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Conflicting directionality in Thompson River Salish[*]

1. Introduction

This paper presents an analysis of the basic primary stress system in Thompson River Salish (TRS), an Interior Salishan language spoken in British Columbia, Canada. The lexical accent system in TRS exhibits a pattern of conflicting directionality: In words with no accented morphemes, stress falls close to the left edge of the prosodic word (PrWd); in words with accented morphemes, stress falls on the rightmost accented morpheme. I show that the TRS stress system can be analyzed in a manner that parallels the OT treatment of conflicting directionality in Zoll 1997. In my account, conflicting directionality in TRS results from an operation of two constraints, each of which targets opposite edges of the word. In this, my analysis resembles Zoll's 1997 analysis, where she provides a similar account of conflicting directionality in a variety of languages. However, I show that the TRS pattern differs from the patterns in Zoll's analysis: Zoll argued that the two constraints (that apply in each of the patterns studied in her article) involve a contrast between marked and unmarked structure. In contrast, the TRS pattern does not involve marked versus unmarked structure; instead, both of the constraints responsible for conflicting directionality in TRS are alignment constraints – one belongs to the family of Align constraints, while the other belongs to the family of Anchor-Pos constraints and combines stress alignment with faithfulness to the input. Thus, contrary to Zoll's claim, conflicting directionality does not necessarily involve a distinction between marked and unmarked structure.

TRS, like most Interior Salishan languages, has a lexical accent system (see e.g., Carlson 1989 and Black 1996 on Spokane, Czaykowska-Higgins 1993 on Moses-Columbian Salish, Idsardi 1991 on Interior Salish). Prefixes are never stressed; roots and grammatical suffixes belong to two classes, accented and unaccented (usually called "strong" and "weak" classes in Salishan literature). Interestingly, the TRS stress pattern appears at first glance to be a suffix dominant system; accented roots and suffixes show the following stressability hierarchy (where > means "gets preference in stress over"): accented suffix > accented root > unaccented suffix > unaccented root. Although suffixes stand higher in this hierarchy than roots, I show in this paper that the TRS stress system actually exhibits dominance in root-faithfulness, such that accent insertion is dispreferred on an unaccented root, but is freely allowed on unaccented suffixes, thus making unaccented suffixes more stressable than unaccented roots. The fact that accented

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suffixes are more stressable than accented roots is derived from the dominance of a faithfulness constraint that preserves rightmost accent, if accent is present in the input.

The stress pattern I focus on this paper is limited to primary stress in words with a single free root and with non-reduplicating morphemes. I do not discuss the stress pattern on reduplicating morphemes, or on words containing lexical suffixes (the term used in most literature on Salishan languages for a class of morphemes that behave like bound roots), or on words containing free root compounds, and I do not discuss the presence of secondary stress. Thus, the analysis in this paper is limited to the primary stress system in words with free roots and affixes that are usually called "grammatical affixes" in Salishan literature (as distinct from "lexical suffixes"). My data is from Thompson and Thompson's grammar (1992) and dictionary (1996) of TRS; hereafter T&T 1992 and 1996.

This paper is organized as follows: A description of the relevant data is given in section 2 and an OT analysis in section 3. Section 4 includes a comparison of the pattern of conflicting directionality in TRS to similar patterns in some other languages. Section 5 discusses points of similarity and difference between my analysis and previous analyses of conflicting directionality in Zoll 1997 and Crowhurst & Hewitt 1997.

2. The data.

Thompson River Salish has a lexical stress system. Morphemes fall into stress classes depending on "stressability" (that is, their ability to occur with primary stress on them). Prefixes are never stressed—I assume they are not part of the prosodic word. All roots are stressable. Suffixes that have no underlying vowels (e.g. /-t/ 'immediate' in (1b)) are never stressed. Most suffixes that do contain underlying vowels are stressable; however, a few suffixes are exceptionally unstressable, e.g. /-e/ 'imperative' in (1c).

