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SOME PHONOLOGICAL DEVELOPMENTS IN STRAITS SALISH

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0. The linguistic expanse which Suttles (1951:6) has aptly called Straits Salish (St) has a superficial uniformity that might suggest little profit in the application of the comparative method. But careful study of the details shows that it is indeed profitable and that Proto-Straits Salish (PSt) emerges as quite different from any of its descendants.[1]

For the purposes of exposition here we shall name speech norms in terms of several local groups: Clallam (Cl), aboriginally spoken by peoples along the north shore of the Olympic Peninsula from Clallam Bay to Port Discovery; Sooke (So), used by peoples across the Strait of Juan de Fuca on the facing southwest shore of Vancouver Island; Songish (Sg), whose speakers wintered around the area of modern Victoria but travelled across Haro Strait to the west shore of San Juan and Henry Islands for seasonal gathering; Saanich (San), the speech of peoples utilizing the shores of the Saanich Peninsula and neighboring Saltspring, Mayne, Stuart, and Sidney Islands; Lummi (Lm), covering both the speech of the Lummi proper, using roughly the northeastern half of the San Juan Islands and the mainland shore near Bellingham, and that of the Semiahmoo around Boundary Bay from Point Roberts to Birch Bay; and, just off the mainland to the south, Samish (Sam), whose speakers dominated a cluster of islands around Samish and Guemes Islands.

1. Systematic sound correspondences in Straits are for the most part simple and straightforward. In fact, most consonants correspond to their phonological sames throughout, after the pattern Cl p : Lm p : San p : Sg p : So p, etc. But comparison reveals a number of phonological (as well as some grammatical) features that separate Clallam from the rest of the complex; these remaining dialects will be referred to collectively as Northern Straits (NSt). This split assumes the proportions of a language boundary.

1.1. The two most obvious phonological innovations shared by Northern Straits are the development of Proto-Straits stressed *ú to a low back vowel, more or less rounded in different environments (examples 1, 2), merging with certain reflexes of PSt *á; and the fronting (and sometimes raising)

of PSt *á in other environments (examples 3, 4). PSt *u and *a are thus split in these dialects.

(1) Cl súɬ Lm So sóɬ Sa Sg sáɬ way
(2) Cl x̣ʷúŋ Lm So x̣ʷóŋ San Sg x̣ʷáŋ weep
(3) Cl ƛ̓áɬəŋ NSt ƛ̓éɬəŋ salt(y)
(4) Cl x̣áƛ̓ NSt x̣éƛ̓ rough, windy, stormy

1.2 A third innovation is shared by all the northern dialects except Samish: PSt *c reduced to a simple spirant (examples 5, 6), for the most part merging with reflexes of PSt *s, except following old stressed vowel in syllable codas, where the occlusion is still shown in Lummi, at least, by ʔ preceding the modern spirant (examples 7, 8). (The details of development in the Canadian dialects are not fully understood at this time.)

(5) Cl cən Sam cən Lm San Sg So sən I (1st sg. enclitic)
(6) Cl cáy(ə)s Sam céləs So séyəs Lm San Sg séləs hand
(7) Cl ʔéŋac Lm So ʔéŋəʔs San ʔəŋáʔs give it to me
(8) Cl stácʷɬ Lm stéʔskʷɬ So stéskʷ(ə)ɬ San Sg stéskʷəɬ back

Samish, for which we unfortunately have only scanty data, apparently follows the northern dialects in the first two developments, showing the same vowels that are characteristic of neighboring Lummi; it has, however, retained the plain affricate c. Insufficient data make it impossible to see whether it may resemble Clallam in any other respects, but that appears unlikely. It seems most reasonable to assume that the *c > s development had spread through most of the northern dialects but had not yet reached Samish. (We shall not attempt further consideration of Samish in this study. Statements about Northern Straits are to be construed tentatively

to include Samish except for cases involving the development of PSt *c.)

1.3. A fourth innovation affects Clallam and also Sooke, the most southwesterly of the northern dialects: original *l has been converted to y (9, 10), in certain positions further vocalized to i (11, 12).

(9) Cl ʔáʔyəŋ So ʔéʔyəŋ Lm San Sg ʔéʔləŋ house
(10) Cl So yə́kʷx̣ Lm lə́kʷx̣ San Sg lə́kʷəx̣ rib
(11) Cl čiʔáqɬ So čiʔéqɬ Lm čəlʔéqɬ San Sg čələ́qəɬ yesterday
(12) Cl kʷín(ə)ti So kʷínti Lm San Sg kʷíntəl fight

1.4. A change of more recent date separates Saanich from the other dialects: Saanich has converted earlier *c̓ to e̓.

(13) San se̓ám? Cl sc̓úm? Lm So sc̓óm? Sg sc̓ám? bone
(14) San p̓áe̓əs Cl p̓úc̓s Lm So p̓óc̓əs Sg p̓ác̓əs cradle basket
(15) San se̓áe̓ɬə? Cl sc̓úc̓ɬa? Lm sc̓óc̓ɬə? So (s)c̓óc̓ɬə? leaf
(16) San náe̓ə? Cl nác̓u? Lm Sg So nác̓ə? one

There are also a number of forms in which Saanich unglottalized θ corresponds to Clallam and Samish c and to s in the other dialects (17-19), but the correspondence is sporadic, and there are cases where forms with θ are in competition with forms having s (e.g., 20, and see also later 28), still others where only s is found (5, 6, 8, 21-24).

