Interior Glottalization and the Suffix -(V)p
in Lillooet, Shuswap and Thompson

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0.   Introduction. Lillooet, Shuswap and Thompson belong to the Interior branch
of the Salish (or Salishan) language family, and are spoken in British Columbia,
Canada. (For a map of the Salish language area, plus a general introduction to
Salish, see Thompson 1979.) In what follows, we discuss two aspectual devices
in Lillooet, Shuswap and Thompson, in sections 2-6. General information on the
phonology of these languages is given in section 1. Lillooet material is taken
from Van Eijk 1985,[1] Shuswap material is from Kuipers 1974, and Thompson materi-
al is from Thompson and Thompson 1980. Lillooet forms marked F are from the
northern dialect (spoken around Fountain), and forms marked M are from the
southern dialect (spoken around Mount Currie); both dialects are completely mu-
tually intelligible; forms bearing no marker are the same in both dialects.

1.   Phonology: general information. Lillooet, Shuswap and Thompson share the
following consonants: p p̓ t c c̓ k k̓ kʷ k̓ʷ q q̓ qʷ q̓ʷ ł s x xʷ
x̌ x̌ʷ h ʔ m m̓ n n̓ l l̓ y y̓ γ γ̓ ʕ ʕʷ ʕ̓ʷ w w̓. (The superscript ʼ
indicates glottalization.)[2] Lillooet and Thompson also have x̌̓, while Shuswap
has ƛ̓ (the latter pronounced [x̌̓] or [t̓ɬ], see Kuipers 1974:21). Lillooet
and Thompson also have ƛ̓ in a few loan words. In addition, Lillooet and Thomp-
son have z z̓ and velarized ç ş, while Lillooet also has velarized ḷ ḷ̓.
(Lillooet ş resembles Arabic ṣād, while ḷ ḷ̓ resemble English 'dark 1' of
'pill'.) Moreover, Lillooet and Thompson have ʕ̓. (In Shuswap, ʕ̓ coincides
with ʔ, see Kuipers 1974, section 1.3.) As for vowels, Lillooet has a i u
ə (in broad phonetics [ɛ e o ə]), and velarized a̧ i̧ u̧ ə̧ [a ɛ/ɜ ɔ
ʌ].[3] Shuswap falls into two major dialects: Western (described in Kuipers 1974)
and Eastern. Both dialects have e i u ə a o ʌ (corresponding to Lillooet
a i u ə a̧ u̧ ə̧), while Eastern Shuswap (which is not reflected in the dis-
cussion below) also has a counterpart to Lillooet i̧. Thompson has e i u ə
a i̧ o ə̧ (corresponding to Lillooet a i u ə a̧ i̧ u̧ ə̧). The favorite
root shape in these languages is CVC. Lillooet and Thompson (but not Shuswap)
allow ə to occur under the stress. All three languages delete or insert un-
stressed ə under certain morphophonemic conditions. The vowel ə̧/ʌ is rare in

all three languages. (In particular, it is difficult to find roots which have
ə̧/ʌ and also employ any of the aspectual devices discussed below. We therefore
leave roots with ə̧/ʌ out of consideration in this article.)

2.   Aspect in Lillooet, Shuswap and Thompson. Like other Salish languages,
Lillooet, Shuswap and Thompson have a complex aspectual system. (For our defi-
nition of 'aspect' we follow Comrie 1983: "aspects are different ways of view-
ing the internal temporal constituency of a situation" (p. 3). See Thompson
1979:733-36 for a general discussion of Salish aspect.) Many details of the
aspectual systems of Salish languages are still unclear. However, two aspectual
devices have been described in sufficient detail to permit a contrastive analy-
sis. These devices are (1) 'interior glottalization', which consists of the in-
sertion of the glottal stop (ʔ) adjacent to a root-vowel, (2) the addition
of a suffix -p or -Vp to a root. Both interior glottalization and the affixa-
tion of -(V)p have an inchoative function (at least in Lillooet and Thompson).
Moreover, these devices are largely in complementary distribution on the basis of
the shapes of the roots involved. We discuss the Lillooet facts in section 3,
Shuswap in 4, and Thompson in 5. In section 6 we discuss some problems that are
presented by the data.

