CONDITIONED ALLOMORPHY IN TAHLTAN VERB STEMS

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0. Tahltan, a Dene[1] language of northern British Columbia, possesses a complex verb structure. Here, as in all other languages belonging to the Dene linguistic stock, a finite verb consists of one or more prefixes (with diverse functions and sequential hierarchies), a verb stem, and occasionally also a suffix:

(1) ʔesʔá:ł 'I am (ʔes-) chewing (-ʔa:ł)'[2]

(2) ʔeŝtéɴ 'it is (ʔeŝ-) frozen (-teɴ)'

(3) dé:sdi:ł 'I (-es-) will (d-ʼ..:...-ł) drink (-di:)'[3]

(4) kódi:ɴk'a:lła 'will (d-ʼ..:...-ł) you (-ən-) light (-h-k'a:) the fire (ko-) ʔ (ła:)'[4]

The intricacy of the Tahltan verb manifests itself in two processes. The first of these, internal sandhi, may characterize prefix strings and the prefix-stem boundary:

(5) ná:ɴt'e:ŝ 'cook it again!' = /na�'e:n�켓h-t'e:ŝ/ 'again - you/urgency - h augmentation - cook'

(6) ʔedéŝi:nge:łła 'are you going to kill yourself?' = /ʔede-ŝ-ʼə:n-d�-�socketxe:łła:/ 'oneself - stative - you/future₁ - d augmentation - kill - future₂ - question marker'[5/6]

Secondly, verb stems are subject to variation, an account of which is given in this report. We must distinguish two types of verb stem allomorphy in Tahltan: (1) stem suppletion (which serves to indicate subject or object number), and (2) morphonemic alternation (indicating tense or aspect). Both types are morphologically redundant in that number (except dual) and tense-aspect distinctions are also made by means of prefixation. The former type is exemplified, in passing, below:

(7) sesdáh 'I am sitting' = /ŝ-es-dahʼ/ 'stative - I - one sits'[7]

(8) ŝiké: 'we (two) are sitting' = /ŝid�socketke:ʼ/ 'we - two sit'

(9) déŝiĉ'i: 'we (three or more) are sitting' = /de-ʼŝid�ĉ'i:/ 'around - we - plural sit'

(10) desá: 'I am going' = /de-s�socketda:ʼ/ 'around - I - one goes'[8]

(11) déŝit'a:s 'we (two) are going' = /de-ʼŝid�ʔa:s/ 'around - we - two go'

(12) déŝide:ł 'we (three or more) are going' = /de-ʼŝid�socketde:ł/ 'around - we - plural go'

Phonemic stem variation is considerably more productive than the process described above, insofar as it affects virtually the entire inventory of verb stems in Tahltan; this is the phenomenon that will concern us from here on. Some examples:

(13) ʔeŝĉéĉ 'I am eating' = /ʔes�ĉeĉʼ/ 'I - eat'

(14) ʔé:ŝĉe:dɨ 'I have eaten' = /ʔe�ʼi:-s�ĉe:t�socketi/ '(it -) perfective - I - eat - final'[9]

(15) dé:ŝĉeł 'I will eat' = /d-ʼe:s�ĉet�ł/ 'completion - I/future₁ - eat - future₂'[10]

(16) ʔast'éh 'I am' = /ʔa-s-t'ehʼ/ '... - I - be'[11]

(17) ʔá:ɣt'eʔɨ 'I have been' = /ʔa�ʼi:�sockets�socketh-t'eʔ-i/ '... - perfective - I - h augmentation - be - final'[12]

(18) ʔáde:st'e:ł 'I will be' = /ʔa-d-ʼe:s-t'e:-ł/ '... - completion - I/future₁ - be - future₂'

(19) ʔecéɣ 'he is crying' = /ʔe-ceɣʼ/ 'he - cry'

(20) yí:ce:ɨ 'he has cried' = /yə�ʼi:-Ø-ce:ɣ�socketi/ 'yə- conjugation - perfective - he - cry - final'

(21) náda:ceł 'he is going to cry again' = /na-d-ʼØ:-ceɣ�ł/ 'again - completion - he/future₁ - cry - future₂'[13]

1. In what follows, I will establish that morphonological alternation

in Tahltan verb stems is a conditioned (regular), rather than random (irregular), process. It will be shown that a diachronic-comparative description of such allomorphy (where older forms take the place of "underlying forms" en vogue in other theoretical approaches) is more suitable than one framed within a strictly synchronic discipline.

As a beginning student of Dene linguistics, I have often found the Tahltan verb bewildering in its complexity and apparent irregularity. When considering Tahltan verbal processes in isolation, that is, without giving attention to historical facets, one encounters the following complications: (1) erratic vowel alternations, (2) the virtual impossibility to make a classification of allomorphic types due to (3a) merging of certain stem-final consonants with (petrified) suffixes, (3b) the presence of VARIABLE vs. INVARIABLE stems (for detailed information on these see Leer: 5.1.2). Furthermore, Tahltan appears conservative in comparison with other Dene languages insofar as it has retained certain stem-final affricates. These facts, along with the relative antiquity of the Tahltan phoneme inventory (Nater: 4.3, and tables 5-7, 9-11), have convinced me that a thorough description of the Tahltan verb should not lack diachronic considerations.

In the sections following, adherence is made to Leer's distinctions between (a) VARIABLE vs. INVARIABLE (roots), (b) OBSTRUENT-CLOSED vs. NON-OBSTRUENT-CLOSED (roots);[14] these differentiations are especially useful in an account of Tahltan verb stems, where they can be employed both in a syn- and diachronic sense.

2. Tahltan verb stems can be divided into two main categories:

...K# / ...R#

INVARIABLE /

V A R I A B L E

(K = non-R consonant; R = dental nasal, palatalized velar, glottal, or long-tense vowel.)

Within the category of variable stems, finer distinctions must be made: a variable stem morph-set may contain two, three, or several allomorphs. However, due to the incompleteness of my data, I have not been able to

ascertain (1) the highest number of allomorphs possible, (2) whether certain verb stems, to date diagnosed as invariable, may, on further investigation, prove to be variable. (Stems with dubious status are not mentioned in this paper.) I have, however, come to the tentative conclusion that the average variable verb stem is realized as a set of three allomorphs.

