Origins of Velar and Pharyngeal Resonants in Interior Salish: Chains of Events

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Abstract: In this report, a few claims made by Van Eijk & Nater (2020) are revisited. I now propose that the velar and pharyngeal resonants *ɣ ʕ ʕʷ* [ɰ ʕ ʢʷ] of Interior Salish continue older palatal and uvular continuants, to wit **ɣʸ *ɣ̌ *ɣ̌ʷ* [j ʁ ʁʷ]. Of these, palatal **ɣʸ* was velarized and lowered, and became the velar resonant *ɣ* in northern Interior Salish languages, while uvular **ɣ̌ *ɣ̌ʷ* shifted to pharyngeal *ʕ ʕʷ* in all Interior Salish (also *ḥ ḥʷ* in Columbian). These shifts may be linked with an old "darkening" feature found in all Interior Salish, while prolonged Salish-Athabascan interaction first triggered the emergence of **ɣʸ *ɣ̌ *ɣ̌ʷ*.

Keywords: Salish, phonetic change, language contact, areal features, migratory patterns

1 Introduction

First off, we should recall once again that the Salish language stock is deeply divided into Coast (cismontane) Salish and Interior (transmontane) Salish. Coast Salish in turn consists of Bella Coola, Tsamosan, Central, and Oregon Salish, while Interior Salish comprises southeastern Interior, Colville-Okanagan, northern Interior, and Columbian Salish:

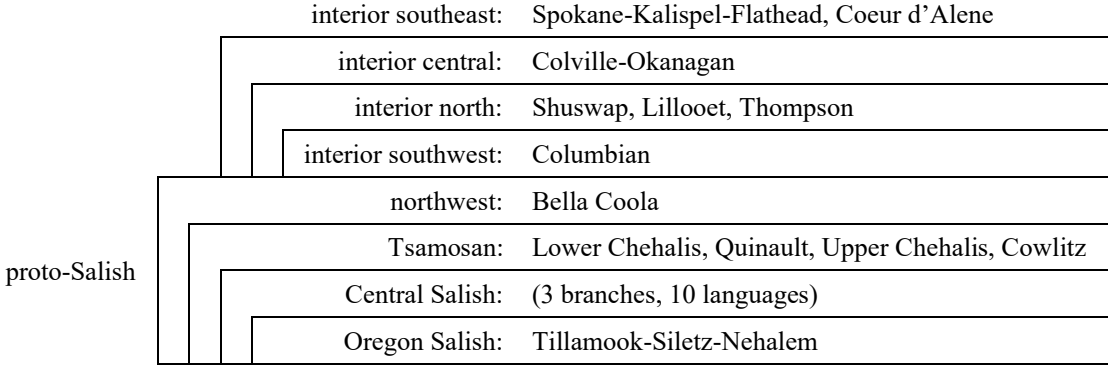

Figure 1: Salish divisions, branches, languages

For Central Salish branches and languages see Davis (2024:26). This model is commensurate with the intra-Salish distribution (16.4% proto-Salish, 7.4% Coast Salish, 4.9% Interior Salish) of the Salish portion (28.7%) of Bella Coola lexicon (Nater 2013:124), and accounts for the fact that the proto-Salish */kʸ/[1] series > /č/ series shift has affected only SE Interior and most non-Bella Coola Coast Salish (due to contact on the Common Salish level). Note further that Coeur d'Alene **y *w > d gʷ* parallels Comox **y *w > ǯ g*, Lushootseed **y *w > ǯ~ʒ gʷ*, and Tillamook **y *w > y gʷ~g* (Kuipers 2002:3). Common Salish was a dialect continuum at the time when some Salish-speaking

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[1] Rather than */k/, see Section 4.