3.   Lillooet. A number of Lillooet roots CVC can appear in the shape CVʔC
('interior glottalization') or CVC-p (addition of the suffix -p). Both inte-
rior glottalization and the addition of -p generally refer to an incipient
change or a change in progress, and the term 'inchoative' or 'ingressive' may be
used here. Interior glottalization is applied almost exclusively to roots CAC
(A is a a̧ i i̧ u u̧). On the other hand, -p is suffixed almost exclu-
sively to roots CəC. Examples of CVʔC are: maʔkʷ "to get dull (blade)"
F (cf. məkʷ-mákʷ "dull (blade)" F), n-tiʔqʷ "water gets muddy" (cf.
n-təqʷ-tíqʷ "water is muddy, dirty"), nuʔs "to get damp" (cf. nəs-nús
"damp"), laʔkʷ "to get loose, untied" (cf. ləkʷ-lákʷ "loose, untied"),
n-liʔx̌ "water gets clear" (n-ləx̌-líx̌ "water gets clear"), ká̧ʔəw̓ "to go out
farther" (cf. ká̧w-lə̧x̌ "to move away", the latter with the suffix -lə̧x̌ "bod-
y,: oneself"; the insertion of ə and the glottalization of w in ká̧ʔəw̓ are
regular), γiʔp "to grow (up)" (cf. γíp-in̓ "to raise someone or something"),
nuʔqʷ "to get warm (atmosphere, weather)" (cf. nəqʷ-núqʷ "warm (atmosphere,
weather)"), ki̧ʔḷ-ús "to get embarrassed, hurt" (cf. kí̧ḷ-us-əm "to be em-

barrassed, hurt"). With roots Ciˤ or Ciˤʷ, interior glottalization yields the forms Cíʔiˤ Cíʔiˤʷ, e.g. líʔiˤʷ "to fall apart" (cf. líˤʷ-in "to dismantle, transitive (-in)"). Interior glottalization may combine with various types of reduplication and suffixation, as in K̓áʔk̓x-aɬ "dried out" (K̓ax "dry", -aɬ "completive", and reduplication of K̓ preceding the insertion of ʔ in terms of rule-ordering). There is also a totally unproductive type of interior glottalization where ʔ is inserted before the root vowel (CVC → CʔVC). We do not consider this latter type here, since it does not serve any clear function.

Examples of the use of -p are: nəqʷ-p "to get warm (atmosphere, weather)" (cf. nəqʷ "warm (weather)"), pəl̓-p "to get lost" (from the root pəl̓- "to be lost"), nə́m̓-ənm̓-əp "to go blind" (cf. s-nə́m̓-nəm̓ "blind", with the stative prefix s-; the shifts in the position of unstressed ə result from deletion and insertion and are regular; both nə́m̓-ənm̓-əp and s-nə́m̓-nəm̓ show total reduplication of the root nəm̓-), kʷəm-p "to get dull (blade)" M (cf. kʷə́m-kʷəm "dull (blade)". Note that nəqʷ-p and kʷəm-p are parallelled by nuʔqʷ and maʔkʷ respectively (see p. 2), with roots CAC selecting ʔ, and roots CəC selecting -p. Here also belong the cases mə́t-əmt-əp "paralyzed" and má̓əm̓ʔat id., from the roots mət- and mat- "paralyzed", with both roots showing total reduplication.

We have a few cases of CəʔC, viz. pəʔq "red-hot" (cfʔ pəq "white"), ƛ̓əʔs "tired, aching" (no simplex), pə́ʔə̓ˤ "faded" (cf. pəˤ-p id.)

The inchoative function of -p or ʔ is not always completely clear (at least not from a non-Lillooet point of view): see mə́t-əmt-əp and má̓əm̓ʔat and the cases CəʔC above, and note also ˤʷəl-p "to burn" (cf. ˤʷə́l-ən "to light it, set fire to it, transitive (-ən)"), qəm-p "warm, hot" (cf. qə́m-ən "to heat it, transitive (-ən)"). It is possible that in these cases -p and ʔ have lost part of their inchoative function, or that the inchoative function was lost in the translations. (For a further discussion of the semantics of -p and ʔ see also section 6.)