As concerns the paucity of proto-Dene reconstructions adduced in the next section, the reader is requested to consider that information on proto-Dene verb stems is as yet rather scant; where such data are not available, I offer, when feasible, experimental reconstructions (representing older stages of Tahltan, or proto-west-Canadian Dene) based on forms recorded for Tahltan,[1] central Carrier (Story and Carrier Dictionary Committee), Babine (Story), and Sarcee (Cook). I also mention Ahtna (Kari) facts where necessary.

3. In the enumeration of Tahltan verb forms contained in this section, the following abbreviations are used: PPD = pre-proto-Dene, PD = proto-Dene, PWD = proto-west-Canadian Dene, OT = older Tahltan, NT = modern Tahltan; cnt = continuative, cst = customary, dis = distributive, fut = future, imp = imperfective, mom = momentaneous, neg = negative, ntr = neuter, opt = optative, pf = perfective, prog = progressive, rep = repetitive, rev = reversative, sem = semelfactive, IOF = imperfective-optative-future; B and L are Leer's basic and lengthened. Furthermore, -Y̧ is Leer's -Ỹ (the pre-proto-Dene perfective suffix); v = short vowel, v: = long vowel, ̧ = nasalization, v? and v:? are Leer's v̧ and v̧·; ş̌, tş̌ (etc.) are replaced by ş́, ḉ (etc.); I render the proto-Dene back velars as k̲, g̲, g̲', x̲, ɣ̲; palatality of proto-Dene front velars (not being phonemically distinctive) is not indicated by me: g, k, k', x, ɣ.

3.1. Those Tahltan verb stems that are definitely invariable total only two. Aside from their phonemic stability, they have in common that (1) they end in an obstruent, (2) they share a sound-descriptive connotation (i.e. of NOISE). The latter feature, which also characterizes certain invariable verb stems in some other, if not most, northwestern Dene (see Leer: 5.1.2), may underlie the immutability of these stems throughout all conjugational paradigms. The two such stems attested in Tahltan are

-teč 'barking' (in ya-...-h-teč 'to be the source of barking' = 'to bark') and -dos 'boiling'.[15] Consider the following forms:

(22) yastéč 'I am barking' = /yə⌃ʔa-s⌃h-teč/ 'yə- conjugation - ... (see fn. 11) - I - h augmentation - barking'

(23) yá:ʁteč 'I have barked' = /yə⌃ʔa⌃'i:⌃s⌃h-teč/ 'yə- conjugation' - ... - perfective - I - h augmentation - barking'

(24) yáde:steč 'I will bark' = /yə⌃ʔa-d-'e:s⌃h-teč/ 'yə- conjugation - ... - completion - I/future₁ - h augmentation - barking'

(25) dadénedos 'it is boiling' = /da-de-'ne-dos/ 'upwards, rising - around, throughout - (sur)face - boiling'

(26) dadénesdos 'I am boiling it' = /da-de-'ne-s⌃h-dos/ 'upwards, rising - around, throughout - (sur)face - I - h augmentation - boiling'

(27) dadéne:hdos 'I have boiled it' = /da-de-'ne⌃'i:⌃s⌃h-dos/[16] 'upwards, rising - around, throughout - (sur)face - perfective - I - h augmentation - boiling'

(28) dadéne:sdos 'I will boil it' = /da-de-'ne⌃'e:s⌃h-dos/[16] 'upwards, rising - around, throughout - (sur)face - I/future₁ - h augmentation - boiling'

3.2. Variable verb stems are numerous. In view of certain historical and morphonological properties, I divide them into non-obstruent-closed (section 3.2.1) and obstruent-closed (section 3.2.2) stems (cf. Leer: sections 3 and 4). Henceforth, we shall be concerned solely with the study of verb stems, and I will purposely refrain from analyzing the prefix complexes functioning as constituents of the cited Tahltan finite verbs (some of which would, besides, require rather detailed comments: cf. footnotes 5, 8, 11, 16). In 3.2.1 we examine the ...R# stems, in 3.2.1.1 the transitional category of MIXED TYPE stems is considered, and in 3.2.2 the ...K# verb stems are treated.

3.2.1. ...R# verb stems (as a rule variable) end in one of the long-tense vowels a:, e:, i:, u:, one of the continuants N, n, n', ʁ, y (the

latter have replaced proto-Dene phonemes termed "sonorants" by Leer), or a glottal phoneme (ʔ, h: glottals are non-obstruent insofar as they are NON-LABIAL and NON-LINGUAL, and differ from all other phonemes in various other respects as well). Members of this class are unlike ...K# verb stems, because (1) ʔ and h play an important role, (2) the suffix /⌃ɬ/ 'future₂' does not always affect the stem, (3) PPD suffixes are more readily traceable than they are in ...K# verb stems (this peculiarity is typical of pan-Dene). For proto-Dene, the third and second criteria, and partially also the first one, are identical (NT ʔ continues PD ʔ/k'/q', NT h continues PD x/ɬ). For further details I refer to Leer (sections 4-4.5).

The evolution of Tahltan verb stems is illustrated below. (Note that /⌃ɬ/ is still a recognizable, and productive, suffix in modern Tahltan.)

STAGE I	STAGE II	STAGE III
suffixes		
verb root	verb stem	
morph-set	morph-set	
B, B', L, L', reduced	suprasegmental features	verb stem allomorphs

Stage I is pre-proto-Dene; Stage II comprises proto-Dene and proto-west--Canadian Dene; Stage III represents Tahltan (both OT and NT). B' = glottalized basic, L' = glottalized lengthened (see Leer: 4, 4.1-4.4). The addition of an "obstruent suffix" to a PPD obstruent-closed root was coupled with reduction of the vowel contained in the root (Leer: 3.4.). The PPD suffixes (detailed in Leer: 3.1, 3.4.1-3.4.5) were: /-ɣ/ 'perfective', /-ɬ/ 'progressive, negative perfective', /-ɫ/ 'reversative', /-k/ 'repetitive-customary', /-x/ 'semelfactive non-perfective', and /-t/ 'semelfactive perfective'. The morphonological changes that transpired during the transition from PPD to PD are illustrated in Leer: 3.5.1-3.5.6 and 4.6.1-4.6.6. The phonological modifications that characterize the evolutionary stages intermediate between PD and NT are: (1) REDUCTION OF VOWEL + GLOTTAL: (a) *v:h (I) → v:, (II) → vh, (b) *v:ʔ

