions for assigning slots, and superscripts for affixes. Tracking slots for haplology (ɦ) and mutual exclusivity (∩) is proving to be workable. The LTDD is the first Dene dictionary to identify a full inventory of prefixes and suffixes. For the LT verb complex file we identify 38 prefix/suffix slots, with 131 v.pf. in four zones and 22 v.sf. in two zones after the verb root. All 154 LT v.pf. and v.sf. are distinguished by superscripts. Appendix B discusses features of "Dene Interrupted Synthesis Word Formation" a term first used by Sapir and Whorf in 1932. **See Fig. B-2, LT Verb Complex, Fig I-8 and p. 17 of Whorf 1932.**

Various LTDD figures advance cross-disciplinary inquiry on the Dene-Yeniseian Hypothesis, or introduce terms and hypotheses from a Sapirian time perspective theory Kari 2019b calls the Proto-Dene *Lex Loci.* **See Fig. M-8.**

The Alaska Dene Webmap (Kari-Smith 2017), and especially Smith's 2021 kernel density map prompt time perspective hypotheses as well as research lacunae. **See Fig. M-25 with extended discussion of Dene ethnogeographic research**

Kari's 2019b claim that 15 to 17 Dene place names of the "The Nen' Yese' Ensemble" were coined in the 11th millennium BP is buttressed by VanderHoek et al. to appear. **See Fig. 5b from Kari 2019b.**

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Some Interesting Lower Tanana Derived Roots

n-chu-yh rosehips lit. 'small obj.-more-customarily'
be-ł *(n.)* sleep lit. 'his/her instrument'.
te-ł 'duffel, foot wrappings' < te + ł lit. 'among instrument'
yun, yuyh /measure/ *four affixes,* **y+u+n~yh** <3RD SG.+CONATIVE+N^2 PERF~YH CUST.

poster navigation tips:
left side: PDLL theory topics
right side: Dene word formation topics

Editable Lower Tanana Verb Complex

Fig. B-2

∩: **mutually exclusive slots**
ɦ: **haplological slots**

Lower Tanana Verb Complex
© James Kari, February 22, 2022

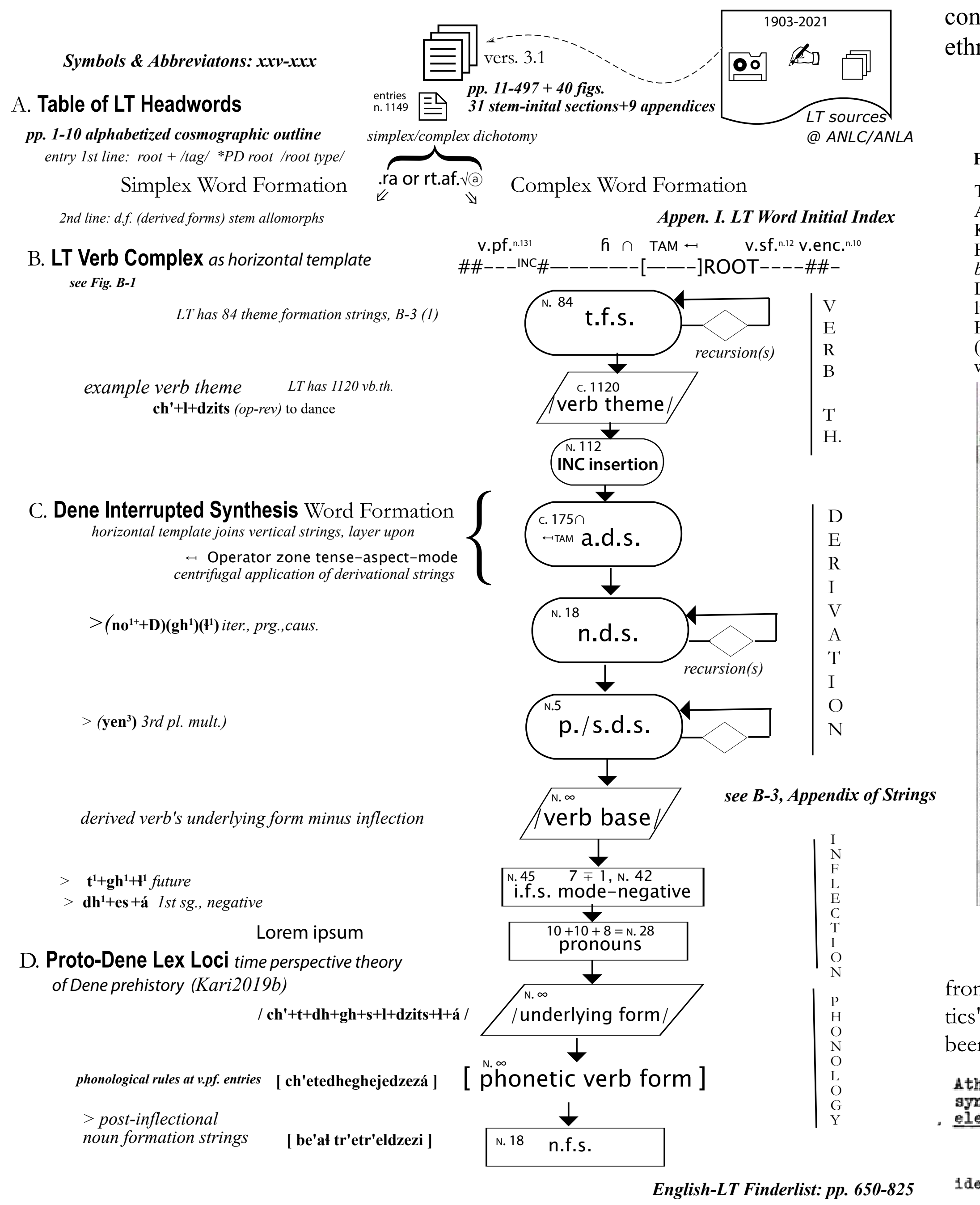
8 zones with 38 slots, 34prefix+4 suffix slots
affix totals: v.pf. 131 (85#disjunct, 49+ conjunct);
v.sf. 22 (10 v.sf.^{1}, 2 v.sf.^{2}, 4 v.enc.^{1}, 6 v.enc.^{2}); 112 INC