(17) San θə́yʔəqʷt Cl cə́yʔəqʷt Lm sə́yəqʷt So Sg sə́yʔəqʷt dig
(18) San θáŋ Cl cúŋ Lm So sóŋ Sg sáŋ go up away from water

(19) San θíʔθəɬ Cl cícɬ Lm So síʔsɬ Sg síʔsəɬ high

(20) San θáθən, sásən Cl cúcən Lm So sósən Sg sásən mouth

(21) San sʔásəs Cl sʔács Lm sʔóss So sʔós(ə)s Sg sʔásəs face

(22) San sésuʔ Cl cácuʔ Lm So sésuʔ beach

(23) San sèʔ, sə(ʔ) Cl caʔ Lm So sèʔ, sə future particle

(24) San séčs Cl cáčc Lm Sg So séčs uncle, aunt

Apparently the change c̓ > θ̓ occurred under the stimulus of Cowichan (Cw) Halkomelem, where Proto-Salish (PS) *c̓ > θ̓. But it was a thoroughgoing change, affecting all cases of PSt *c̓, whatever their origin--i.e., whether they were from PS *c̓ or from PS *k̓. This is shown by forms in which Saanich has θ̓ where Halkomelem (Hl) dialects have rather c̓ from PS *k̓ (e.g., leaf (15) and one (16), cited above; cf. Cw sc̓áɬeʔ and néc̓aʔ). The situation with θ is more complex. It appears that it may have begun under the stimulus of the θ̓ development, but at a time when PSt *c was also developing to s in pre-Saanich, since there are the forms where only s is found, and the forms with competing θ and s. On the other hand it must have preceded the merger with reflexes of PS *s and *x, because none of those cases were affected. Note that there are four origins for s in Saanich, as in Northern Straits generally (except Samish). Table 1 summarizes these developments from Proto-Salish for the different languages.

PS	PSt	Cl	Lm,Sg,So	San	Cw(Hl)
*k̓	*c̓	c̓	c̓	θ̓	c̓
*c̓	*c̓	c̓	c̓	θ̓	θ̓
*k	*c	c	s	s,θ	c
*c	*c	c	s	s,θ	θ
*x	*s	s	s	s	š
*s	*s	s	s	s	s

Table 1.

Presumably PSt *c was first fronted to an affricate of the t^{θ} type, subsequently losing the stop component, parallel to *c > s in other dialects--and, probably, in competing fashion within Saanich. θ̓ is still, in both Halkomelem and Saanich, usually an affricate. (A new plain affricate t^{θ} in both languages seems to have developed from a sequence *tθ parallel to c in Lummi, Songish and Sooke from *ts.)

To summarize, it seems likely that this acquisition of slit spirants by Saanich is a rather recent development reflecting the complex social relations between the Saanich and their neighbors, the Cowichan. The Saanich-speaking community has long been integrated with a number of Cowichan-speaking families in an especially close relationship and there are very few Saanich speakers who do not also know Cowichan, while the converse is not true. Saanich forms with interdentals, then, probably reflect the spread of the interdental changes from neighboring Halkomelem into Saanich. This affected all cases of PSt *c̓, converting them to San θ̓. At this time, however, Saanich had perhaps developed a free alternant s in forms containing PSt *c--i.e., there would have been many forms with s and c in free variation. Speakers who were adopting the *c̓ > θ̓ change, and influenced in parallel fashion by the *c > θ change which was presumably under way at the same period in neighboring Halkomelem, may reasonably have substituted θ for c in this alternation

pattern, yielding θ ~ s. The competition has then been resolved in favor of the θ-forms in some cases, in favor of the s-forms in others. If this history is correct, it would seem to lend support to Wang's (1969) notion of a change spreading gradually through a lexicon and leaving an irregular shift pattern when meeting a competing change.

For those Saanich speakers who use Cowichan extensively there is doubtless reinforcement of the related θ-forms in Cowichan; in similar fashion s-forms in Saanich would probably be reinforced by parallel c-forms in Cowichan. However, there are a number of Saanich words which are in conflict with these apparent Halkomelem influences; e.g., (18) San θáŋ, cf. Cw cáam go up away from water; (19) San θí?θəɬ ~ sí?səɬ, cf. Cw cícəɬ high; on the other hand (21) San s?ásəs, cf. Cw s?áθəs face; (24) San séčs, cf. Cw cépθ uncle, aunt.

1.5. The fundamental language split is further characterized by a less obvious development: the northern dialects simplify original consonant clusters more drastically than Clallam. Many of the clusters observable in all the modern dialects have resulted from the loss of earlier unstressed vowels. Time has not yet permitted a full study of the treatment of original clusters, and more extensive material will be necessary before this is possible. However, a few examples can be cited:

(25) Cl ?əcɬtáyŋ(ə)x^{w} Lm San Sg ?əɬtélŋəx^{w} So ?əɬtéyŋəx^{w} person, Indian

(26) Cl n(ə)c̓x^{w}k̓^{w}és Lm c̓əx^{w}k̓^{w}és San θəx^{w}k̓^{w}és Sg c̓éx^{w}k̓^{w}əs ~ c̓x^{w}k̓^{w}és So c̓x^{w}k̓^{w}és twenty

(27) Cl ŋéscən? Lm Sg ŋésən San ŋésən? So ŋéssən(?) louse

(28) Cl scéqi? Lm So séqi(?). San θéqi? ~ séqi? Sg séqi? sockeye salmon

(29) Cl -áw?tx^{w} Lm -éw?x^{w} San Sg So -éw?tx^{w} house, establishment

(30) Cl c̓a?k^{w}sɬšé? Lm c̓ək^{w}ɬšé? San c̓ək^{w}səɬšé? Sg c̓ək^{w}əɬšé? So c̓ək^{w}ɬšé? seventy

A related matter is the tendency for glottal stop to disappear in syllable codas. This is an exceedingly complex matter, which again needs further study. For the moment we may exemplify straightforward cases where ? is lost or optionally lost in codas. Note 27, 28, and the following examples:

(31) Cl sc̓a?múɬən animal's backbone Lm sc̓əmóɬən backbone San sc̓əmáɬən Sg sc̓əmáɬən So sc̓əmóɬən fish backbone

(32) Cl sčə?či?áy?ɬ Lm sčəči?él?ɬ (no San Sg So forms elicitable) child, youngster

(33) Cl ha?hú?i Lm həhó?i So həhó?i? San Sg həhá?i? alone

(34) Cl So k̓^{w}əx^{w}i?ŋəx^{w} Lm San Sg k̓^{w}əx^{w}əlŋəx^{w} ashes

(35) Cl sɬna?čúyɬ Lm sɬənəčóoɬ San sɬənəčáaɬ Sg sɬənəčáləɬ So sɬənəčóyəɬ pre-teen girl