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groups began to migrate towards, into, and beyond the Cascade Range, while other populations moved in opposite directions.[2] For a likely Urheimat of proto-Salish, consider Kinkade (1990):

> … The homeland thus delimited for the Proto-Salish would extend from the Fraser River southward at least to the Skagit River, and possibly as far south as the Stillaguamish or Skykomish River. Expansion to the south would probably have been rapid in any case, since the country is relatively open and accessible. From west to east, their territory would have extended from the Strait of Georgia and Admiralty Inlet to the Cascade Mountains. A tongue of the family probably extended up the Fraser River through the Fraser Canyon; this is the most likely route of expansion into the interior (via the Thompson River), although Indians certainly knew a number of routes through the Cascades further south.
>
> (Kinkade 1990:10)

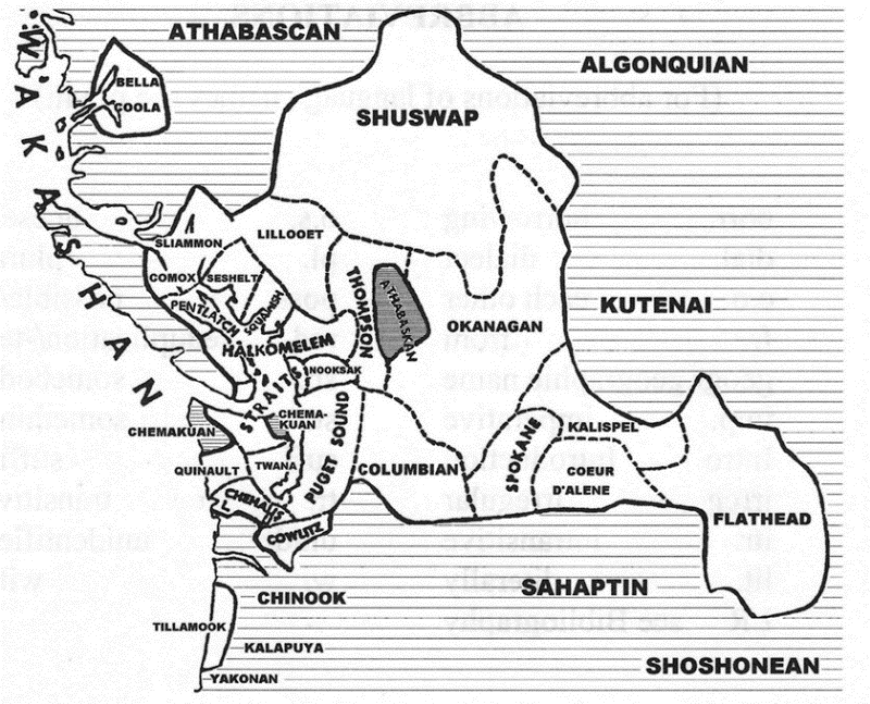

Figure 2: Salish language area (Kuipers 2002)

A striking feature of Interior Salish is the presence of velar and pharyngeal resonants (*ɣ ʕ ʕʷ* [ɰ ʢ ʢʷ]), which are lacking in Coast Salish. In this paper, I submit that these resonants continue older voiced palatal and uvular continuants, to wit **ɣʸ *ǰ *ǰʷ* [ȷ ʁ ʁʷ]. Of these, palatal **ɣʸ* became, via retraction and lowering, the velar resonant *ɣ* in northern Interior Salish (including northern Okanagan dialects), while uvular **ǰ *ǰʷ* shifted to pharyngeal *ʕ ʕʷ* in all Interior Salish (alongside *ḥ ḥʷ* in Columbian). I conclude that **ɣʸ *ǰ *ǰʷ*, rather than having appeared EX NIHILO, evolved due

[2] A few Common Salish words survive only in Bella Coola and Coeur d'Alene: Bella Coola *cipsx* 'fisher' = Coeur d'Alene *cišps*, Bella Coola *milixʷ* 'kinnickinnick' (dried leaves were smoked) = Coeur d'Alene *mil'xʷ* 'tobacco', Bella Coola *x̌m* 'to bite' = Coeur d'Alene *x̌em* 'id.' (Kuipers 2002); Bella Coola *t'kʷ* 'to bleed' = Coeur d'Alene *t'ekʷ-s*, Bella Coola *x̌m* 'dead, decayed' = Coeur d'Alene *ʕem* 'melt, dissolve, waste away' (Reichard 1938).

to interaction with Athabascan through the ages: PA *ɣ^{y} *ɣ̌ *ɣ̌^{w} (Krauss & Leer 1981) were copied (and retracted + lowered in IS except where *ɣ^{y} merged with *y) into IS as shown in Table 1.[3]