(I) → v:, (II) → v?, (cI) *v(:)hC → v(:)C, (cII) *v(:)?C → v(:)C; (2) TREATMENT OF PD STEM-FINAL (PRE-)GLOTTALIZED VELARS: (a) *k'/q' → ?, (b) *?k' → č, *?q' → k; (3) CONSONANT ASSIMILATION: interdental, alveolar, and palatal consonants influence each other when in mutual proximity (Nater: 2.1); (4) TREATMENT OF PD AND OT FRONT VELARS: (a) *e:ɣi ∼ *e:ɣi → e:í (Nater: 2.3.2), (b) *əx → ih, (c) *tx → tŝ = č; (5) TREATMENT OF PD NASALS AND NASALITY: (a) *vɣ̃ → vɴ/n, (b) *e:n → i:ɴ/n, *e:n' → i:n', (cI) *ɣ:(?) → OT ɣ(?) → NT vn('), (cII) *ɣ:? → OT v:? → NT v:, (cIII) *v:n' → v:? (Nater: 3.3.3), (d) stem-initial *n → d; (6) VOWEL GRADATION; (7) TREATMENT OF /-ł/: (a) *...tł → ...-ł, (b) fricative + *-ł → bare fricative; (8) METATHESIS OF /-t/: (a) *...st → OT ...tŝ = NT ...č, (b) *...łt → OT ...tł = NT ...ƛ. (In what follows, these changes will be indicated by the above number-letter codes.)

Note 1aI-II and 1bI-II, which point to a phonemic-dialectal split in earlier Tahltan; 1aII and 1bII may be original, while 1aI and 1bI may have evolved under the influence of 1cI, resp. 1cII.

We will now consider a quantity of ...R# verb stems. Each verb stem morph-set is numbered (the numbering continues through 3.2.1.1 and 3.2.2), and is illustrated in several finite verbs, which bear a label ((a), (b), etc.); then the allomorphs as such are listed, and their origin is traced. Abbreviations and codes are explained in sections 3 and 3.2.1; for the PPD suffixes see 3.2.1. Furthermore, Ah = Ahtna, Ba = Babine, Ca = central Carrier, Sa = Sarcee.

(1) TO BE: (a) ?ast'éh 'I am', (b) ?á:ɣt'e?í 'I have been', (c) ?áde:s--t'e:ł 'I will be':

	NT	OT	PD	PPD[17]
(a)	-t'eh (1aII)	-t'e:h	-t'e:?x	-t'e:w'-k (L', rep/cst)
(b)	-t'e?⁼i	-t'e?	-t'e:?	-t'e:w'-ɣ (L', pf)
(c)	-t'e:ł	-t'e:ł	-t'e:?ł	-t'e:w'-ł (L', prog/mom/fut)

(Eyak /-t'e/ (ntr/imp), /-t'u/ 'to be thus')

(2) TO BE BOUND, TIED: (a) nánənƛ'u? 'get dressed!', (b) mečí?e:ɴƛ'u: 'tie them together!', (c) mečí?e:hƛ'u:ɴ 'I have tied them together', (d) mečí?de:sƛ'u:ł 'I will tie them together':

	NT	OT	PD[18]	PPD
(a)	-ƛ'u?	-ƛ'u?	-ƛ'u?	?-ƛ'əw' (B')
(b)	-ƛ'u: (?laI)	-ƛ'u:(h)	-ƛ'u:((?)x)	?-ƛ'əw(('')-x (B (B', sem))
(c)	-ƛ'u:ɴ	-ƛ'u:n	-ƛ'u:ɣ	?-ƛ'əw-ɣ (B, pf)
(d)	-ƛ'u:ł	-ƛ'u:ł	-ƛ'u:(?)ł	?-ƛ'əw(')-ł (B, B', prog/mom/fut)

(3) TO BLOW, BE WIND: (a) nac'íh '(it is) windy', (b) ?ihc'í: 'wind', (c) łáda:c'əł 'there will be a strong wind blowing':

	NT	OT	PD	PPD
(a)	-c'ih (1aII)	-c'i:h	-č'ʷi:x	-k'ʷəy-k (B, rep/cst)
(b)	-c'i:	-c'i:	-č'ʷi:	-k'ʷəy (B)
(c)	-c'əł[20]	?-c'əh/ɣł	?-č'ʷəył	-k'ʷəy-ł[19] (B, prog/mom/fut)

(Krauss and Leer posit PD /-č'ʷi:/ = /-č'ʷəy/ and PPD /-k'ʷəy/; cf. Eyak k'u:y 'wind')

(4) TO GO BY BOAT: (a) nédaxedehki:ɴ 'he took us across (the lake)', (b) táde:ske:ł 'I will go up the river by boat':

	NT	OT	PD	PPD
(a)	-ki:ɴ (5b)	-ke:n	-qe:ɣ	?-qe:-ɣ (B, pf)
(b)	-ke:ł	-ke:ł	-qe:(?)ł	?-qe:/?-ł (B, B', L', prog/mom/fut)

(Eyak /-qe/ 'to go by boat')

(5) TO BREATHE: (a) deŝłíh 'I am breathing', (b) kaná:ŝłi? 'I have come back to life', (c) náde:ŝłəł 'I will live forever, over and over' (note that -ł- is a contraction of /-d-/ and ɣ; see fn. 5):

NT	OT	PD	PPD
(a) -da:N (5d)	-na:n	-na:ɣ	-na:ɣ (B)
(b) -di: (5d, 1aI)	-ni:h	-nɨ:ʔx	-na:ɣ'-x (L', sem/ non-pf)
(c) -di:ɬ (5d)	-ni:ɬ	-nɨ:ʔɬ	-na:ɣ'-ɬ (L', prog/ mom/fut)

(Eyak /-la/, Tlingit /-na/ 'to drink')

For PD i:ʔ from PPD a:ɣ' see Leer: 2.3.3.