Disjunct Zone (slots9) 4									Pronominal Zone (s6) 3						Qualifier Zone (s9) 2									^{TAM} Operator‡ Zone (s8) ↤‡ 1 [… operator zone boundaries … ‖]								Stem^{TAM} Ø	(s2) −1	Suffix Zone (s4) −2			
↜	∩	ɦ	ɦ	ɦ	ɦ	ɦ^n	G	∩	#	↜	∩	ɦ	∩	∩	G^ɦ	∩	ɦ	↜	ɦ	G^ɦ	G^ɦ	↜	ɦ^{gh}	↜	∩	ɦ	∩	∩	∩	ɦ	ɦ	.. ∩ ..	∩	∩	∩	##	∩
3rd pl^2	PP object	schwa PP	deriv-them-PP$^{LEFT.}$	deriv-them-$^{RIGHT.}$	iterative	distributive	verbal	INCcorporate	disjunct boundary	obj+Y	direct object	InDeFintie	1st plural	3rd pl	areal	x-y qualifiers	conatoive	semel.-epen.	inceptive	qualifier	qualifier	dh-epenth	gh-dh qualifiers	a-insert-i-epen	dh-perf\neg^{+SUBJ}	transitional-semelf	mode	perfective	subject	dh\th.per/neg-^{ØSUBJ}	classifier-neg	Root	vsf^1	vsf^2 negative	venc^1	##	venc^2
x^2	b y^4 s n^1 dena nwx xw de^4 łe^2 ch' ede	-e^3	de^{2,3} do^4 tr'o tr'e^1 no^{2,3} …*n.68* *left if 2 n.8* to^2 yi^1 ti^1 ni^1 sre łe^1 k'e -a^1	*right if 2 n.9* do^{2,3} ko^2 ch'o gho^2 k'a^1 k'o^1 t'o tr'a	no^1	n^5 yen^3 yeni	do^1	to^{1,2} beth tthi bił lo^1 ko^2 kena hwn^1 … *n112*	{'^{1}}	x^2 b ch'	Ø^6 b y^4 s n^1 dena ywx nił xw xo^1	ch'	tr'	x^2	xw	x^1 y^2 y^3	u^1	{i^3}	t^1	d^2	n^4	{dh^1}	Ø^{4,5} gh^2 dh^2	{i^3} {a^1} {o}	dh^1	i^2 i^3	Ø^3 e^1 n^3,i^2 gh^1 ghw^1	n^2	Ø^2 es n^1,i^1 wx	dh^1 /th^1	Ø^1 D/de^1 le ł^1 {d^1}	CV(V)C CV(V)(R°)(') {y^1}	Ø^7 ł^1 n^2 '^{2} x^3 yh^1/k yh^2 t^2	ą́ į́	(y)i (n)enh na^1 i'	##	xw ts'en' ti denh hiy' uxų́ ida