(36) Cl ɬa?túq^{w}əŋ Lm So ɬətóq^{w}əŋ Sg ɬətáq^{w}əŋ boiling

(37) Cl ɬc̓a?yáčən saw Lm Sg ɬc̓əléčən cross-cut saw San ɬə̓əléčən saw used to cut bottom of tree So ɬc̓əyéčən cross-cut saw

(38) Cl pq^{w}əčən? Lm San Sg So pq^{w}əčən sand

(39) Cl q^{w}ɬú?i? Lm q^{w}ɬó?əl(?) San q^{w}ɬá?əl(?) Sg q^{w}ɬá?əl? So q^{w}ɬó?i? camas

(40) Cl sq̓^{w}úŋi? Lm sq̓^{w}óŋi(?) San Sg sq̓^{w}áŋi? So sq̓^{w}óŋi? head

(41) Cl sa?čú?iɬ Lm səčól?ɬ San Sg səčál?ɬ non-adult younger sibling

Some Northern Straits speakers tend to drop all coda glottal stops, even in stressed syllables. In most cases the preceding vowel is at least weakly laryngealized, although this is very

difficult to perceive in allegro speech. This sounds similar to the situation in upriver Halkomelem dialects. In our material women informants retained far more glottal stops than men, but there is not always material from both men and women in the same dialect and in any case the number of informants is too small to provide conclusive evidence that this constitutes a difference between men's and women's speech. It may well be that this innovation began in the northeastern part of the dialect complex, near river Halkomelem, and is in the process of spreading.

2. The vowels, of course, show the most complex interrelationships. The regular development of stressed vowels is as shown in Table 2; for examples see earlier cited forms as indicated.

PSt	Cl	Lm	So	San	Sg	Example Numbers
*í	í	í	í	í	í	12, 19
*ú	ú	ó	ó	á	á	1, 2, 13-15, 18, 20, 31, 33, 35, 36, 39-41
*á	á	é	é	é	é	3, 4, 6, 9, 11, 22, 24, 25, 32, 37
*ə́	ə́	ə́	ə́	ə́	ə́	10, 16, 17, 26-28, 34, 38

Table 2. Regular Development of Stressed Vowels.

The reflexes of PSt *ú are basically rounded in Lummi and Sooke, unrounded before y; but they are basically unrounded in Saanich and Songish, rounded in the neighborhood of rounded consonants. (It should be noted that the vowel written a in Clallam is rather different from those written a in Songish and Saanich: it is generally a frontish central vowel, with frequent front variants following palatals. Between rounded postvelars backer variants appear, sometimes with rounding. Less frequent rounded realizations occur occasionally following rounded front velars, but not preceding.

2.1. Clallam has a minor deviation from this general pattern in having developed a lowered high front vowel (here written é) before ? in stressed syllables. (This é is much higher than and bears no relation to the low front vowels written é in the northern dialects. If it were not for some cases where earlier *? has been lost and other cases where forms have come into the language with í before ?, this would simply be an automatic alternant of Clallam í. A similarly lowered vowel occurs sporadically representing u before ?, but nothing has occurred to phonologize this variant.)

(42) in all dialects ?íɬən <u>eat</u>; Cl ?é?ɬən NSt ?í?ɬən <u>eating</u>

(43) Cl ɬc̓é?qʷ Lm Sg So ɬc̓í?qʷ San ɬc̓í?qʷ <u>cut on the head</u>

2.2. However, there are numerous etymologies where we find different correspondences of stressed vowels. Corresponding to Clallam á the northern dialects sometimes show the low back vowel rather than the low front vowel, and in some stems we find morphophonemic alternation of the two. These sets must also involve Proto-Straits *á, but special conditions have prevented the normal development to a low front vowel.

2.21. In some cases comparative evidence and internal reconstruction reveal that a kind of umlaut is involved. Here Proto-Straits *á was rounded before a following rounded vowel, which Clallam displays in a number of forms. In the northern dialects the corresponding vowel often appears in related words, where it has been preserved under stress. In the following examples note the consistent u in Clallam; (46) and (48) are diminutives of (47) and (49) respectively. (50) and (51) are resultive and causative forms from the same root. Here we observe evidence, too, of shifting stress patterns.

(44) Cl náčuʔ Lm So nóčəʔ Sg náčəʔ San náθəʔ one person

(45) Cl sx̣ʷáyuʔ Lm sx̣ʷóləʔ San Sg sx̣ʷáləʔ So sx̣ʷóyəʔ reef net

(46) Cl spaʔpáču? Lm (J) So spəpóčəʔ San spəpáčəʔ Sg (M) spəpáčə small basket

cf. (47) Cl spčúʔ Lm So spčóʔ San Sg spčáʔ water-tight basket

(48) Cl sk̓ʷakʷ̓átuʔ Lm sk̓ʷəkʷ̓ótəʔ San Sg sk̓ʷəkʷ̓átəʔ So sk̓ʷ(ə)kʷ̓ótəʔ crow

cf. (49) Cl sk̓ʷtúʔ Lm sk̓ʷ(ə)tóʔ So sk̓ʷtóʔ San Sg sk̓ʷtáʔ raven

(50) Cl ʔa-ʔáʔməṭ (Cl has a reduplicative prefix) Lm So ʔóʔməṭ San Sg ʔáʔməṭ seated; San ʔəʔáʔməṭ little child sitting down

cf. (51) Cl ʔəmúttxʷ Lm So ʔəmóttxʷ San Sg ʔəmáttxʷ seat him

In other cases we recognize in umlauted forms the unstressed variants of suffixes which appear elsewhere under stress with the rounded vowel. Broader comparative evidence can also furnish confirmation. Item (21) is repeated here for convenience:

(21) Cl sʔács Lm sʔóss So sʔós(ə)s San Sg sʔásəs face. This probably involves the suffix -(ə)s face, which appears in its stressed alternant in (52); cf. also Pg Sq Nk sʔácus.