(13) TO LIGHT: (a) melakodí:htʼaɴ 'I have lit the fire', (b) kʼənacʼeh-tʼá:hi 'what (-i) one (-cʼ(e)-) causes (-h-) to shine (-tʼa:h-) around (kʼəna-)' = 'flashlight':

NT	OT	PD	PPD
(a) -h-tʼaɴ (5cI)	-tʼą:/a:n	-tʼa:ɣ	-...:-ɣ (B, pf)
(b) -h-tʼa:h-	-tʼa:h	-tʼa:(ʔ)x	-...:/ʔ-k (B, B', L', rep/cst)

(PD /-tʼa:(-ɣ) 'to handle fire')

(14) TO BE FROZEN: (a) ʔeŝtéɴ 'it is frozen', (b) yetí:ɬ 'it is becoming frozen, freezing':

NT	OT	PD	PPD
(a) -teɴ	-tən	-tən	ʔ-tən-ɣ (B, pf)
(b) -ti:ɬ	-ti:ɬ	-tɨ:(ʔ)ɬ	ʔ-tən(')/i:n'-ɬ (B, B', L', prog/mom/fut)

(Sa /-tín/ (pf/imp), /-tīɬ/ (cnt) 'to freeze'; Ah /-ten/ (imp), /-ti:ɬ/ (fut) 'be frozen')

(15) TO GROW, MATURE: (a) seŝɬán 'I am old', (b) cʼéneɣe:ɬ 'what (-i) one (cʼ(e)-) causes (-h-) to grow (-ye:-) on the surface (-ne-)' = 'seed(ling), sprout, domestic plant(s), garden vegetables'; (c) ná:ye:ɬ 'it is growing' (cf. (12), and see Leer: 2.3.3 and 4.6.6):

NT	OT	PD	PPD
(a) -dᵅya:n	-ya:n	-ɣa:ɣ	-xa:ɣ-ɣ (B, pf/ntr)
(b) -hᵅye: (1aI)	-ye:h	-ɣe:ʔx	-xaɣ'-k (B', dis/rep/ cst)
(c) -ye:ɬ	-ye:ɬ	-ɣe:(ʔ)ɬ	-xaɣ(')-ɬ (B, B', prog/mom/fut)

(Eyak xa:nih 'very old salmon', Tlingit /-ŝan/ 'to become old')

(16) TO HAVE: (a) ʔestʼí:ɴ 'I have', (b) yestʼí:nʼ 'I have had', (c) dé:stʼi:ɬ 'I will have':

NT	OT	PD	PPD
(a) -tʼi:ɴ (5b)	-tʼe:n	-tʼe:n	ʔ-...ʔe:n (L, dura-tive/imp)
(b) -tʼi:nʼ (5b)	-tʼe:nʼ	-tʼe:nʼ	ʔ-...ʔe:nʼ-ɣ (L', pf)
(c) -tʼi:ɬ	-tʼi:ɬ	-tʼɨ:(ʔ)ɬ	ʔ-...ʔən(')/e:nʼ-ɬ (B, B', L', prog/mom/fut)

(PD /-tʼe:n/ may be /-d-/ plus /-ʔe:n/ 'to see')

(17) TO KILL (sg. object): (a) ʔedú: ŝi:ɴxe: 'don't kill him!', (b) ŝé:-hxi:n 'I have killed him', (c) ʔedése:sge:ɬ 'I will kill myself':

NT	OT	PD	PPD
(a) -h-xe:	-x/ɣe:	-ɬe:	ʔ-ɬe: (B)
(b) -h-xi:n (5b)	-x/ɣe:n	-ɬe:ɣ	ʔ-ɬe:-ɣ (B, pf)
(c) -dᵅxe:ɬ	-x/ɣe:ɬ	-ɬe:(ʔ)ɬ	ʔ-ɬe:/ʔ-ɬ (B, B', L', prog/mom/fut)

(18) TO LIE (sg. subject), SLEEP, DREAM: (a) nasté: 'I am dreaming', (b) yí:steʔ 'I have slept', (c) ŝetí:n 'he is lying down', (d) ní:n-te:ɬ+a: 'are you going to sleep?':

NT	OT	PD	PPD
(a) -te:	-te:	-te:	ʔ-te: (B)
(b) -teʔ	-teʔ	-teʔ	ʔ-teʔ(-ɣ) (L', pf/ntr)
(c) -ti:n (5b)	-te:n	-te:ɣ	ʔ-te:-ɣ (B, pf)

NT	OT	PD	PPD
(d) -te:ⱡⱡa:[4]	-te:ⱡ	-te:(ʔ)ⱡ	ʔ-te:/ʔ-ⱡ (B, B', L', prog/mom/fut)

(Eyak /-te/ 'sg. animal lies prone')

(19) TO MELT: (a) nó:sxi: 'let me melt it', (b) ná:ɣxi:n 'I have melted it', (c) náde:sxi:ⱡ 'I will melt it':

NT	OT	PD	PPD
(a) -h-xi: (1aI)	-x/ɣi:h	-ⱡɨ:(ʔ)x	ʔ-ⱡən(')/i:n'-k (B, B', L', rep/cst)
(b) -h-xi:n (5b)	-x/ɣe:n	-ⱡe:n	ʔ-ⱡe:n-ɣ (B, pf)
(c) -h-xi:ⱡ	-x/ɣi:ⱡ	-ⱡɨ:(ʔ)ⱡ	ʔ-ⱡən(')/i:n'-ⱡ (B', B', L', prog/mom/fut)

(Eyak /-ⱡą/ 'to melt')

(20) TO SEE: (a) ʔedú: ye?í: 'he cannot see him', (b) sénən?i:n 'look at me!', (c) ná:h?i:ⱡ 'you (pl.) will see':

NT	OT	PD	PPD
(a) -ʔi: (1aI)	-ʔi:h	-ʔɨ:(ʔ)x	-ʔən(')/e:n'-k (B, B', L', rep/cst)
(b) -ʔi:n (5b)	-ʔe:n	-ʔe:n	-ʔe:n (L, durative/imp)
(c) -ʔi:ⱡ	-ʔi:ⱡ	-ʔɨ:(ʔ)ⱡ	-ʔən(')/e:n'-k (B, B', L', prog/mom/fut)

(Eyak /-ʔeh#, -ʔą-/ 'to see')

(21) TO SWIM: (a) desbé: 'I am swimming', (b) nésesbi:n 'I swam across', (c) k'ənadé:sbe:ⱡ 'I am going to swim around':

NT	OT	PD	PPD
(a) -be:	-be:	-we:	ʔ-we: (B)
(b) -bi:n (5b)	-be:n	-we:ɣ	ʔ-we:-ɣ (B, pf)
(c) -be:ⱡ	-be:ⱡ	-we:(ʔ)ⱡ	ʔ-we:/ʔ-ⱡ (B, B', L', prog/mom/fut)

(Eyak /-we/ 'sg. swim', Tlingit /-hu/ 'sg. swim, wade')

Note the phonetic-semantic similarity between (3) and (5) in PPD.

3.2.1.1. MIXED TYPE verbal morph-sets contain both ...R# and ...K# members. They constitute a small intermediate category, which has evolved through certain morphonological changes. Examples follow below.