Table 1: Proto-Athabascan voiced fricatives > Interior Salish resonants

PA	PIS	IS
*ɣ^{y}	*ɣ^{y} / *ɣ	y / ɣ [ɯ]
*ɣ̌	*ɣ̌	ʕ
*ɣ̌^{w}	*ɣ̌^{w}	ʕ^{w}

2 Contact with PA

Environmental disruptions in the Pacific Northwest (such as wildfires, droughts, floods, tsunamis, landslides, earthquakes, volcanic eruptions) occasioned population displacements now and then. One such event, the White River ash fall caused by an eruption of Mount Churchill (852–853 CE (https://en.wikipedia.org/wiki/Mount_Churchill)), apparently prompted the southbound exodus a portion of which is detailed by Seymour (2012):

> For decades archaeologists have thought of the Plains as the initial source of mountain Athabascan groups, with a far southern Plains loop into the Southwest. Regrettably, many researchers continue to defend this outdated notion, apparently unaware of this new evidence (e.g., Carrillo 2008). This old Plains-route-only view, however, is not sustained by evidence for a much earlier ancestral Athabascan presence in the mountains. Rather, it seems that mountain groups followed their own route south, and, as is typical of later Athabascan groups, people dispersed by the White River ash fall may have coalesced at a predetermined location. This volcanic eruption occurred around A.D. 800 in northwestern Canada and is thought by many to be the impetus for Athabascan groups migrating out of the area and beginning their trip south …
>
> (Seymour 2012:156–157)

It is thus quite likely that frequent interaction with Athabascan began near the Salish homeland (possibly with Athabascans crossing the Cascade Range on their way to Pacific coastal regions), then continued closer to current locations (Nicola, Chilcotin[4], Carrier (MacKenzie 1801:164–165, Nater 2020:183–185))[5]. However, while PA voiced uvular (plain and rounded) fricatives were easily copied into some Common Salish (and *ɣ^{y}, which usually merged with *y, occasionally so),

[3] *ɣ^{y} *ɣ̌ *ɣ̌^{w} may have been marginal in PA; see Krauss (1964:129) for PA voiced fricatives in general. Krauss (1964:122) reconstructs PA rounded uvulars, while Krauss & Leer (1981:196–197) list only a few instances of such phonemes, and Leer (1979:4) excludes rounded uvulars altogether (cf. footnote 7). Abbreviations used in this report are: CS = Coast Salish, IS = Interior Salish, PA = proto-Athabascan, PIS = pre-Interior Salish, PS = proto-Salish.

[4] "Small projectile points with contracting stems are basically similar to those from Klo-kut in the northern Yukon, and to Stott points from the southwest Yukon; they may represent a characteristic Athabaskan form. … The presence of trade goods in most of the structures indicates the Chilcotin components at Anahim probably do not date much earlier than 1750; trade goods were absent in one unit which dates A.D. 1670 (GSC-1371), which might represent late prehistoric Chilcotin." (Wilmeth 1970:42–43)

[5] Here, geographic proximity of post-PA [ʁ, ɣ] speakers blocked the *ɣ^{y} > *y shift (that had been completed in all other Salish) in favor of *ɣ^{y} > *ɣ, while post-PA [ʒ̲, ð] engendered *z* [ð̣] in Lillooet and Thompson (see Nater 2020:185 for Athabascan sound shifts).

Athabascan-to-Salish lexical copies are scarce[6] (but for Bella Coola loans from PA, see Nater 1994). The few that I have so far been able to identify for non-Bella Coola Salish are:

(a) PA *√*ǰeˑn* 'melt' (Krauss & Leer 1981:197) = Coeur d'Alene *ʕem* 'melt, dissolve, waste away' (Reichard 1938:103) (for current *m* < PA **n* see Nater 1994:180);

(b) PA **q'uˑn'* 'roe' (Krauss & Leer 1981:196) = Lillooet *k'ʷunaʔ* 'salmon eggs' (Van Eijk 2013: 26), Shuswap *q'ʷúne* 'soup made of fish eggs with sceqʷm' (Kuipers 1974:249), Kalispel *ʔek'ʷn* 'fisheggs' (Speck 1977:175 — this is from post-PA, cf. Southern Carrier *ʔək'un* 'fish eggs' (my 1974 field notes));

(c) Carrier *√k'ʷaʔ* 'burp' (Story 1984:66), Sarcee *√k'ʷàk'* 'to make a choking noise' (Cook 1972:3) = Bella Coola *nu(-)q'ʷaat* 'to burp' (not in Nater 1994);

(d) Carrier *łic'e* 'female dog' = Lillooet *łic'* 'type of dog' (Van Eijk 2013:156).