(52) Cl nəxʷc̓s-ús-təŋ Lm So nəxʷc̓s-ós-təŋ Sg nəxʷc̓s-ás-təŋ San nəxʷc̓s-ás-təŋ get hit in face

(53) Cl -áyəs Lm -óləs San Sg -áləs So -óyəs [again the suffix -(ə)s face] (cf. also Pg -alus) eyes, appearance, color

The details of conditioning for umlaut vary with the dialect. Lummi seems to show the most extensive effects of rounding. In the other northern dialects the umlaut seems to be blocked if more than a single consonant intervenes between the *á and the following *u. In the following examples we recognize the reflexive suffix, which commonly lends a notion become, get to be ...; it appears in stressed form as Cl -cút, Lm So -sót, San Sg -sát.

	(54) dark	(55) get dark	(56) getting dark	(57)(cf.4) get stormy	(58)(cf.3) get salty
Cl	ɬáč	ɬáčct	ɬáɬčct	χ̣áƛ̓ct	ƛ̓ɬáŋəct
Lm	ɬéč	ɬóčst	ɬóɬčst	χ̣óƛ̓əst	ƛ̓ɬóŋəst
Sg	ɬéč	ɬéčsət	ɬéɬəčsət	χ̣éƛ̓sət	ƛ̓ɬéŋʔsət (prob.actual)
So	ɬéč	ɬéčst	ɬéɬčst	χ̣éƛ̓st	
San	ɬéč	ɬéčsət	ɬéɬəčsət	χ̣éƛ̓sət	ƛ̓ɬéŋəsət
					picked (over),salted
PSt	*ɬáč	*ɬáčcut	*ɬáɬačcut	*χ̣áƛ̓cut	*ƛ̓aɬáŋcut

The stem salt(y) also appears in a word with a suffix which should be reconstructed *-aɬcu water, liquid, which recurs, for example, in Cl čχ̣ʷáɬc spit, and presumably is related to the element -ɬč in Sq ɬχ̣ʷəɬč spit, čq̓ʷáɬč marshy land (cf. Kuipers 1967:326-7):

(59) Cl ƛ̓ɬáɬc Lm ƛ̓ɬóɬs So ƛ̓ɬéɬs San Sg ƛ̓ɬéɬsə salt water

The actual aspect infix -ʔ- seems not, however, to create a cluster that blocks umlaut in these dialects. Thus seated (50) shows the expected umlaut, despite the following -ʔm- cluster, and there is no form to which this could be analogical. (The laryngeals in actual forms are troublesome phonologically. In forms of this shape the northern dialects show variation between ʔ followed by a resonant, and glottalized or laryngealized

resonants. For this and other reasons glottalized/laryngealized resonants may need to be recognized as separate entities in Straits speech.[2])

2.22. There remain a number of etymologies where some or all Northern Straits languages show low back vowels corresponding to Clallam á, and yet there seems to be no clear evidence that umlaut is involved. Rounded velars are present in the environment, and it would be natural to assume that these elements are responsible. The problem is that there are conflicting examples where we find the regular é despite rounded velars in the environment.

One fact seems clear: é does not appear preceding rounded postvelars in any form. On the other hand, there are a number of etymologies in which low back vowels correspond to Clallam á before a rounded postvelar. (Several cases involve resultive forms which we know must have contained *á. Such forms usually show NSt é, but before rounded postvelars we find rather á or ó. Even where Clallam cognates are lacking these furnish further evidence of the pattern. In some cases the root is well attested in Clallam, and the resultive form probably exists, but simply has not been elicited.)

(60) Cl čáqʷɨ Lm So čóqʷɨ San Sg čáqʷəɨ <u>afire, burning</u>

(61) Cl čáq̓ʷəŋ, čáʔq̓ʷəŋ Lm čóq̓ʷəŋ, čóʔq̓ʷəŋ San čáq̓ʷəŋ, čáʔq̓ʷəŋ <u>sweat, sweating</u>

(62) Cl čáx̣ʷəŋ, čáʔx̣ʷəŋ Lm So čóx̣ʷəŋ, čóʔx̣ʷəŋ San Sg čáx̣ʷəŋ, čáʔx̣ʷəŋ <u>melt, melting</u>

(63) Cl sáqʷəŋ Lm So sóqʷəŋ Sg sáqʷəŋ San θáqʷəŋ <u>sweet</u>

(64) Lm So nóqʷɨ San Sg náqʷəɨ (no Cl cognate) <u>asleep</u>

(65) Lm tóqʷɨ Sg táqʷəɨ <u>tight</u>; So ʔəstóqʷɨ San stáqʷəɨ <u>tightened</u> (no Cl cognate) (cf. Cl tqʷ-íkʷsəŋ <u>pack up</u>, San So tqʷét <u>tighten</u>, Sg téqʷtəŋ <u>they are tightening it</u>)

In position following rounded postvelars PSt *á is rare. Of the etymologies in the material, three (66-68) show northern é, and one (69) shows é except for a variant with ó in Lummi. Only one (70) shows predominantly the northern low back vowel, and in this case, too, Lummi has a variant with é.

dialect

(66) Cl (Elwha) qʷáʔən (S) NSt qʷéʔèn ~ qʷéʔən mosquito

(67) Cl sx̣ʷásəm NSt sx̣ʷésəm soapberry

(68) Cl qʷáy Lm San Sg qʷél So qʷéy talk (and note that actual aspect of the same stem, placing *á between rounded postvelars, yields Lm qʷóqʷəl So qʷó(ʔ)qʷi(ʔ) San qʷáqʷəlʔ talking)

(69) Cl ʔənəqʷáy Lm nəqʷéy ~ nəqʷóy San Sg So nəqʷéy yellow, pale

(70) San sq̓ʷáləɬ Sg ʔəsq̓ʷálʔəɬ So ʔəsq̓ʷóyʔəɬ Lm ʔəsq̓ʷóləɬ ~ ʔəsq̓ʷéləɬ It's cooked (cf. Cl q̓ʷéyəŋ barbecue Lm San q̓ʷéləŋ barbecue Sg sq̓ʷéləŋ barbecue on a stick So q̓ʷéy cooked San q̓ʷél barbecued)

Circumstances are likewise rare which place *á between two rounded front velars. Three cases show northern é between rounded front velars, but all have Lummi variants with ó.

