CHAPTER 4

Deg Xinag Word-Final Glottalized Consonants and Voice Quality

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1 Athabaskan Tonogenesis

The cause and historical results of Athabaskan tonogenesis are by now fairly well understood. Krauss 1964⁴ first reconstructed Proto-Athabaskan as toneless, with syllable-final glottalized consonants (ejectives, glottal stop, glottalized sonorants) as the chief instigators of tonogenesis in some of the languages. Oversimplifying slightly, syllable-final glottalized consonants in Proto-Athabaskan are thought to have coarticulated with preceding vowels, causing some kind of voice quality modification or laryngealization on the vowel (e.g. *thǝ̰ts’ ‘cane’ > *thǝ̰̣ts’, Krauss 2005). This laryngeal modification is traditionally termed constriction in Athabaskan linguistics (Leer 1979). In addition to glottalized consonants, Proto-Athabaskan is also reconstructed with glottalized vowels, e.g. *ẉiʔ ‘snare, net’ (Krauss and Leer 1981), similar to the system of plain vs. glottalized vowel nuclei in Eyak (Krauss 1965), sister language to all of Athabaskan. Vocalic glottalization was therefore both contrastive as in *ẉiʔ ‘snare, net’ and predictable before glottalized consonants in some contexts,² such as with *thǝ̰̣ts’ ‘cane’ > *thǝ̰̣̣ts’.

None of the Athabaskan languages appears to have preserved the contrast between glottalized vs. non-glottalized vowel nuclei, as noted by Leer 1999.

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1 Li 1933 had also noted a connection between tone and final glottal stop in Dene Sųɬiné. See Krauss 2005 (first circulated as an unpublished typescript in 1978) for full discussion of the history of analysis of tone and tonogenesis in Athabaskan linguistics.

2 Final ejective stops and affricates gave rise to vocalic constriction only when the preceding vowel was reduced, not full (Leer 1979).
Instead, vocalic constriction either evolved into tone or was lost. In some Athabaskan languages, e.g. Dene Sųɬiné (a.k.a. Chipewyan), tone resulting from constriction is high; e.g. PA *tʰ̪θ̪ts’ ‘cane’ > *tʰ̪θ̪ts’ > DS [tʰ̪θ̪θ̪] ‘cane’ (Elford and Elford 1998). Such languages are traditionally known as high-marked languages. However, in other, low-marked languages, constriction gave rise to low tone; e.g. Tsek’ene (a.k.a. Sekani) [tʰ̄s] ‘cane’.³ (Tonal contrasts arose in such languages when unconstricted syllable nuclei gave rise to the opposite of the tone that developed from constriction; e.g. *t̄θ̄θ̄ts’ ‘dry wood’ (Krauss 2005) > Dene Sųɬiné [t̄θ̄θ̄z], Tsek’ene [tʰ̄θ̄ts]). A minority of Athabaskan languages, some of those spoken in western Alaska, western British Columbia and the Pacific Coast group, did not develop tone; e.g. *tʰ̄θ̄θ̄ts’ ‘cane’ > Babine-Witsuwit’en [tʰ̄z], or else developed tone and lost it; e.g. certain dialects of Koyukon.⁴

Underlying glottalized vowels and vocalic coarticulation with (certain) glottalized consonants in Proto-Athabaskan always yielded identical tonal results in the daughter languages which developed tone; e.g. *w̄ʔ̄θ̄θ̄ ‘snare, net’ > Tsek’ene [mθ̄], Dene Sųɬiné [pθ̄]⁵ (cf. Babine-Witsuwit’en [pθ̄]). Therefore, the vowel preceding final glottalic consonants must have coarticulated with the glottalic consonant to produce a derived glottalized vowel which was not distinct from an underlying one.⁶

The map in (1), from Krauss 2005, shows the geographic distribution of the tonal and toneless Athabaskan languages. On this map, Dene Sųɬiné is Chp, Tsek’ene is Sk, and Babine-Witsuwit’en is Ba.

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³ Tsek’ene (a.k.a. Sekani) and Babine-Witsuwit’en data are from my field notes on those languages. Data are from the Fort Ware (Kwadacha) dialect of Tsek’ene and the Witsuwit’en dialect of Babine-Witsuwit’en.

⁴ In Koyukon, low tone is found only in the Lower dialect and Southern subdialect of Upper Koyukon. In the other dialects, i.e. all of the Central dialect as well as the Northern subdialect of Upper Koyukon, tone has been lost (Krauss 2000).

⁵ I transcribe Proto-Athabaskan vowel nasalization and glottalization with standard IPA symbols, tilde over and under vowel, respectively. But in the daughter languages I transcribe vowel nasalization with the nasal hook under the vowel, as in Dene Sųɬiné. (The daughter languages with contrastive nasality often also have contrastive tone, making two diacritic symbols necessary on some vowels. If both are superscripts, they can be hard to read.)

⁶ This summary glosses over many of the interesting details of Proto-Athabaskan phonology, including internal reconstruction of Proto-Athabaskan to Pre-Proto-Athabaskan (Leer 1979, 1999). See also Leer 2001 on the details of tonal development in two specific areas of the Athabaskan-Eyak-Tlingit family, Tlingit and Southern Athabaskan.