For another possible lexical copy, see Section 3.

3 Salish and PA details

Van Eijk & Nater (2020) cite the following PS and PIS forms with velar and pharyngeal resonants as reconstructed by Kuipers (2002):

(1) **s-mɣaw* 'a large feline or canine' (p. 70)
(2) **ɣap/*ʕap* 'to stand upright; tree' (p. 134)
(3) **ləɣ* 'to insert' (p. 169)
(4) **saɣ/*saʕ* 'to shake (off)' (p. 187)
(5) **ɣac* (only in reduplicated form) 'sparrowhawk' (p. 201)
(6) **ɣəl* 'strong, vigorous' (p. 201)
(7) **c'əʕ-tin* 'poison, rattlesnake' (p. 34)
(8) **q'əʕ* 'to stir, move' (p. 90)
(9) **yəʕ/*ʔiʕ* 'to grind, scratch, scrape' (p. 133)
(10) **ʕəl* 'to lose (ability, object, contest)' (p. 134)
(11) **ʕi/al* 'to cut (as, hair)' (p. 134)
(12) **ʕis* 'to shrink' (p. 134)
(13) **ʕəy/*ʕin* 'hot, angry, growl' (p. 134)
(14) **paʕ* 'faded, grey' (p. 178)
(15) **p'əʕ* 'to burn' (p. 179)
(16) **x̌əʕ* 'breeze, draught' (p. 198)
(17) **yəʕ* 'to gather (esp. of people); many, all' (p. 200)
(18) **yəʕ* 'war spear' (p. 200)
(19) **ʕat* (only in reduplicated form) 'unid. bird of prey' (p. 201)
(20) **ʕəc* 'to tie, knot' (p. 201)
(21) **ʕələxʷ* 'stiff, frozen' (p. 201)
(22) **ʕiƛ'* 'to take a bite' (p. 201)
(23) **ʕiʕʷ/*ʕiw* 'to pile up by throwing, dump' (p. 201)
(24) **ʕəx̌/*ʕʷəx̌ʷ/*wəx̌ʷ* 'to lace up' (pp. 201, 202)
(25) **ʕəx̌* 'to scratch' (p. 201)
(26) **ʔaʕʷ/*ʔaw* 'to call, howl' (p. 23)

[6] Structural unfamiliarity (e.g. with PA verb stems) and/or cultural bias may have played a role here.

(27) *ciʕʷ ‘to bleed’ (p. 26)
(28) *caʕʷ/*caw ‘to reach for, stick out; fringe, stripe’ (p. 27)
(29) *c’aʕʷ/*c’aw ‘to wash, clean’ (p. 35)
(30) *c’uʕʷ ‘sore’ (p. 35)
(31) *ləʕʷ/*ləw ‘to come off (as skin, bark)’ (p. 53)
(32) *liʕʷ ‘loose, free’ (p. 55)
(33) *li/aʕʷ ‘to melt, thaw, open up (of ice)’ (p. 56)
(34) *ƛ’əʕʷ ‘hard (substance)’ (p. 65)
(35) *pəʕʷ/*pəw ‘to prod, knock, drum’ (p. 78)
(36) *səʕʷ/*səw ‘to flow; wetness, dew’ (p. 102)
(37) *ʕʷəl/*wəl ‘to burn, shiny, bright’ (p. 114)
(38) *ʕʷal’ ‘to become weak, tired, faint, sleep’ (p. 135)
(39) *ʕʷəɬqʷ/*wəɬqʷ ‘to boil, cook’ (p. 135)
(40) *ʕʷəy ‘to play, joke, make fun, laugh’ (p. 135)
(41) *cəʕʷ ‘stripe; fringe’ (p. 161)
(42) *c’ələʕʷ ‘to scratch, claw’ (p. 162)
(43) *kʷəw/*qʷəʕʷ ‘to slide, crawl’ (p. 168)
(44) *k’ʷʕʷəy/*q’ʷʕʷəy ‘small’ (p. 169)
(45) *ləʕʷ ‘to rumble’ (p. 170)
(46) *laʕʷ ‘to plunge’ (p. 170)
(47) *maʕʷ/*maʕ ‘to break, smash’ (p. 175)
(48) *qʷaʕʷ/*qʷaw/*qʷaʕ ‘silly, crazy, drunk’ (p. 184)
(49) *səʕʷ/*səw ‘to flow; wetness, dew’ (p. 102), *səʕʷ/*səʕ ‘to drain, strain’ (a liquid)’ (p. 187)
(50) *tiʕʷaʔ ‘mint’ (p. 189)
(51) *(s-)x̌ʷəʕʷ(-al-mxʷ) ‘fox’ (p. 199)
(52) *yəʕʷ ‘strong, intensive, violent’ (p. 200)
(53) *ʕiʕʷ/*ʕiw ‘to pile up by throwing, dump’ (p. 201)
(54) *ʕʷis/*wis ‘robin’ (p. 202)