(71) San So k̓ʷék̓ʷi Sg k̓ʷék̓ʷiʔ Lm k̓ʷék̓ʷi ~ k̓ʷók̓ʷi (no Cl cognate available) hungry

(72) So ʔəskʷékʷiʔ San skʷéʔkʷəlʔ Sg ʔəskʷéʔkʷəlʔ Lm ʔəskʷóʔkʷəl (M) hidden, ʔəskʷéʔkʷəlʔtxʷ He's got it hidden (exact Cl equivalent unavailable, but cf. Cl kʷáyi hide, kʷuʔkʷáʔwi play hide and seek So kʷkʷéʔiʔ It's hiding and Sq ʔəskʷákʷayʔ in hiding, hidden)

(73) Cl ʔəsk̓ʷák̓ʷiʔ Lm ʔəsk̓ʷók̓ʷiʔ ~ ʔəsk̓ʷék̓ʷi San sk̓ʷéʔk̓ʷiʔ Sg So ʔəsk̓ʷéʔk̓ʷiʔ pregnant

One further case (74) shows Lummi ó without variation, but é in the other northern dialects. Finally, one etymology

(75) shows a low back vowel in all dialects. (Again exact cognates are not always available in Clallam, but general patterning shows that *á is to be expected.)

(74) Cl ʔəsxʷáʔxʷk̓ʷ drunk, ʔəsxʷəxʷák̓ʷi crazy; Lm ʔəsxʷəxʷók̓ʷtəŋ drunk, ʔəsxʷóʔxʷk̓ʷ silly, foolish, ʔəsxʷəxʷóxʷk̓ʷ simple-minded, silly; Sg ʔəsxʷéʔxʷək̓ʷ crazy, silly, ʔəsxʷəxʷéʔk̓ʷtəŋ drunk; San sxʷəxʷék̓ʷtəŋ he's drunk, sxʷéʔxʷək̓ʷ misbehaving (xʷk̓ʷétəŋ gone crazy); So ʔəsxʷəxʷé(ʔ)k̓ʷtəŋ drunk, ʔəsxʷéʔxʷk̓ʷ crazy

(75) Lm ʔəsxʷók̓ʷəɬ San sxʷák̓ʷəɬ Sg ʔəsxʷák̓ʷəɬ So ʔəsxʷók̓ʷɬ (all) pulled (up already) (cf. Cl xʷk̓ʷət drag NSt xʷk̓ʷət pull)

Forms in Northern Straits with é either following or preceding a rounded front velar or w are quite common. We may cite a few examples here.

(76) Cl kʷáčəŋ NSt kʷéčəŋ yell

(77) Cl skʷáqəŋ Lm Sg So skʷéqəŋ flower

(78) Cl c̓ákʷt Lm So c̓ékʷt San θ̓ékʷət Sg c̓ékʷət wash

(79) Cl k̓ʷáṫən? rat Lm k̓ʷéṫən rat, mouse Sg So k̓ʷéṫən rat San k̓ʷéṫən mouse

(80) Cl ƛ̓ák̓ʷχ̣ən Lm So ƛ̓ék̓ʷχ̣ən San Sg ƛ̓ék̓ʷ(ə)χ̣ən (tame) goose

(81) Cl c̓xʷás Lm So Sg c̓xʷés earth oven cooking San θ̓xʷés oven of rocks, etc. (to cook clams in)

(82) Cl xʷác̓ Lm Sg So xʷéc̓ San xʷéθ̓-sən (with suffix -sən leg, foot, which is common in expressions pertaining to the weather) stop raining

(83) Cl cáxʷcxʷ Lm San Sg séxʷsəxʷ So séxʷsxʷ lazy by nature, Cl cáʔxʷəŋ NSt séʔxʷəŋ being lazy (temporarily)

(84) Cl wá? Lm wé? accompany; San wá?θən sing along with someone, Sg wá?sən help, accompany a singer, So wó?sən id. (low back vowel from umlaut; suffix *-ucin mouth)

(85) Cl ?áwk̓ʷ NSt ?éwk̓ʷ belongings

(86) Cl č̓á?wi? Lm San Sg č̓é?wi? So č̓é?wi(?) dish

The northern low back vowels in some forms of (84) are the result of umlaut. Note also that labials (87-89) seem to have no special rounding influence.

(87) Cl mák̓ʷa? graveyard, smək̓ʷáyə? grave; Lm xʷmələk̓ʷé?lə graves, graveyard; Sg mék̓ʷə? (M) hold funeral potlatch; So mék̓ʷə? grave; San mék̓ʷə? ~ mék̓ʷè?, šməlk̓ʷé?lə grave-(yard) (čmék̓ʷə? ~ čmék̓ʷè? grave-digger); So (s)mék̓ʷə? ~ šmək̓ʷé?yə; Sg smék̓ʷə?, šmək̓ʷé?lə grave, graveyard

(88) Cl spá?xʷəŋ NSt spé?xʷəŋ (light) fog

(89) Cl p̓á?əkʷ Lm San p̓é?əkʷ ~ p̓é?èkʷ Sg So p̓é?əkʷ pipe (for smoking)

There are two etymologies in which all northern dialects have a low back vowel corresponding to Cl á following a front velar.

(90) Cl k̓ʷán(ə)t̓ Lm k̓ʷónt̓ San Sg k̓ʷánət̓ So k̓ʷónət̓ porpoise

(91) Cl kʷánəŋət Lm So kʷónəŋət San Sg kʷánəŋət run

In the first case borrowing is surely involved, presumably from Halkomelem: Cw k̓ʷáant̓ (E) (cf. Sq k̓ʷúnut̓). The second case, however, is troublesome. It seems reasonable to suppose that umlaut is involved, but the conditioning *u must have been in the third syllable, because actual aspect forms suggest the second vowel goes back to *i: Cl kʷa?né?ŋət Lm kʷəní(?)ŋət San So kʷəníŋət running. The possibility

comes to mind that preceding k^w may have acted together with following *u to foster retention of the back vowel in the northwestern dialects. Unfortunately there is no evidence to confirm reconstruction of the *u.

In addition, there are some cases where Proto-Straits *á is reflected by a low back vowel adjacent to a rounded front velar in one or more of the dialects. In the absence of Clallam cognates the configuration of related words in northern dialects nevertheless assures development from original *á.