Totals: 38 positions: 34 prefix slots in four zones +Root + 4 suffix slots in one zone; affixes in underlying forms as in LTDD entries
superscipt policy: n^{54321} Root n^2 (n^2 'perf.' is prefix and suffix); surface allomorphs excluded from LT verb complex
^{TAM} Stem ^{TAM} = tense–aspect–mode prefix/suffix options; ↤ = ‡centrifugal application of derivational strings <Fortescue 1992; ‡Operator zone <Whorf 1932
Symbols: ↜ conditional left movement, G gender function; {d^1} epenthetic affix; dh^1/th^1 pf. with 2 forms
Boundaries: ## word; # disjunct; +default affix boundary; [operator zone|] phon. rules: __] precedes STEM; __|] precedes CLF+STEM; __S|] precedes SBJ–CLF–STEM
ɦ = c. 28 haplological v.pfs. in 15 positions that occur at different derivational layers but can appear only once at surface; G^ɦ hyper-haplological affix, haplology index = e.g. sum of d^2 in all strings & verb themes

Dene Interrupted Synthesis Word Formation
horizontal template joins vertical strings, layer upon layer

Fig. I-8. LTDD Primary Concepts and Guide to Sections


Symbols & Abbreviatons: xxv-xxx
vers. 3.1
1903-2021
entries n. 1149
pp. 11-497 + 40 figs.
31 stem-inital sections+9 appendices
LT sources @ ANLC/ANLA

A. **Table of LT Headwords**
pp. 1-10 alphabetized cosmographic outline
*entry 1st line: root + /tag/ *PD root /root type/*
simplex/complex dichotomy
Simplex Word Formation .ra or rt.af.√ⓐ Complex Word Formation
2nd line: d.f. (derived forms) stem allomorphs
Appen. I. LT Word Initial Index

B. **LT Verb Complex** *as horizontal template*
see Fig. B-1
v.pf.$^{n.131}$ ɦ ∩ TAM ↤ v.sf.$^{n.12}$ v.enc.$^{n.10}$
##–––^{INC}#––––––[–––]ROOT––––##–
LT has 84 theme formation strings, B-3 (1)
N. 84 t.f.s.
recursion(s)
example verb theme *LT has 1120 vb.th.*
ch'+l+dzits *(op-rev)* to dance
c. 1120 /verb theme/
N. 112 INC insertion
VERB TH.

C. **Dene Interrupted Synthesis** Word Formation
horizontal template joins vertical strings, layer upon
↤ Operator zone tense–aspect–mode
centrifugal application of derivational strings
c. 175∩ ↤TAM a.d.s.
>(**no^{1+}+D)(gh^1)(ł^1)** *iter., prg.,caus.*
N. 18 n.d.s.
recursion(s)
> **(yen^3)** *3rd pl. mult.)*
N.5 p./s.d.s.
DERIVATION
see B-3, Appendix of Strings
derived verb's underlying form minus inflection
N. ∞ /verb base/
> **t^1+gh^1+ł^1** *future*
> **dh^1+es+á** *1st sg., negative*
N. 45 7 ∓ 1, N. 42 i.f.s. mode–negative
10 +10 + 8 = N. 28 pronouns
INFLECTION
Lorem ipsum