None of these have been copied from Athabascan, with the possible exception of (13) *ʕəy/*ʕin ‘hot, angry, growl’; the second member of this doublet resembles PA *√ɣ̌an ‘growl’ (Krauss & Leer 1981:197). *ɣʸ *ɣ̌ *ɣ̌ʷ may originally have had special register status (for instance, as marking the speech of those with an intimate knowledge of strangers, cf. Van Eijk & Nater 2020:336–337) while patterning as allophones of *xʸ *x̌ *x̌ʷ.

The low profile of IS syllable-initial ʕʷ (as compared with ʕ) parallels that of PA *ɣ̌ʷ which — as a voiced fricative (Krauss 1964:129) and rounded uvular (Krauss & Leer 1981:190) — appears to have been marginal. Krauss & Leer (1981) list only four entries with *ɣ̌ʷ:

(e) *√šəɣ̌ʷəƛ’ ‘round, ball, play, catch’ (pp. 108, 193, 204–205);
(f) *čʷəɣ̌ʷəs(l) ‘merganser’ (pp. 102, 107, 194);
(g) *√ɣ̌ʷəš ‘tickle’ (pp. 106, 197);
(h) *√ɣ̌ʷə/aˑn ‘growl’ (pp. 71, 93, 141, 197) (cf. entry 13 above)

4 Summary and conclusions

The aim of this paper has been to test Van Eijk & Nater’s (2020) findings. I now take into account certain areal-typological properties as well, and posit a realistic time line for the emergence of velar and pharyngeal resonants in Interior Salish. Van Eijk & Nater (2020) assert that:

> While the shifts ʕ ʕʷ to *x̌ x̌ʷ* (and to *ḥ ḥʷ* in Columbian) post-date the PS stage, within PS the correspondences between *ɣ*, *y* and ʕ, and between *w* and ʕʷ raise the question whether *ɣ* ʕ ʕʷ were originally part of the phonemic stock of PS and developed into *y* or *w* in a number of etyma, or whether they generally developed out of *y* and *w*, which have a much wider distribution and a much higher rate of occurrence throughout Salish, and *ɣ* ʕ ʕʷ therefore were not part of the PS phoneme system in its earliest stage.
>
> (Van Eijk & Nater 2020:332)

On the basis of the evidence presented in this paper, I conclude that *ɣ* ʕ ʕʷ were indeed absent from PS. I speculate as well that the IS "vowel darkening feature" (= lowering, cf. Chilcotin "flattening" (Cook 1983)) underlies the **ɣʸ* > *ɣ* (and palatal > velar in general), **ɣ̌* > ʕ and **ɣ̌ʷ* > ʕʷ shifts, and therefore predates *ɣ* ʕ ʕʷ.

As to what prompted the emergence of *ɣ* ʕ ʕʷ to begin with, I have determined that Common Salish dialects were influenced by PA and post-PA dialects at different points in time and space. Krauss & Leer (1981) reconstruct "front velar" and "back velar" series for PA; these include the voiced fricatives **ɣʸ *ɣ̌ *ɣ̌ʷ* (Krauss & Leer 1981:195–197) which perfectly match pre-IS **ɣʸ *ɣ̌ *ɣ̌ʷ*.[7]

I summarize my conclusions as tabulated below. PA **ɣʸ *ɣ̌ *ɣ̌ʷ* were copied in Common Salish, but absorbed by *y x̌ x̌ʷ/w* in CS. **ɣʸ* merged early with **y* in all non-northern Salish.