(22) TO BE COOKED: (a) ná:ɴt'e:ŝ 'cook it again!', (b) ʔéde:st'eŝ 'I will cook it', (c) ʔéŝi:ht'eh 'I have cooked it':

NT	OT	PD	PPD
(a) -h-t'e:ŝ	-t'e:ŝ	-t'e:ʔs	-t'aɣ-c' (imp)
(b) -h-t'eŝ	-t'əŝ (7b)	-t'ə?sⱡ	ʔ-t'əc'-ⱡ (prog/mom/fut)
(c) -h-t'eh (1aII)	-t'e:h	-t'e...	-t'aɣ-ɣ (pf)

(PPD and Eyak t'e:ǥ 'raw' (Eyak /-ǥ/ 'negative suffix'), Tlingit /-t'a/ 'be hot; be ripe', /-t'e`s'/ 'become hot', t'a`ɏ 'heat, hot springs')

Krauss and Leer posit (P)PD /-c'/ 'imperfective suffix': PD /-t'e:-c', -t'e:?s/ 'to roast'. NT and OT h remains unexplained.

(23) TO HOOK: (a) ⱡúe sezéhí 'he hooked a fish', (b) ⱡúe ʔíde:szeⱡ 'I will hook a fish', (c) ⱡúe tasí:zek 'I have hooked (several) fish':

NT	OT	PD	PPD
(a) -lᴧseh (1aII)	-s/ze:h	ʔ-ⱡʷe:ʔⱡ	ʔ-ŝ/xʷe:q' (L, mom/IO)
(b) -lᴧseⱡ[20]	-s/zəhⱡ	ʔ-ⱡʷə?ⱡⱡ	ʔ-ŝ/xʷəq'-ⱡ (prog/mom/fut)
(c) -lᴧsek	-s/zək (2b)	ʔ-ⱡʷə?q'	ʔ-ŝ/xʷəq'-ɣ (pf)

(PD /ŝʷə?ⱡ-ⱡ/ 'hook', Eyak /-če?q'/ 'to hook an object')

Note the verbal augment /-1-/. This element as such is never realized phonetically, but has the following effects: (1) like /-h-/, it causes deletion of /-s-/ 'I' after /-'i:-/ 'perfective'[12] (as in tasí:zek), (2) a contiguous stem-initial voiceless continuant becomes voiced.

(24) TO REACH FOR, AIM AT (/-h-di.../ 'to cause to come within reach, to

have as one's goal'): (a) m̑ésəɴdiːč̣ 'aim at it!', (b) mekáh tédusdi: 'I may reach down into the water for it', (c) mekáh tédeːsdəł 'I will reach down into the water for it':

NT	OT	PD	PPD
(a) -h-diːč̣ (5d)	-niːč̣	-niːʔk	-niʔk-ɣ (pf)
(b) -h-di: (5d, 1aI)	-niːh	-niːx	-niːk (L, mom/IO)
(c) -h-dəł[20] (5d)	-nəhł	-nəxł	-nək-ł (prog/mom/fut)

(Eyak /-leʔgʷ/ 'to move one's hand', Tlingit /-niˋgʷ/ 'to feel')

(25) TO SWALLOW: (a) díːɴde: 'swallow it!', (b) déːhdek 'I have swallowed it':

NT	OT	PD	PPD
(a) -h-de: (5d, 1aI)	-neːh	-neːʔ̣ł	-neːqʼ (L, mom/IO)
(b) -h-dek (5d)	-nək (2b)	-nəʔqʼ	-nəqʼ-ɣ (pf)

(Eyak /-ʔniːq'/ 'to swallow')

(26) TO CLEAN, WIPE DRY (with /-h-/): (a) mekʼéːʔusde: 'let me wipe it dry', (b) mekʼéːʔiːhdeːk 'I have wiped it dry', (c) mekʼéːʔdeːsdeł 'I will wipe it dry':

NT	OT	PD	PPD
(a) -h-de: (1aI)	-deːh	ʔ-deːł̣	ʔ-deːq (L, mom/IO)
(b) -h-de:k	-de:k	ʔ-deːʔq	ʔ-deʔq-ɣ (pf)
(c) -h-deł[20]	-dəhł	ʔ-dəł̣ł	ʔ-dəq-ł (prog/mom/fut)

(Ca yəná̇ʔəłdéh 'he wipes')

3.2.2. In this section is listed a number of ...K# verb stem sets.

(27) TO ASK (with /-h-/): (a) núdeskət 'I ask you', (b) núdiːhkət 'I have asked you', (c) núdeːskəł 'I will ask you':

NT	OT	PD	PPD
(a) -h-kət	-kət	ʔ-qət	ʔ-qət (B)
(b) -h-kət	-kət	ʔ-qət	ʔ-qət-ɣ (pf)
(c) -h-kəł	-kəł (7a)	ʔ-qətł	ʔ-qət-ł (prog/mom/fut)

(Ba udəł̣łqəd 'I ask', Ah /O+u+d+ł+qeːd/ 'to ask', Eyak /O+ʔ+d+ł+qeʔd+ł/ 'to ask')

(28) TO (BECOME) INFLATE(D): (a) ʔəɴɣúːł 'blow it up!', (b) ʔiːhɣóλ 'I blew it up', (c) ʔída:yoł 'it will swell up':

NT	OT	PD	PPD
(a) -h̑ʸuːł	-yuːł	-ɣuːʔł	ʔ-xuːλ' (L, mom/IO)
(b) -h̑ʸoλ	-yo/uλ	-ɣuʔλ'	ʔ-xuλ'-ɣ (pf)
(c) -yoł	-yo/uł	-ɣuʔł	ʔ-xuλ'-ł (prog/mom/fut)

(Eyak /-xuʔλ'/ 'to blow', and cf. (3) and (5))

(29) TO MAKE BROTH (with /-h-/): (a) sič̣éːł̣ 'we are making broth', (b) yehč̣áːč̣ 'he has made broth':

NT	OT	PD	PPD
(a) -h-č̣eːš̑ᵔi (?3)	-č̣eːš̑/s	-keːš̑	??? (imp)
(b) -h-č̣aːč̣ (?3)	-č̣aːč̣/c	-kaːʔč̣	-kayaʔč̣ (pf)

(Eyak kaːɫ̣ 'soup')

(30) TO CHASE: (a) kʼənáneš̑yoč̣ 'I am chasing game', (b) téhuːdeneːyuːt 'I have chased them away', (c) téhuːdeneš̑yoł 'I will chase them away':