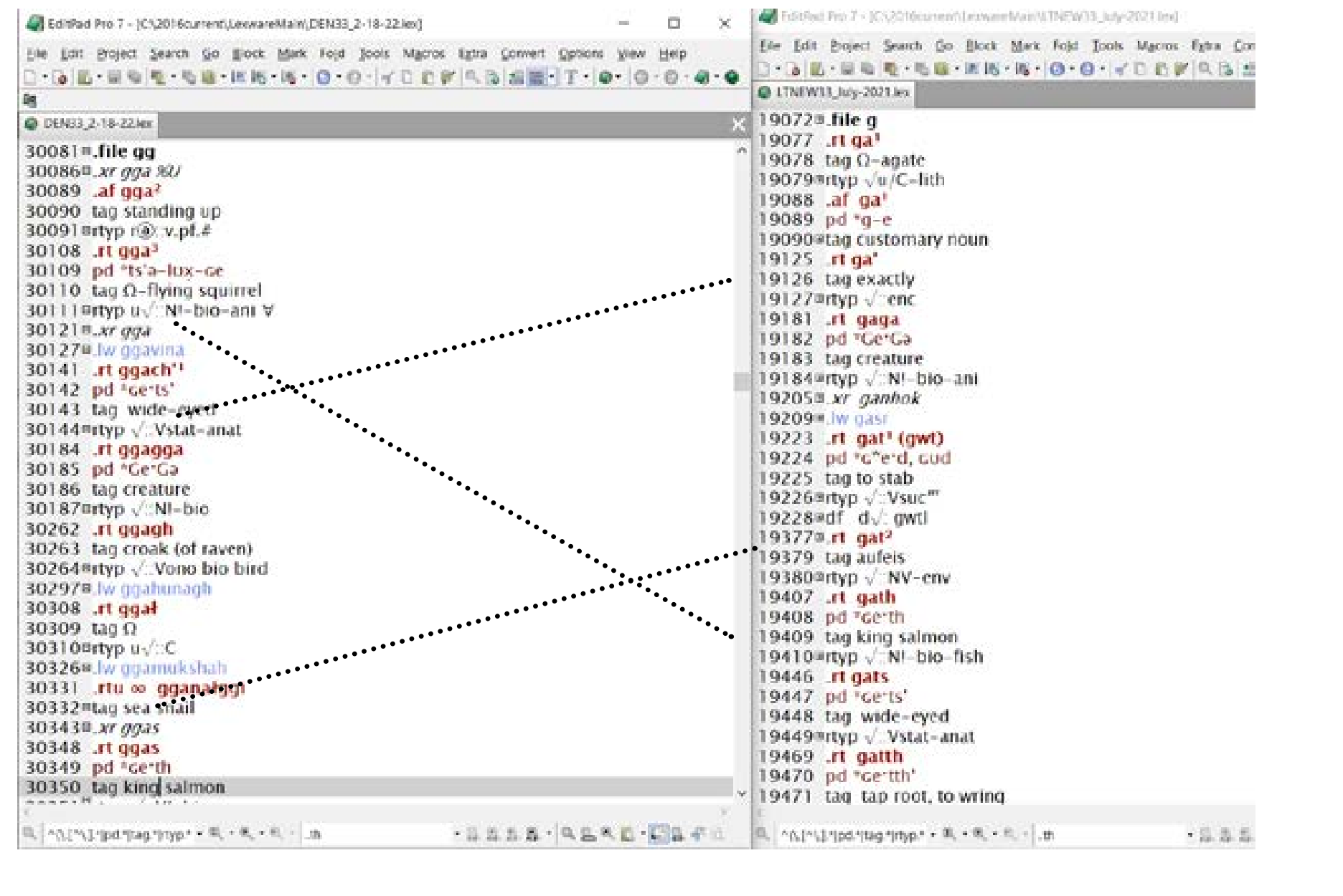
D. **Proto-Dene Lex Loci** *time perspective theory of Dene prehistory (Kari2019b)*
/ ch'+t+dh+gh+s+l+dzits+ł+á /
N. ∞ /underlying form/
phonological rules at v.pf. entries **[ch'etedheghejedzezá]**
N. ∞ [phonetic verb form]
> post-inflectional noun formation strings **[be'ał tr'etr'eldzezi]**
N. 18 n.f.s.
PHONOLOGY
English-LT Finderlist: pp. 650-825