As a rule, roots CAC retain the stress when followed by a suffix containing A, while roots CəC shift the stress to such a suffix. For example, from ƛ̓íq "to arrive" we form ƛ̓íq-kan "I (-kan) arrive", while from məq "to be full from eating" we form məq̓-kán "I am full". However, stems CAʔC behave like roots CəC with regard to the stress, as in c̓ax- (root) "shy, ashamed, embarrassed" → c̓áx-an̓ "to poke fun at someone, transitive (-an̓)" vs. c̓aʔx-ús

"ashamed, shy" (c̓aʔx id., -us "face"). Note also the pair ki̓ʔ{-ús/kí{-us-əm on pp. 2/3. Interestingly, both interior glottalization and the suffixation of -p yield forms CVCC (e.g., maʔkʷ, kʷəmp). Forms like ká̓əw̓ or líʔiˤʷ (pp. 2 and 3 respectively) are also to be considered CVCC, since the presence of ə and unstressed i is automatic in these forms.

4. Shuswap. Interior glottalization in Shuswap inserts ʔ before the vowel of roots CVC (hence CVC → CʔVC). Kuipers 1974:40-41 gives some 45 examples, all with roots CAC (A is e a i u o). As for the meaning of forms with interior glottalization, Kuipers notes: "Many refer to a state, e.g. pʔeɣ cooled off besides peɣ-n-s he cools it off; for others, the meaning was recorded as the process itself, e.g. cʔiˤʷ to bleed." (p. 40). Some more examples are: mʔekʷ "blunt, dull" (cf. mkʷ-mekʷ id.), c̓ʔol "stretched (as sweater after washing)" (cf. col-n-s "he stretches it"), c̓ʔal "to hurt, smart, throb" (cf. c̓al-t "bitter, sour, salty"), l̓ʔep̓ "bent over" (cf. lep̓-n-s "he bends it down"), qʷ̓ʔeX̌ʷ "thin, skinny" (cf. qʷ̓eX̌ʷ-t id.).

The Lillooet suffix -p is parallelled in Shuswap by a suffix -ep which has the form -up after roots ending in a rounded consonant. Kuipers (1974:61, section 17.3.1B) translates this suffix as "arrive(d) into a state". A few examples: pl-ep "get lost", cˤ-ep "get torn", txʷ-up "provided with a ration" (for more examples see Kuipers). Interior glottalization and -Vp are in complementary distribution (at least in the data supplied by Kuipers in the quoted sections) in that interior glottalization is found only with roots CAC, and -Vp with roots CC-. Not all roots which select -Vp are always unstressed. For example, besides pl-ep we have pil-n-s "he loses it", and besides cˤ-ep we have ciˤ-n-s "he tears it". On the other hand, the root of txʷ-up occurs unstressed only, as in txʷ-nt-es "he adds to it". Shuswap pl-ep/pil-n-s, cˤ-ep/ciˤ-n-s and txʷ-up/txʷ-nt-es are parallelled by Lillooet pəl̓-p "to get lost", cə́ˤ-ən "to tear it, transitive", and tə́xʷ-ən "to add, to pitch in, transitive". (As is said on p. 1, Lillooet allows ə under the stress, but Shuswap does not. It seems that Lillooet has preserved the original Salish state of affairs, see also section 6.) Note that Shuswap forms with interior glottalization are CCVC (e.g., cʔiˤʷ, plep).