NT	OT	PD	PPD
(a) -yoč̣	-yo/utš̑ (?4c)	ʔ-yutx	ʔ-...t-k (rep/cst)
(b) -yuːt	-yuːt	ʔ-yuːt	ʔ-...:t-ɣ (pf)
(c) -yoł	-yo/uł (?7a)	ʔ-yutł	ʔ-...t-ł (prog/mom/fut)

(31) <u>TO CHEW</u>: (a) ?es?á:ɬ 'I am chewing', (b) nadéne:s?aɬ 'I will chew it well', (c) nadéni:h?a:ƛ 'I have chewed it well', (d) ?ən?áƛ 'chew it!':

	NT	OT	PD	PPD
(a)	-?a:ɬ	-?a:ɬ	-?a:?ɬ	-?a:ƛ' (L, mom or durative/IO)
(b)	-h-?aɬ	-?aɬ	-?a?ɬ(ɬ)	-?aƛ'-ɬ (prog/mom/fut)
(c)	-h-?a:ƛ	-?a:ƛ	-?a:?ƛ'	-?a?ƛ'-ɣ (pf)
(d)	-?aƛ	-?atɬ (8b)	-?a?ɬt	-?aƛ'-t (sem/pf)

Alternatively, /-?aƛ/ may go back to PD */-?a?ƛ'/ (PPD */-?aƛ'/) (B, cnt/IO(F)), itself unattested; however, Ah has /0+i(Ø s)+?a:ƛ'//?aƛ'/ 'bite object once'.

(32) <u>TO CLOSE ONE'S EYES</u>: (a) nənc'í:ɬ 'close your eyes!', (b) né:sc'eƛ 'I have closed my eyes', (c) né:sc'eɬ 'I will close my eyes':

	NT	OT	PD	PPD
(a)	-c'i:ɬ	-c'i:ɬ	?-č'(ʷ)i:?ɬ	?-č'/kʷ'ʷi:ƛ' (L, mom/IO)
(b)	-c'eƛ	-c'əƛ	?-č'(ʷ)ə?ƛ'	?-č'/kʷ'ʷəƛ'-ɣ (pf)
(c)	-c'eɬ	-c'əɬ	?-č'(ʷ)ə?ɬ(ɬ)	?-č'/kʷ'ʷəƛ'-ɬ (prog/mom/fut)

(33) <u>TO HANDLE CLOTH</u> (with /-h-/): (a) ?eȝí:ɴču:ɬ 'put the cloth away!', (b) ?eȝí:hču:ɬ 'I have put the cloth away', (c) ?eȝéde:šček 'I will put the cloth away', (d) mé?esi:hček 'I have lashed it up':

	NT	PWD	PD	PPD
(a)	-h-ču:š̂i (3)	-ku:?s	?-ku:?s	?-ku?s (B, cnt/IO(F))
(b)	-h-ču:š̂i (3)	-ku:?s	?-ku:?s	?-ku?s-ɣ (pf)
(c)	-h-čəš (3)	-kəs (7b)	?-kə(?)sɬ	?-kə(?)s-ɬ (prog/mom/fut)
(d)	-h-ček (3)	-kəts (8a)	?-kə(?)st	?-kə(?)s-t (sem/pf)

PWD ? in (a) and (b) is suggested by the Sa reflex /-cùz/ 'a fabric to lie (pf/imp)'. Cf. further Ba /-kos/ 'to handle a fabric', Ca dəɣaiyíɬčuz 'he hangs up a coat'.

(34) <u>TO BE COLD</u>: (a) dehk'á:č 'it is cold (weather)', (b) tášek'ač 'the water is cold', (c) ɬá:hk'aš 'it has become cold':

	NT	OT	PD	PPD
(a)	-h-k'a:č	-k'a:č	?-q'a:c'	?-q'a:c'-ɣ (pf)
(b)	-k'ač	-k'ač	?-q'a?c'	?-q'ac' (B, cnt/IO(F))
(c)	-h-k'aš	-k'aš (7b)	?-q'a?sɬ	?-q'ac'-ɬ (prog/mom/fut)

(Ba /-q'əȝ/ 'to be cold', Ah /d+Ø+q'ac'//q'a:ȝ/ 'to be cold')
/-h-/ may here have an inchoative function. For (b), cf. (31d).

(35) <u>TO CUT</u>: (a) ?est'á:š 'I am cutting', (b) nadéni:t'a:č 'I have cut it up', (c) nadéni:t'ač = nadéni:t'a:č, (d) nadéne:st'aš 'I will cut it up':

	NT	OT	PD	PPD
(a)	-t'a:š	-t'a:š	-t'a:?s	-t'a:c' (B, cnt/IO(F))
(b)	-t'a:č	-t'a:č	-t'a:c'	-t'a:c'-ɣ (pf)
(c)	-t'ač	-t'atš (8a)	-t'a?st	-t'ac'-t (sem/pf)
(d)	-t'aš	-t'aš (7b)	-t'a?sɬ	-t'ac'-ɬ (prog/mom/fut)

(b/c) nadéni:t'a(:)č may contain /-1-/: ?/-'i:ᵅsᵅ1-/; cf. (23).

(36) <u>TO EAT</u>: (a) ?eš̂čéč 'I am eating', (b) ?é:š̂če:dɨ́ 'I have eaten', (c) dé:š̂ceɬ 'I will eat':

	NT	OT	PD	PPD
(a)	-čeč (3)	-četš̂ (4c)	?-ce/ətx	?-cət-k (rep/cst)
(b)	-če:tᵅi	-če:t	?-ce:t	?-ce:t-ɣ (pf)
(c)	-čeɬ	-čeɬ (7a)	?-ce/ətɬ	?-cət-ɬ (prog/mom/fut)

(Ah /0+n+Ø+ce:d/ 'eat soft floury object')

(37) <u>TWO GO</u>: (a) tídu:t'a:z 'let's (the two of us) go out!', (b) tinéš̂i:t'a:c 'we both have gone out', (c) tandí:t'as 'we both will go up again':

NT	OT	PD	PPD
(a) -ʔa:s⁼ɫ	-ʔa:s	-ʔa:ʔŝ	-ʔa:ċ' (L, mom/IO)
(b) -ʔa:c	-ʔa:c	-ʔa:ċ'	-ʔa:ċ'-ɣ (pf)
(c) -ʔas	-ʔas (7b)	-ʔaʔŝɫ	-ʔaċ'-ɫ (prog/mom/fut)

Note the following: (a) /...-u⁼('id-':)⁼ʔa:.../ → ...'u:t'a:... (/-u-/ 'optative', /-'id-/ 'we', /-':-/ 'urgency'), (b) /...-('ŝid-'i:)⁼ʔa:.../ → ...'ŝi:t'a:... (/-'ŝid-/ 'we' (where ŝ may be identified with /-ŝ-/ 'be in a ... state'), /-'i:-/ 'perfective'), (c) /...-('id-':)⁼ʔa.../ → ...í:t'a... (/-'id-/ 'we', /-':-/ 'future₁').