(92) Cl k^wá?iɬ (*k^wá?yəɬ) Lm ?əsk^{w}él?əɬ San sk^{w}ál?əɬ Sg ?əsk^{w}ál?əɬ So ?əsk^{w}óy?əɬ overturned, spilled

(93) Lm ?əsx^{w}éy?əɬ ~ ?əsx^{w}óy?əɬ San sx^{w}áy(?)əɬ Sg ?əsx^{w}áyəɬ So ?əsx^{w}óy?əɬ awake

(94) Lm ?əsk̓^{w}ésɬ San sk̓^{w}ásəɬ Sg ?əsk̓^{w}ásəɬ So ?əsk̓^{w}ósɬ counted

(95) Lm pék̓^{w}ət smoke fish So ?əspók̓^{w}ɬ smoked (cf. Cl San Sg pək̓^{w}əŋ smoking So pək̓^{w}əŋ? id. Lm pək̓^{w}əŋ smoke, dust is spreading)

(96) Cl p̓ák^{w}əŋ Lm p̓ók^{w}əŋ So p̓ék^{w}əŋ float; Cl p̓a?p̓á?k^{w}əŋ? Lm p̓é?k^{w}əŋ San p̓əp̓ék^{w}əŋ Sg p̓əp̓é?k^{w}əŋ So p̓əp̓ék^{w}əŋ? floating; Cl p̓ák^{w}t Lm p̓ék^{w}ət make float, bring to surface; Lm p̓é?k^{w}əl come to surface and start to float; San sp̓ák^{w}əɬ afloat

2.23. Out of these conflicting data some pattern does emerge, however. It seems likely that by a time we may designate Proto-Northern-Straits, *á must have been rounded in environments containing rounded elements--that is, (a) wherever the immediately preceding element was a rounded (post)velar (including w), (b) wherever any of these rounded consonants followed directly or was separated from *a only by glottal stop, or (c) wherever the vowel of the following

syllable was rounded. (We cannot, of course, be certain of the phonetic qualities involved, but such a rounding of *a seems to explain the modern facts most naturally and reasonably.) It was, then, only the remaining--unrounded--reflexes of Proto-Straits *a that were fronted, at a somewhat later time, to e. In the Northern Straits dialect continuum as a whole these low back rounded vowels retained their back quality before rounded postvelars, but a split developed between east and west in their subsequent treatment in other positions.

In the east, Lummi retained low back rounded vowels also (at least optionally) when they were followed in the next syllable by a rounded vowel (cf. 44-46, 48, 50, 52, 53, 55-59) or when they were bracketed by rounded consonants (cf. 71-75). In other circumstances these vowels tended to unround, then participating in the fronting shift. These changes probably proceeded via variation in individual forms, some of which is still observable (e.g. 69, 70, 93). (Possibly a similar variation may have begun to affect vowels between rounded front velars as well, but the observable cases are also likely candidates for analogical spread of é from related non-reduplicative forms; cf. 71-73.)

In the west the condition for retention of the low back vowels into modern times (aside from the effects of a following rounded postvelar) seems to be a quite different--and rather mysterious--one: except for cases of umlaut (44-46, 48, 50, 52, 53) these retentions precede the morpheme -(ə)ɬ durative (cf. 92-96). This morpheme, however, does not have any umlauting effect in stems not involving rounded consonants; e.g.

(97) Cl ʔəstásɬ Lm So ʔəstésɬ San stésəɬ Sg ʔəstésəɬ
near, having approached

(98) Cl ʔəsyáčɬ Lm ʔəsléčəɬ (M) San sléθ̓əɬ Sg ʔəsléčəɬ <u>full</u>

(99) Cl ʔəsčáx̣ɬ Lm So ʔəsčéx̣ɬ Sg ʔəsčéx̣əɬ <u>torn</u>

Earlier, in the analysis of Socke (Efrat 1969:91) this morpheme was assigned the underlying form -óɬ on the basis of an apparent stressed occurrence in k̓ʷənʔóɬ <u>(can) see</u>; it now appears doubtful that this analysis is appropriate--this form probably contains a different (unrelated) suffix -óɬ, or possibly a stem k̓ʷənʔó-. The lack of consistent umlaut before this suffix casts further doubt on the likelihood of its having an underlying rounded vowel. (Note that in Lummi, where umlaut seems far more extensive than in the other northern dialects, this suffix is clearly not an umlauting suffix; cf. 94, 95.) What seems more likely is that there developed an association of low back vowel with the durative suffix in stems containing a rounded consonant. This presumably came about because the duratives are a relatively small class of forms, and it happens that a number of them involve rounded postvelars in the position of C_2 (e.g. 60, 64, 65)--where they would regularly call for a preceding low back vowel to represent original *á in any case. At a time when variation presumably developed between low front and back vowels in these forms, this pattern could well have exerted an influence for favoring the back variant.

Still another force seems clearly active in the west: in many forms where the back vowel would be expected, we find é instead. In many cases analogical creation may be suspected: they involve frequently associated forms in which there is no reason for retention of a back vowel. This is precisely the state of affairs with those cases where umlaut appears to have been blocked by excessive intervening material (e.g. 55-59), and it may well be that analogy rather than original blocking is responsible. In

this connection we should note that there are some northwestern forms relating to (3) salt(y) and (58) get salty which do show umlaut: San šʌ̓łáŋəs lightly salted, So ʌ̓əłóŋʔəs put salt on fish before hanging it up (both involving *-us face, outside surface).

In any case, the tendency toward replacement of the back vowels by é is strong in the west except in resultive forms. On the other hand all these changes except the analogical ones must have preceded the coalescence of the low back vowels from original *á with those from original *ú: there are no instances in which á or ó from original *ú have been fronted.

3. We have outlined the main course of developments of consonants and stressed vowels in the Straits dialects; some residual problems are beyond the scope of this paper. Obvious are implications for the reconstruction of unstressed vowels in Proto-Straits, and the study of these leads necessarily to exploration of patterns of shifting stress. We hope to treat these matters in detail in a future paper.

It seems worthwhile pointing out at this juncture that the understanding of the intricacies of developments in Straits Salish phonology have interest beyond the concerns of the Straits group itself. Neighboring Halkomelem has a very similar pattern of u-umlaut with a parallel fronting of earlier *á and lowering of earlier *ú; it also retains low back reflexes of *á in certain rounded environments.