5. Thompson. Thompson has the following two devices for indicating inchoativity: (1) insertion of ʔ before the vowel of so-called strong roots (basically

roots CAC, with A symbolizing e a i ḭ u o), (2) suffixation of -ə́p to weak roots, i.e. roots with ə. Thompson and Thompson (1980:201-202) remark that these operations convey "notions of developing action or changing state", and treat ? and -ə́p as "unrelated allomorphs conditioned by the valence of the root" (op. cit., p. 201; the term 'valence' refers to the 'strong' or 'weak' status of roots). A few examples: zʔucʼ "it gets tight" (from the root zucʼ- "tight"), cʔek "it gets cool" (cek- "cool"), sk-ə́p "to get hit (by falling branch)" (sək- "to club"), kɬ-ə́p "it comes apart" (kəɬ- "to take apart"). As is the case in Shuswap, forms with interior glottalization and those with the p-suffix have the shape CCVC. Both types of forms are weak with regard to the stress. ("It is a curious fact that both allomorphs create weak stems—even the infix for strong roots is weak": Thompson and Thompson 1980:203.) Where the stress shifts from such stems to a suffix, the forms CCVC generally become CVCC, as in sək-p-s-t-és "she manages to club it", zuʔcʼ-s-t-és "he (unintentionally) makes it tighter".

6. Conclusions and problems. Interior glottalization and p-suffixation present at least two problems: (1) the shape of the common operation that underlies both ? and -(V)p (if there is such a common underlying shape), plus the attending problem of rule-ordering, (2) the semantics of the case: Lillooet and Thompson interior glottalization and p-suffixation translate as inchoatives, but in Shuswap they translate as statives or continuatives: do we have different semantic functions here, or do the apparent differences go back to translation ambiguities? To start with the last point: it is possible that Shuswap has reanalyzed the function of interior glottalization and p-suffixation. However, the Shuswap examples do not refer to a solid state but rather to a state resulting from a more or less recent change, or to a state in flux. The Shuswap cases therefore do have a moment of inchoativity. A contrastive and comparative analysis of the function of Lillooet, Shuswap and Thompson interior glottalization and p-suffixation would certainly shed more light on this matter.

As for the first point, there is the problem that the inserted glottal stop and the suffix -(V)p have no formal mutual resemblance whatsoever. The most reasonable solution to this problem seems to be one which presupposes a proto-morpheme that at one stage had both ? and -(V)p and continued ? in one type of root, and -(V)p in the remaining type of root. My hypothesis is that -p was originally applied to all roots (so that from Lillooet makʷ-

"dull" the form *makʷ-p was derived), that then ? was applied to all roots with A, in order to give them the same stress-status as roots with ə (so that *makʷ-p became *maʔkʷ-p), and that finally forms with ? dropped -p since it was felt that ?, rather than -p, carried the inchoative notion, giving us maʔkʷ.[4] This solution does not account for the fact that in Lillooet we have forms CVCC, while in Shuswap and Thompson we have CCVC. It seems that Lillooet retained the original forms and that at some point in time Shuswap and Thompson applied metathesis to forms CVCC, yielding CCVC. (However, from a synchronic point of view, Shuswap and Thompson are more conveniently described as inserting ? before V immediately (without a preceding stage CVʔC), and as affixing -Vp, rather than applying metathesis to CVCp.) Assuming metathesis, on the other hand, gives us a simpler diachronic picture. Also, metathesis is suggested by the following set of cases in Lillooet: stems CəCC and CəCC become CCəC and CCəC when embedded in the combination ka-...a "suddenly, unexpectedly, after much trying (but with a sudden and unexpected result)", as in x̌əlqʼ "to roll down" → ka-x̌lə́qʼa "it rolled down (suddenly)", ɬə́mk "broken, not usable any more" → ka-ɬmə́k̫a "to break (like an old rope when pulled), to come loose (rotting hide of dead animal)". Thus, in Lillooet we do not only have metathesis, but the direction of this metathesis is CVCC → CCVC, and not vice versa. It is quite possible that this was also the pattern in Shuswap and Thompson. (As we have seen in section 5, Thompson forms CCVC become CVCC when unstressed, but this seems to be due to a rather general Salish tendency to avoid initial consonant clusters that do not border immediately on stressed vowels, cf. Lillooet x̌ʷm-áka? "to do something fast" vs. x̌ʷəm-ən-cút "to hurry" (x̌ʷəm "fast", -aka? "hand", -ən transitivizer, -cút reflexive suffix).)