(38) TO GRAB, CATCH (with /-h-/): (a) ʔihċú:t 'I have caught it', (b) ʔíde:ŝċəɫ 'I will catch it':

NT	OT	PD	PPD
(a) -h-ċu:t	-ċu:t	-ku:ʔt	-kuʔt-ɣ (pf)
(b) -h-ċəɫ	-ċəɫ (7a)	-kətɫ	-kut-ɫ (prog/mom/fut)

(Eyak /-ky:ʔd/ 'to grab')

(39) TO HANG: (a) ná:ɴba:ɫ 'hang it!', (b) nac'í:hba:ɫ 'somebody has hung it', (c) kená:beɫ 'it is hanging':

NT	OT	PD	PPD
(a) -h-ba:ɫ	-ba:ɫ	-wa:ʔɫ	ʔ-waʔɫ (B, cnt/IO(F))
(b) -h-ba:ɫ	-ba:ɫ	-wa:ʔɫ	ʔ-waʔɫ-ɣ (pf)
(c) -beɫ	-bəɫ	ʔ-wə/aɫ(ɫ)	ʔ-wə/aɫ-ɫ (prog)

(Eyak /-waʔɫ/ 'to hang suspended')

(40) TO FALL, DUMP, POUR DOWN: (a) ẑaŝ ná:ƛ'eċ '(a mass of) snow has come down (from the roof)', (b) nádeƛ'i:t 'it is raining', (c) nadí:ƛ'i:t 'it has rained', (d) nádaƛ'eɫ 'it will rain':

NT	OT	PD	PPD
(a) -ƛ'eċ	-ƛ'ətŝ (4c)	-ƛ'əʔtx	ʔ-ƛ'ət'-x (sem/non-pf)

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NT	OT	PD	PPD
(b) -ƛ'i:t	-ƛ'i:t	-ƛ'i:ʔt	-ƛ'i:t' (B, cnt/IO(F))
(c) -ƛ'i:t	-ƛ'i:t	-ƛ'i:t'	-ƛ'i:t'-ɣ (pf)
(d) -ƛ'eɫ	-ƛ'əɫ (7a)	-ƛ'əʔtɫ	-ƛ'ət'-ɫ (prog/mom/fut)

(PD /-ƛ'i:t'/ 'pl. fall')

(41) TO BE WIDE, BROAD, SPREAD: (a) ʔukát 'it is wide', (b) ní?ni:hka:t 'I have spread it', (c) níde:skaɫ 'I will spread it':

NT	OT	PD	PPD
(a) -kat	-kat	ʔ-qat	ʔ-qat
(b) -ka:t	-ka:t	ʔ-qa:t	ʔ-qa:t-ɣ (pf)
(c) -kaɫ	-kaɫ (7a)	ʔ-qatɫ	ʔ-qat-ɫ (prog/mom/fut)

(ʔcf. PPD /-ḱa:t/ 'to shake (out)')

(42) TO STRETCH (with /-l-/): (a) ʔənbéc 'stretch it!', (b) si:béc 'I have stretched it', (c) dé:sbes 'I will stretch it':

NT	OT	PD	PPD
(a) -l-bec	-bəc	ʔ-wəʔċ'	ʔ-wəċ' (B, cnt/IO(F))
(b) -l-bec	-bəc	ʔ-wəʔċ'	ʔ-wəċ'-ɣ (pf)
(c) -l-bes	-bəs (7b)	ʔ-wəʔŝɫ	ʔ-wəċ'-ɫ (prog/mom/fut)

(43) TO URINATE: (a) ʔesléc 'I am urinating', (b) si:léc 'I have urinated', (c) dé:sles 'I will urinate':

NT	PWD	PD	PPD
(a) -lec	-ləc	ʔ-ləʔċ'	ʔ-ləċ' (B, cnt/IO(F))
(b) -lec	-ləc	ʔ-ləʔċ'	ʔ-ləċ'-ɣ (pf)
(c) -les	-ləs (7b)	ʔ-ləʔŝɫ	ʔ-ləċ'-ɫ (prog/mom/fut)

(Ba /-ləʒ/ 'urine', Sa /-líz/ 'to urinate', Ah zƛeʒ 'he urinated')

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FOOTNOTES

[1] My preference for the term "Dene" is based on three considerations:
(a) there is no uniformity in the spelling of the traditional label (one
reads "Athabascan", "Athabaskan", "Athapascan", "Athapaskan"); (b) the
designation "Atha^b/$_p$as^c/$_k$an" is often deemed alien, if not offensive, by
speakers of Dene languages; (c) "Dene" is commonly used in the northern
(Yukon, Northwest Territories) news media.
The Tahltan phonemes are: (1) consonants – BILABIAL: b̲, m̲; DENTAL: d̲, t̲,
t̲', ṉ, n̲, n̲'; INTERDENTAL: ƛ̲, ĉ̲, ĉ̲', ŝ̲, ẑ̲; ALVEOLAR: ʒ̲, c̲, c̲', s̲, z̲;
PALATAL: ǰ̲, č̲, č̲', š̲, ž̲; LATERAL: λ̲, ƛ̲, ƛ̲', ł̲, l̲; PALATALIZED VELAR: γ̲,
y̲; PURE VELAR: g̲, k̲, k̲', x̲, ɣ̲; UVULAR: ǧ̲, q̲, q̲', x̲̣, ɣ̣̲; ROUNDED VELAR:
g̲^{w}, k̲^{w}, k̲'^{w}, x̲^{w}, w̲; GLOTTAL: h̲, ʔ; (2) vowels – LAX-SHORT: i̲, ə̲, e̲, a̲,
o̲, u̲; TENSE-LONG: i̲:, e̲:, a̲:, o̲:, u̲:.
My research on Tahltan has been supported by the Foundation for Linguis-
tic Research, which is funded by the Netherlands Organization for the
Advancement of Pure Research, Z.W.O.