Table of Head Words as cosmographic outline

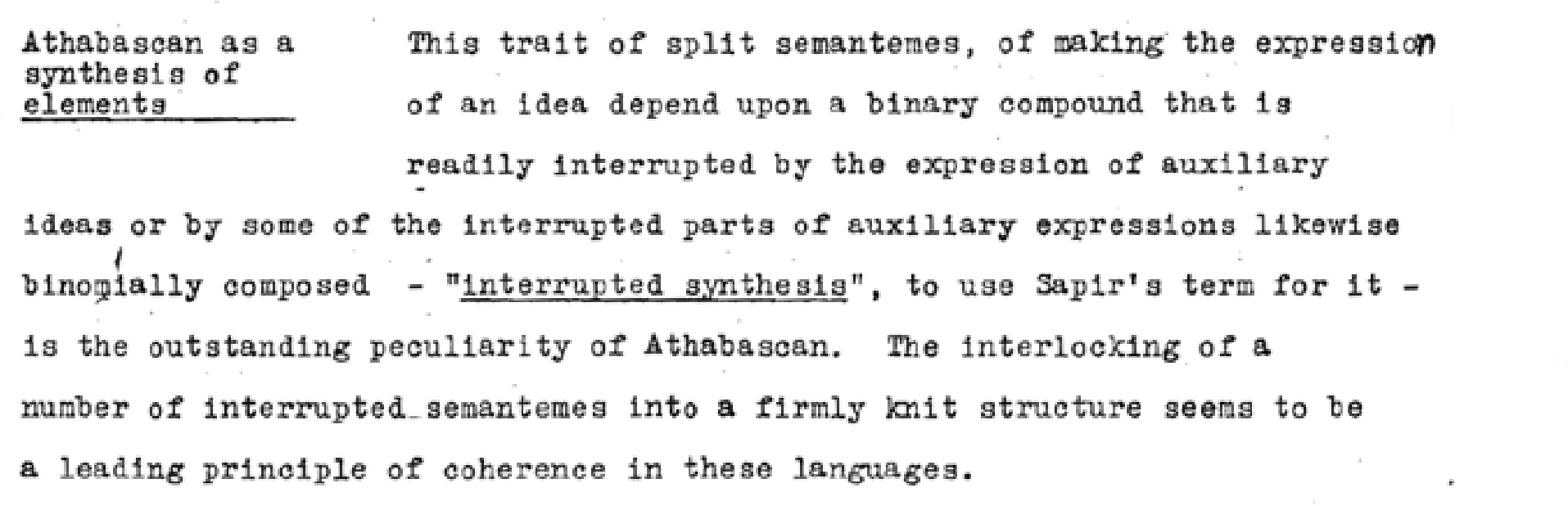
The best place for first-time users of the LTDD to gauge the scope of this dictionary is to read through the Table of Headwords: pp. 1-11. The LTDD has 1149 alphabetized headwords or separate entries. These are four bands: .rt root, .ra root-affix, .af affix and .lw loan words plus the /tag/ band. The assembled headwords plus tag definitions are an outline of the cosmographic breadth of the LT language. The material and natural world, the conscious and the subconscious, the lexical and the grammatical are consolidated as an alphabetical outline of Lower Tanana cosmography where ethnologic and linguistic information are co-mingled naturalistically.

Fig. A-1. Folding the lines, Den *gg* and LT *g* sections

The Dene band label system that underlies the page formats of the AAD and the KAD has been used for various Alaska Dene languages since the 1980s, using conventions the late Bob Hsu suggested in his Lexware Manual. Kari's current Dene band label system © uses a smaller number of bands than the 2000 KAD employed. In 2017 Hsu's protegé, Tim Montler, set up Kari's text editor *EditPadPro* with colored syntax, and a *Keyman Alaska Keyboard3*. Fig. A-1 is RegularExpressions: ^(\.[^\.].*|pd.*|tag.*|rtyp.*|df.*)$ as a split-screen of the Den -gg- and LT -g- sections. These can show up to four bands for every entry, including .xr (cross-references). The dotted lines show three cognate entries. Compare these with the **g** headwords to the right on the poster. The Table of Headwords file is the same RegEx, but showing only the one-dot lines and /tag/s. The experimental root-type (rtyp) band has numerous options. Some salient distinctions are: √ = root, ⓐ = affix, √ⓐ = root-affix, Ω= stems with opaque or uncertain meanings.



from p. 17 of Benjamin Whorf's 1932 student paper at Edward Sapir's "Primitive Linguistics" class at Yale University. Sapir lectured on Navajo grammar. Whorf's paper has never been published. This quote was first cited in Kari 1989.



Athabascan as a synthesis of elements

This trait of split semantemes, of making the expression of an idea depend upon a binary compound that is readily interrupted by the expression of auxiliary ideas or by some of the interrupted parts of auxiliary expressions likewise binomially composed - "interrupted synthesis", to use Sapir's term for it - is the outstanding peculiarity of Athabascan. The interlocking of a number of interrupted semantemes into a firmly knit structure seems to be a leading principle of coherence in these languages.