The relative timing of vocalic changes would seem to be the same in Halkomelem as in Straits: first *á was rounded in rounded environments. This nondistinctive change probably antedates both ProtoStraits and Proto-Halkomelem. At a later time, in Northern Straits and Halkomelem, all unrounded reflexes of *á were fronted, dividing original *á into front and back (rounded) allophones. This stage must be later

than Proto-Straits because in modern Clallam á (which regularly represents PSt *á) has front allophones only following palatals. In Halkomelem, however, all dialects were affected, so the timing is unclear, except that it must have followed the development of rounded allophones. Probably in both Halkomelem and Northern Straits there immediately ensued a tendency to unround cases of these low back vowels in particular environments--presumably everywhere adjacent to rounded front velars except between them, and, very likely at a later time, after rounded postvelars. (This tendency apparently never reached the position directly before rounded postvelars.) Those unrounded vowels then participated in the continuing fronting shift. Finally, reflexes of original *ú merged with the still rounded remainder of the low back vowels from original *á. It is not, of course, possible to say when the lowering of *ú began, and quite possibly a lowered back rounded vowel remained distinct for some time from the rounded reflexes of original *á, but it seems quite clear that this merger occurred after the fronting shift had claimed not only the reflexes of *á which had never been rounded, but also those that were probably rounded and subsequently unrounded. Now, following this merger, Halkomelem, and Saanich and Songish show a continued tendency to unround low back vowels--both those from original *á and those from *ú--but none of these seem to have merged with é. In Cowichan Halkomelem and in Saanich and Songish of the Straits complex the fronted low vowels (é) have generally been raised considerably, to a norm of mid front position, with some even higher variants. In the same dialects the other low vowels (á) have been strongly centralized. The whole effect is that of a familiar clockwise vowel shift.

The great similarities of development and the geographic position of the dialects suggest the spread of innovations from a common center during the same general period. In fact, the

continuing fronting and raising of original *á and the accompanying lowering and unrounding of original *ú in a central bloc of dialects belonging to the two language complexes (Saanich and Songish of the Straits group and Cowichan of the Halkomelem continuum) make it appear that those innovations began in those dialects, the original fronting of *á and lowering of *ú having spread to adjacent dialects (Sooke and Lummi in Straits, mainland Halkomelem), but not yet the extreme raising of the front vowels or the general unrounding of the back vowels (further shifts in the central, innovating dialects). Pertinent phonetic details on the Nanaimo dialect of Halkomelem, north of Cowichan on Vancouver Island, are not available, but we might expect that it was not part of the central innovating bloc.

As mentioned earlier, it also appears that the fronting of *á was beginning to affect neighboring Nooksack, where many forms show vacillation between front and central or back allophones; the lowering of *ú, however, puts in no appearance there. This is in keeping with the relative timing of the two shifts in Halkomelem and Northern Straits. But obviously neither of these waves have reached either Squamish to the north or Puget Sound Salish to the south; nor, of course, have they reached Clallam.

Considered against this background some individual cases are interesting. The Straits forms for porpoise (90) can only be explained as loans, and Halkomelem seems the only possible source. But the borrowing must have occurred fairly recently, because the Squamish form clearly indicates an earlier *k̓ʷúnuṫ. Lowering of the stressed vowel is regular in Halkomelem, and the long vowel in Cw k̓ʷáaṇt probably reflects a regular development, also (retention of open-syllable length in a syllable newly closed by loss of an unstressed vowel). It might at first seem that this was borrowed from a somewhat earlier stage of Halkomelem into Proto-Straits as something like *k̓ʷánuṫ, where

it developed regularly with umlaut. But that would suggest that the lowering of *ú occurred much earlier in Halkomelem than in Straits. If so, the fronting of *á would have had to be still earlier, and we would be forced to recognize the Northern Straits clockwise vowel shifts as independent or at least much delayed. Such an explanation would also suggest a greater time depth for Halkomelem than for Straits. These notions seem clearly wrong. Porpoise must have diffused at a later time, probably in a form something like *k̓ʷánəc̓, passing through Northern Straits dialects to Clallam; in all cases the modern forms can be as well explained in these terms as with a reconstructed PSt *k̓ʷánuc̓.

The Straits words for soapberry (68) also present some interesting problems. The related words in the Interior languages regularly point to original *ú in the stressed syllable (e.g. Thompson, Columbian, Spokan, Coeur d'Alene sx̣ʷúsəm, related to a root x̣ʷús- to foam). And Sq sx̣ʷúsm, Chilliwack (Hl) sx̣ʷə́wsəm, and Skagit (Northern Puget Sound Salish) as spoken in the Nooksack community sx̣ʷúsəb, agree. But to the west and south the words seem to reflect rather an earlier *á: Musqueam and Cowichan Halkomelem sx̣ʷésəm, Straits forms as cited in (~~68~~ 67), Puget Sound Salish dialects further south sx̣ʷásəb, Twana sx̣ʷásəm (according to Boas' comparative vocabulary); in Upper and Lower Chehalis sx̣ʷás blackberry is perhaps kin. (For Nooksack both sx̣ʷúʔsəm and sx̣ʷésəm have been recorded, but not too much should be made of this apparent variation; all the people who remember some Nooksack also speak other languages of the area and are apt to be influenced by them; they are frank about their frequent uncertainty over the correct form of a Nooksack word.) Unfortunately we have no forms in more northerly languages on the coast or in Tillamook that would clarify the extent of the á- and ú-forms.