[2] In finite verbs not containing a stress-attracting prefix (cf. foot-
notes 3, 4, 6, 16), the stem receives the stress. /ʔes-/ and /ʔeŝ-/ are
the word-initial variants of /-s-/ and /-ŝ-/, /-es-/ and /-eŝ-/ the
post-consonantal alternants.

[3] -'... (/-'.../) indicates that the syllable preceding the morpheme
boundary is stressed. If such a syllable is absent, the stress is as-
signed to the next syllable. However, /-'ŝid-/ 'we' is never stressed
in the absence of a preceding syllable: ŝiké: 'we two are sitting' =
/(')ŝid⁼ke:'/.

[4] For stressed kó... see fn. 3. Also, note the voicing effect of the
interrogative enclitic /ła:/, which causes /...łła:/ → ...l+a: (the
plus sign introduces an enclitic). Furthermore /ə:/ → i:.

[5] Morphological and morphonological representations are printed between
virgules. Prefixes such as /-d-/ and /-h-/, which are always stem-con-
tiguous, have customarily been labelled "classifiers"; I refer to Krauss
(1969) for a detailed discussion of such elements. Although they often
appear semantically opaque, /-h-/ basically has a transitive-causative
function, and /-d-/ often expresses reflexivity. Contractions involving
/-d⁼/, such as /-d⁼x.../ → -g... and /-d⁼y.../ → -ǰ..., are ascribed to
the well-known "D-effect". Moreover, /ʔede-/ may be related to /-d-/,
and may be the word-initial variant of */-de-/ (so far unattested, but
consider footnotes 2 and 8).

[6] For /-d⁼x.../ → -g... see the preceding footnote. For /...e-ŝ-'.../
→ ...éŝ... see footnote 3.

[7] For assimilation rules such as /ŝ-es-.../ → ses... see section 2.1 of
my paper on Tahltan phonology.

[8] Deletion of stem-initial d after /-s-/ 'I' has also been noted in
some other finite verbs, such as hódese: 'I am talking' = /ho'-de-s⁼de:/
'areal – around, not location-bound – I – talk', desí:ɴ 'I said' = /de-
-s⁼di:ɴ'/ 'around – I – say', dé:sa:ł 'I will go' = /d-'e:s⁼da:-ł/ 'com-
pletion – I/future$_1$ – go – future$_2$'. In other finite forms containing
the same stems, d is present: hódede: 'he is talking' = /ho'-de-Ø-de:/,
kénusdi: 'let me explain, let me show you the way' = /ke'-n-u-s⁼h-di:/
'direction – you (object) – subjunctive – I – h augmentation – say, have
explicit knowledge', dí:nda:ł+a: 'will you go?' = /d-'ə:n-da:-łła:/.
/(-)de-/ 'around, not location-bound, all over' may somehow be related
to */-de-/ 'self' and/or /(-)de-/ 'completion' (cf. fn. 5).

[9] The suffix /-i/, which causes voicing of stem-final voiceless stops
and continuants, can be deleted (symbolized as i̲). Such optional elimi-
nation allows phonetically voiced stops to occur word-finally.
The juncture symbol ⁼ indicates the following, mutually exclusive, phe-
nomena: (1) voicing of a preceding voiceless consonant caused by a vo-
calic suffix, (2) consonant cluster alleviation, (3) telescoping of a
vowel sequence, (4) sibilant and affricate assimilation (cf. fn. 7).

[10] /⁻ɫ/ occasions elimination of a preceding consonant, except after an interdental, alveolar, or palatal continuant, in which position it is deleted. /-'...:...-/ 'future₁' may be a fused variant of /-'i:-/ 'perfective'.

[11] /ʔa-/ unidentified prefix, possibly meaning 'being (in) the center'.

[12] Note, how /-s-/ is deleted between /-'i:-/ and /-h-/:

/...aᵅ'i:ᵅsᵅh.../ → /...aᵅ'i:-h.../ → *...á:ih... → ...á:ɣ...

This suggests that /-'i:-/ has, c.q. has had, consonantal properties.

[13] /-'∅:-/ is realized as ⸝..a:... between consonants.

[14] I consistently avoid the concept ROOT in this paper in view of its descriptive irrelevance in regard to the Tahltan verb.

[15] The, equally invariable, Sarcee cognates of Tahltan -teč and -dos are resp. -tɨč and -mɑ́z.

[16] Where two stress-attracting prefixes occur consecutively, location of the stress is determined by the leftmost such prefix.
In (27) note deletion of /-s-/ (for which see fn. 12), and ...é:h... (rather than *...é:ɣ...), which is the result of the shift *e:i → e: (whereby *i merges with a preceding long flat vowel – cf. sample sentence (14), where ...é:... = /...eᵅ'i:.../) whose completion antedates the *ih → (i)ɣ fusion (cf. Nater: 4.1). Thus:

$$**ei:h → *e:i|h → e:h$$

VS.

$$**ai:h → *a:|ih → a:ɣ$$

[17] B = cnt/I(OF), B-ɣ = mom/cnt/pf/(ntr), B-k = mom/rep/cst; B' = dis/I(OF), B'-k = dis/rep/cst; L = mom/IO or durative/IO; L' = ntr/opt or mom/cnt/opt, L'-ɣ = ntr/pf, L'-k = ntr/rep/cst; /-ɫ/ = prog/mom/fut; *B'-ɣ, *L-ɣ, and *L-k are unattested (and L virtually so) in Leer's non-

-obstruent-closed roots. As far as (b) is concerned, note that the optional NT suffix /-i/ 'final' appears to continue PD /-(y)i̧/ (from PPD /+yən/ 'sg. human relative enclitic' – Leer: 4.5), rather than the PPD perfective suffix /-ɣ/, which was elided in L'-ɣ verb stems.

[18] Krauss and Leer (1981) replace Leer's (1979) PD ...ɣ by ...ŋ (note, that our ɣ also stands for PD ỹ/ŋ). PD /-ƛ'u:/ seems to continue PPD /-ƛ'əw/ (cf. next fn.), which is related to Eyak /-ƛ'i/ (from PPD-Eyak /-ƛ'iw/).

[19] In some instances, i: and u: may continue (P)PD əy, resp. əw (cf. Leer: 2.3.4).

[20] OT h has disappeared before a word-final consonant. For h = ɣ after front-flat vowels see Nater: 4.1. The distribution of ə and i is discussed in Nater: 2.2.

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