Table 2: Reflexes of Common Salish **xʸ, *ɣʸ, *ɣ̌, *ɣ̌ʷ*

Common Salish	Interior/Coast split	Current reflexes	Branches
**xʸ, *ɣʸ, *ɣ̌, *ɣ̌ʷ*	**xʸ/*x, *ɣʸ/*ɣ, *ɣ̌, *ɣ̌ʷ*	š, y/ǯ, ʕ, ʕʷ	Interior southeast
		x, ɣ/y, ʕ, ʕʷ	Interior central
		x, ɣ, ʕ, ʕʷ	Interior north
		x, y, ʕ/ḥ, ʕʷ/ḥʷ	Columbian
	**xʸ/*x, *y, *x̌, *x̌ʷ*	xʸ, y, x̌, x̌ʷ/w	Bella Coola
		š/xʸ/x, y, x̌, x̌ʷ/w	Other Coast Salish[8]

Reconstruction of a Common Salish (and PS) palatal, rather than velar, series is a corollary of my claim that PA **ɣʸ* > Common Salish **ɣʸ*. It is also compatible with the location of the PS homeland in the area as defined by Kinkade (1990:10), which was in close proximity to North Wakashan (which has a palatal series). The **ɣʸ* > **ɣ* shift — and velarization of all PS palatals in general

[7] In re voiced and voiceless rows of fricatives, Krauss (1964:129) states: "it is very doubtful that a phonemic opposition between these complete rows existed as such in PA". This is in conflict with more recent (Krauss & Leer 1981) findings.

[8] Cowlitz has preserved **kʸ *kʸ' *xʸ* as both *č č' š* and *k k' x* (Kinkade 1972). Like Columbian, this language was certainly influenced by Sahaptin (see Figure 3), and bilingualism prevailed here as well: "The Cowlitz people were originally two distinct tribes: the Lower Cowlitz and the Upper Cowlitz, sometimes called the Taidnapam. Only the Lower Cowlitz originally spoke Cowlitz Salish. The Upper Cowlitz spoke a Sahaptin language" (https://en.wikipedia.org/wiki/Cowlitz_language). Chilliwack and Musqueam have *xʸ* rather than *š* found in other Halkomelem dialects (Kuipers (2002:3,36). In some Coast Salish, *w* (both *w* < **w* and *w* < **ɣ̌ʷ*) has been replaced by *g* and/or *gʷ* (Kuipers (2002:3).

(which had also occurred in Columbian[9] and Colville-Okanagan) — then, is a northern IS innovation that was driven by exposure to post-PA that started ca 275 years B.P. Pharyngeals have an older origin, as they were originally inspired by PA *$\check{y}$ and *$\check{y}^{w}$ ca 1170 years B.P., while IS "darkening" goes back even further.

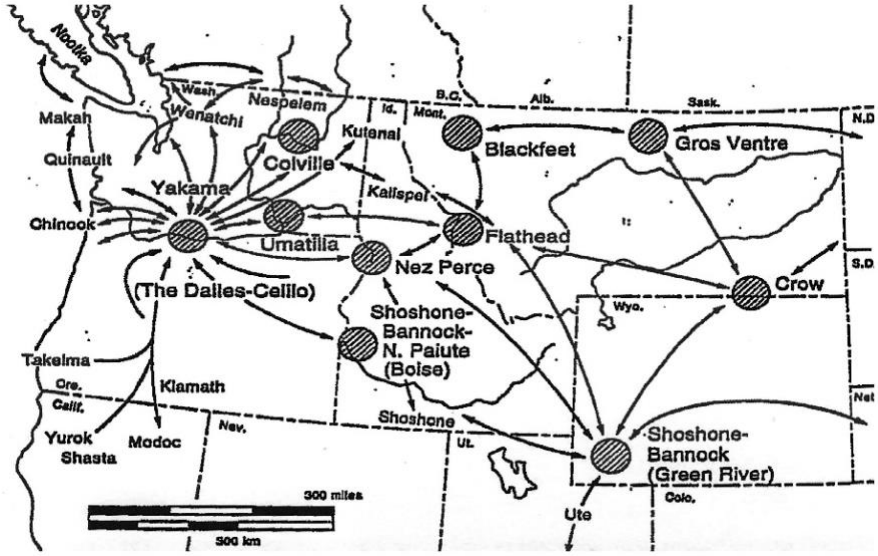

Figure 3: Traditional trade centers and networks (Walker 1997:72)