Combining the origin of ? and -(V)p with the application of metathesis, we arrive at the following schema (solid lines indicate changes in forms, dotted lines indicate the continuation of an existing form):

[See schema on p. 7]

The fact that Shuswap CCep and CCup result from CCəp can be proven in the following way: as we have seen on p. 1, Shuswap does not tolerate ə under the stress, while Lillooet and Thompson do. Comparative Salish evidence shows that it is Shuswap that innovated here, and that it continued stressed occurrences of ə as cardinal (full) vowels, with the phonetic values that approach
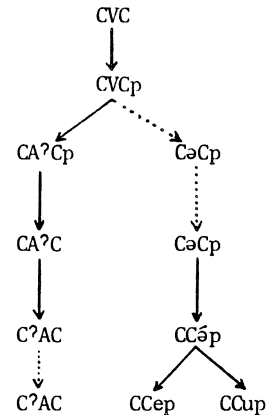
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Proto-(Interior) Salish: CVC

Affixation of -p: CVCp

-ʔ- in stems CACp: CAʔCp   CəCp

Deletion of -p from CAʔCp,
yielding final stage for Lillooet: CAʔC   CəCp

Metathesis in Shuswap/Thompson,
yielding final stage for Thompson: CʔAC   CCə́p

Shuswap: CʔAC   CCep   CCup

the phonetics of ə as conditioned by adjoining consonants. Kuipers (1974:26) describes the phonetics of ə as follows: "The unstressed vowel ə varies from [ĕ, ӕ, Λ], in the neighborhood of rounded consonants also [ŏ], to [ə, ŭ] or zero." Obviously, -ep continues the [ĕ] variant, while -up continues the [ŏ] variant.

NOTES.

1. Lillooet data were collected during various periods from 1972 to 1984. Thanks are due to the Netherlands Organization for the Advancement of Pure Research (ZWO), the Ts'zil Board of Education at Mount Currie, British Columbia, and the Mount Currie Indian Band, for enabling me to carry out research on the Lillooet language. I am most deeply indebted to my Lillooet consultants for their information, assistance and advice. The hospitality of the University of Victoria, with which I am currently affiliated as a Visiting Scholar, is deeply appreciated.

2. Kuipers (1974) uses λ instead of ƚ, and he uses ° instead of ʷ to indicate labialization. Thompson and Thompson (1980) use χ and χʷ instead of x̌ x̌ʷ. In this article, all consonant symbols for all three languages are standardized according to the symbols given in section 1. However, vowel symbols in the Shuswap and Thompson examples are those that Kuipers and Thompson and Thompson use.

3. Note that a and i̵ overlap phonetically in [ɛ]. The phonetic realisation [ė] resembles "ee" of German "Meer", while [e] resembles "ee" of German "See".

4. This development would parallel developments in Germanic languages where a certain ending is attached to a root, then requires umlaut in that root, and is finally dropped, as in Old High German scōni → Middle High German schœne → Modern German schön, see Bynon (1983:26). We could also think of Old English *fot-i → fet, see Sapir (1949:172-180). Of course, in the Germanic cases there is a phonetic relationship between the ending and the umlaut, a relationship that is lacking between -p and ʔ in the Salish case.

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APPENDIX

Kinkade (personal communication) brings to my attention that -ʔ- and -(V)p are also attested in the other Interior Salish Languages, viz. Okanagan-Colville, Spokane-Kalispel, Coeur d'Alene, and Columbian, although in these languages the ʔ infix is either very rare or (in Columbian) at least considerably less frequent than -(V)p. Kinkade also points out that 1 ł in Thompson are regularly velarized, so that this language (in contrast to Lillooet) lacks an opposition between 'clear' and 'dark' l types (see my remarks on Lillooet and Thompson phonology in section 1). Finally, it should be noted that ʔ when it results from interior glottalization is comprised in total reduplication (see má́ʔəmʔat on p. 3). Normally, a C_2 that results from a morphological process is not comprised in (further) reduplication: from s-qə́qx̌aʔ "pup" (from s-qáx̌aʔ "dog", via *s-qáqx̌aʔ) we derive s-qəx̌-qə́qx̌aʔ "pups" and not *s-qəq-qə́qx̌aʔ.