Tw sx̣ʷásəb (prob = CL)

The Squamish, Nooksack, and upriver Halkomelem forms with high back vocalics could easily reflect Interior influence;

the Nooksack community Skagit form with ú seems clearly a borrowing from an adjacent dialect. Two different ablaut grades of an original root may be involved (Kuipers 1970:52-3 suggests some other cases of *u/a ablaut). Whatever the origin of the two different vocalisms, the similarity of the words and their meaning (except for the Olympic forms, which are perhaps not related) in the various languages of the two blocs is striking--a pattern suggestive of diffusion. Too much should not be made of the similarity of form, however, because PS *x̣ʷ, *ú, *á, and *s all exhibit a great deal of stability. On the other hand, borrowing seems likely in Straits, where we find m in the suffix rather than expected ŋ (cf. Suttles 1965). And nowhere on the Coast does there seem to be any association of the name for the fruit with a root meaning foam--or, in fact, with any extensively occurring root. [Kuipers (1969:86) cites sx̣ʷúsm soapberry, x̣ʷúsum prepare soapberries, and refers to the root x̣ʷas, x̣ʷəs, as in x̣ʷástn fat, hardened grease and sx̣ʷə́s oil, liquid grease. The semantic connection between these two sets of words does not seem compelling.]

The Northern Straits words (sx̣ʷésəm) can easily have been borrowed from Halkomelem, but for Clallam we would expect a source with á rather than é. Puget Sound could have been the donor, but presumably before *m was replaced by b. (Actually, the same is true for Twana, where the modern form probably has -b; the form cited by Boas suggests this shift may have been quite recent, as do various other pieces of evidence. For the development of nasals to voiced stops in Puget Sound Salish and Twana, and further references on the topic, see Thompson and Thompson 1969.)

One might be tempted to suggest that the á-forms arose as a result of the regular lowering of PS *ú in Halkomelem, spreading then to Straits, Puget Sound and Twana (and possibly on to Olympic languages), the á > é shift then catching

the form later in Halkomelem and Northern Straits. (The upriver Halkomelem form with ə́w likely reflects Thompson influence in any case.) But, as we have seen, this would conflict with the facts of historical phonology in Halkomelem: it would require *ú á to precede *á é.

At the moment this is about as far as we can go with this etymology: at present the most reasonable guess is that the Straits forms go back to PSt *sx̣ʷásəm, which was probably a loan from a neighboring language at roughly that period. More information of various kinds will hopefully make more precision possible, and we may eventually learn some interesting things about the diffusion of institutions like the use of the soapberry confection.

These observations will perhaps point up the profitability of similar intimate phonological studies of Halkomelem and other dialect complexes. As more details are worked out on local developments in neighboring languages it should be possible to recognize more patterns of diffusion, which should be studied along with ethnographic evidence. All this is of course essential to establishing the linguistic history of the area.

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FOOTNOTES

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The material on Clallam and Lummi was collected by the Thompsons at various times since 1958. The material on Sooke, Saanich, and Songish was collected by Efrat, beginning in 1963; she has also obtained a number of Lummi forms for this paper in the recent period. Both Efrat and the Thompsons have collected material on Nooksack. We are also indebted to a number of other field researchers who have collected material on Straits dialects: where we have cited forms available only from these other sources we indicate this by a parenthesized initial, as indicated below. Duane Mylerberg (M) and Elaine Phelps have made available notes on Lummi. Elizabeth Bowman and William R. Seaburg have been good enough to check a number of Lummi forms for us during their own field work. The late Melville Jacobs (J) graciously made available his field notes on Lummi and Saanich. We are especially grateful to Wayne Suttles (S) for a number of discussions on the Straits picture generally, as well as for furnishing information on Samish and for providing a copy of his field notes on Clallam.

Some forms in Songish are cited from Mitchell (1968)(M). Halkomelem forms are primarily from Elmendorf and Suttles 1960; a few have been elicited in Cowichan by Efrat (E). Squamish forms are from Kuipers 1967, 1969. Puget Sound forms were kindly made available by Thomas M. Hess or are from the Thompsons' field notes. Many words have been checked against Boas' comparative Salish vocabulary (ms. in the American Philosophical Society Library). Forms from other languages not yet mentioned and references to broader Salishan comparisons reflect a collaboration of the Thompsons with M. Dale Kinkade during the academic year 1971-72; sources represented in this paper are field notes as follows: Upper and Lower Chehalis, Columbian (Kinkade); Thompson (Ntlakapmx) (the Thompsons); Spokane (Barry F. Carlson); Coeur d'Alene (Clarence Sloat). In all cases orthography has been adapted to that used here.

All Straits dialects have the following consonantal phonemes: voiceless (often aspirated) stops/affricates p t č q k^w q^w ?, glottalized stops/affricates ṗ ṫ ƛ̓ č̓ q̓ k̓ʷ q̓ʷ, spirants s ɬ š x̣ x^w $x̣^w$ h, resonants m n y ŋ w. (The voiceless velar stop k appears in loan words from outside Straits.) Clallam and Sooke have the lateral resonant l only in borrowed forms, but it is common in the other dialects. All dialects except Saanich have apicoalveolar affricates c c̓: c̓ is common everywhere; the unglottalized counterpart c is common in Clallam and Samish, but has a severely limited distribution elsewhere. Saanich alone has interdental affricates and spirants: t^{θ} occurs in a few forms, but the glottalized counterpart ė, often simply a glottalized spirant, is widespread, as is the spirant θ. Vowels are discussed in detail in the body of the paper; we should add here that long vowels are represented by doubling the vowel letter (e.g. aa). Each full word has one primary stress, represented by an acute

accent over the vowel of that syllable (e.g. á); some longer words also have secondary stress, represented by a grave accent (e.g. à). Other syllables are weak-stressed.

Examples are presented as etymological sets of available cognates in the various dialects numbered consecutively for convenient reference. Where only one gloss appears at the end it applies to all the forms cited. Where one or more forms have a different translation, it is noted directly after the form in question. (Some of these differences may later emerge as superficial idiosyncracies of translation.)

A preliminary discussion of Lummi umlaut is presented in Thompson (1972). For treatment of Straits Salish structure, see Efrat (1969), Pidgeon (1970), Raffo (1972), and Thompson and Thompson (1971). Coverage of the culture is afforded by Barnett (1955) and particularly by Suttles (1951); see these also for earlier references.

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Esquimalt Reserve, Esquimalt, B.C. Saanich: Mrs. Edna Henry, Tsartlip Reserve, Brentwood, B.C.; Mr. Christopher Paul, Tsartlip Reserve, Brentwood, B.C.; Mr. Philip Pelkey, East Saanich Reserve, B.C.

[2]Some aspects of this problem are explored in Efrat (in press).