References

Beavert, Virginia & Sharon Hargus. 2009. *Ichishkíin Sɬ̓nwit Yakama / Yakima Sahaptin Dictionary*. University of Washington Press.

Cook, Eung-Do. 1972. *Sarcee Verb Paradigms*. National Museum of Man.

Cook, Eung-Do. 1983. Chilcotin Flattening. *Canadian Journal of Linguistics 28:123–132.*

Davis, Henry. 2024. Central Salish from a Nooksack Perspective. *Papers for ICSNL 59*, 24–51.

Kinkade, M. Dale. 1972. The Alveopalatal Shift in Cowlitz. *ICSNL VII*.

Kinkade, M. Dale. 1990. Prehistory of Salish languages. *ICSNL XXV*.

Krauss, Michael E. 1964. Proto-Athapaskan-Eyak and the Problem of Na-Dene: the Phonology. *IJAL 30:118–128*.

Krauss, Michael E. & Jeff Leer. 1981. *Athapaskan, Eyak, and Tlingit Resonants*. Alaska Native Language Center Research Papers No. 5.

Kuipers, Aert H. 1974. *The Shuswap Language*. Mouton.

Kuipers, Aert H. 2002. *Salish Etymological Dictionary*. UMOPL 16.

[9] There does not appear to have been any interaction with Athabascans here, but trade-related contact — as detailed by Walker (1997) — with speakers of Sahaptin (where *k k' x* = [k k' x]) was very frequent (see Figure 3). Beavert & Hargus (2009:xxv) mention widespread bilingualism.

Leer, Jeff. 1979. *Proto-Athabaskan Verb Stem Variation Part One: Phonology*. Alaska Native Language Center Research Papers No. 1.

Mackenzie, Alexander. 1801. *Voyages from Montreal, on the River St. Laurence, through the Continent of North America, to the Frozen and Pacific Oceans, in the Years 1789 and 1793: with a Preliminary Account of the Rise, Progress, and Present State of the Fur Trade of that Country*. London: R. Noble.

Nater, H. F. 1974. Southern Carrier field notes.

Nater, Hank. 1994. The Athapaskan Component of Nuxalk. *IJAL 60:*177–190.

Nater, Hank. 2013. How Salish is Bella Coola? In *Papers for ICSNL 48*, Joel Dunham, Patrick Littell, and John Lyon (eds.), 92–143.

Nater, Hank. 2020. Old Records of Three Contiguous Pacific Northwest Languages: Bella Coola, Carrier, Shuswap. *Anthropological Linguistics 62:*183–191.

Reichard, Gladys A. 1938. Stem-List of the Coeur d'Alene Language. *IJAL 10:*92–108.

Seymour, Deni. 2012. Gateways for Athabascan Migration to the American Southwest. *Plains Anthropology 57:*149–161.

Speck, Brenda J. 1977. *An Edition of Father Post's Kalispel Grammar*. MA thesis. University of Montana.

Story, Gillian L. 1984. *Babine & Carrier Phonology: A Historically Oriented Study*. SIL.

Van Eijk, Jan P. 2013. *Lillooet–English Dictionary*. UBCOPL 2.

Van Eijk, Jan P. & Hank Nater. 2020. Some Notes on Proto-Salish Phonology. In *Papers for ICSNL 55*, D. K. E. Reisinger, Hannah Green, Marianne Huijsmans, Gloria Mellesmoen, and Bailey Trotter (eds.), 326–345.

Walker, Deward E., Jr. 1997. The Yakama System of Trade and Exchange. *Northwest Anthropological Research Notes 31,* 71–95.

Wilmeth, Roscoe. 1970. Chilcotin Archaeology. *Bulletin No. 2. Canadian Archaeological Association*.