One page of the LT Table of Head Words

dz	
dzak^1	/light-weight/
dzak^2	/pitch/
dzay	/Ω marten type/
dze^1:edzegi^1	/scary/
dzeghet	/tickle/
dzeyhdzek	/nails/
dzex, dziy	/car, hearing/
dzen^1	/muskrat/
dzen^2	/Ω-common loon/
dzets	/punch/
dzey:bedzeyh	/caribou/
dziges	/checkers/
dził^1	/ice chisel/
dził^2	/Ω/
dzit^1, dzi	/oval, squat/
dzit^2	/whisper/
dzit^3, dzut	/wasp/
dzits	/dance/
dzon	/murky/
dzuk	/to favor child/
dzwn^1, dzen^3	/dice up/
g	
ga^1	/Ω-agate/
ga^2	/customary noun/
ga^3	/exactly/
gaga	/creature/
gasr	/gasoline/
gat^1	/to stab/
gat^2	/aufeis/
gath	/king salmon/
gats	/wide-eyed/
gatth	/tap root, to wring/
gayi	/winning/
geł	/fresh meat/
gel'	/sore eyes/
gelis	/birch scales/
gena'	/friend/
get	/upon place/
gesek	/Anglo/
gesr^1	/flexible moves/
gesr^2	/forked, cane/
gi':edzegi	/scary/
gi^2	/four-sfx./
Giben, Hot Given	/Fort Gibbon/
giga'	/place of/
ginhi	/preacher/
go^1	/arm/
go^2	/Ω/
goheyh	/coffee/
gok^1	/sg. runs/
gox	/wheeze/
goł^1	/small game snare/
goł^2	/running speed/
gotth	/tear forcefully/
goy, go^2	/child, small/
gu, gw	/areal/
gu', gux^1	/insect, creature/
guth	/wild rhubarb/
guho	/button/
gux^2	/snore/
guk	/baby/
gutth	/fish scales/
gwx	/snowshoe hare/
gwl	/boy's penis/
gwn^1	/dry/
gwn^2	/nails, claws/
gwn^3	/spring warmth/
gwr	/joint, clogged/
gwtr	/gulp, inanimate sinks/
gwts^1	/short, near/
gwts^2	/peck/
gwyh^1	/grey/
gwyh^2	/hardwood/
gwsr	/filth, impurity/
gh/x	
gh^1	/progessive mode/
gh^2	/gh-QUALF, tension/
x^1, ke	/x-QUALF/
x^2	/3rd pl. subj /
x^3	/reversative/
gha^1	/sibling-in-law/
gha^2	/older brother/
gha^3	/carry on back/
gha^4	/kill sg./
gha^5	/grease/
gha^6	/areal sfx./
xa^1	/starting/
xa^2:xaxa	/with instrument/
ghan	/thaw/
ghath	/itch/
ghatl	/dark/
ghats	/elongated, enclosed falls/
ghay'	/surprise/
ghasr	/egg, round/
ghe	/by/
gheł	/move elongated or animate; club/
xeł	/then/
ghet	/stiff/
xeth	/pus/
gheth^1	/flee/
gheth^2:t'egheth	/cottonwood/
ghetth	/shoulder/
ghey^1	/gunwale/
ghey^2:tl'eghey	/eel/
ghey^3:tl'eghey	/left/
ghesr	/scar, rough/
gho^1, gho'	/hair, fur/
gho^2	/expanse, according to/
xo^1, xo'	/reflexive, hurry/
xo^2	/up/
xo^3:oxo	/to, for/
xobets	/four bits/
ghol	/roll up/
ghon^1	/make, kill plural/
ghon^2, ghwn	/hump/
ghon'	/half/
ghot	/shake/
ghots^1	/tree trunk/
ghots^2	/gnaw/
ghotth	/gnaw, crunch/
ghosr	/pl. holler, pl. talk/
xos	/horse/
ghosji	/whiskey/
ghu	/teeth/
xų:ixų	/in vain/
ghunh	/stitch tightly/
ghuts	/swollen/
ghw^1	/optative mode/
xw	/areal event/
xwx	/Canada goose/
ghwł^1:neghwł	/in one's presence/

Some Lower Tanana Archaisms ∀ about 60 are noted

trok *chʳa·-k /bad weather/ */d√::Vop ∀/*
cf. **trol** chinook wind, *both appear to be derived roots; a verb theme so far only in LT; important archaism*
dur **troyh trok troyh troyh**
ch'+n+Ø+trok ∀ *(op.)* be bad weather (any season) **noch'exwnghitrok** it is bum weather *+VVT;*
notr'exwnoghitrok we had bad weather; **noch'wxtenotroyh** we will have bad weather

trol chʳa·-ł /Chinook weather/ */d√::N!-env/*
possible derived root; only in LT, MT, At, Den, Tc, UT, UK, only in Central-southern Alaska Range;
trol *(ins.n.)* warm spell in winter, Chinook wind or weather **trol dent'a** there is a warm spell
tr'ał (ins.n.) germs, something infectious, contagious, lit. 'from (somewhere) instrument'
yona' tr'ał k'otr'ut'wsr we are walking around upriver with something contagious MT81–2