The pattern of primary stress assignment in TRS is as follows. In words with no suffixes or words where all suffixes are unstressable, stress occurs on the root (ex. 1). The underlying representation (UR) is shown within slashes and the root is shown with underlining in the UR for ex (1) below and all other examples from TRS in this paper.

1. a) *ʔes-kə́ɬ* /ʔes-kəɬ/ 'detached, separate'
   b) *k'^{w}éʔ-t* /k'^{w}eʔ-t/ 'chewed'
   c) *x^{w}ə́s-t-e* /x^{w}əs-t-e/ 'go home!'

In words with stressable suffixes, if the root is unaccented and all suffixes are also unaccented, stress occurs on the first stressable suffix. However, if the root is accented and all suffixes are unaccented, stress occurs on the root. This is shown in examples (2, 3, 4), which each contain a pair of words with an identical string of suffixes. The (a) forms have unaccented roots and primary stress is on the first stressable suffix. The (b) forms have accented roots and stress is on the root. (Accented morphemes are shown with bold typeface and an acute accent over the vowel in the UR for all TRS examples in this paper.)

2. a) *ʔes-kiyeʔ-s-t-és* /*ʔes-kəyeʔ-s-t-es* / ‘respect s.o.’
   b) *péw-s-ts* /**péw**-s-t-es/ ‘she makes it swell’

3. a) *c’əq’^{w}-xí-t-s* /c’əq’^{w}-xi-t-es/ ‘write to s.o.’
   b) *k^{w}é-x-t-s* /**k^{w}én**-xi-t-es/ ‘obtain s.t. for s.o.’

4. a) *kɬ-ám* /kəɬ-əme/ ‘subtract’
   b) *píχ-m* /**píχ**-əme/ ‘lay (things) parallel’

In words with a single accented suffix, stress falls on this suffix, irrespective of whether the root is accented or unaccented. Thus, stress is on the accented suffix /*-nwén’*/ ‘non-control transitive’ in both (5a) and (5b), although the first has an unaccented root and the second an accented root.

5. a) *kəɬ-nwén’-s* /kəɬ-**nwén’**-t-es/ ‘manage to detach’
   b) *piχ-nwén’-s* /**píχ-nwén’**-t-es/ ‘He managed to put boards down’

When a word has more than one accented suffix, primary stress occurs on the rightmost accented suffix, as shown in (6) where the word has an accented root /k^{w}én/ ‘grasp’ and two accented suffixes /-nwén’, -íyxs/. Primary stress occurs on /-íyxs/, which is the rightmost accented morpheme in the word.

6) *k^{w}e-nwen’-t-íyxs-e-t-m* /**k^{w}én-nwén’**-t-**íyxs**-n-t-em/ ‘They got caught’

To summarize the TRS stress pattern, when a word has only one stressable morpheme (i.e. the root), primary stress falls on the root (ex.1); when a word has multiple stressable morphemes with all of them unaccented, primary stress falls on the first stressable suffix (ex. 2a, 3a, 4a). When a word has one or more accented morphemes, stress falls on the rightmost accented morpheme (ex. 5, 6).

These data give rise to two main phonological generalizations. First, stress assignment in TRS shows a pattern of conflicting directionality: Stress assignment is leftward in words with no accented morpheme – although stress does not fall on the root itself, it falls on the first stressable suffix (6). In contrast, stress is rightward in words with accented morphemes; it falls on the rightmost accented morpheme (7).

6. a) *ʔes-kiyeʔ-s-t-és* /*ʔes-kəyeʔ-s-t-es* / ‘respect s.o.’
   b) *c’əq’^{w}-xí-t-s* /c’əq’^{w}-xi-t-es/ ‘write to s.o.’
   a) *kɬ-ám* /kəɬ-əme/ ‘subtract’

7. a) *piχ-nwén’-s* /**píχ-nwén’**-es/ ‘He managed to put boards down.’
   b) *k^{w}e-nwen’-t-íyxs-e-t-m* /**k^{w}én-nwén’**-t-**íyxs**-n-t-em/ ‘They got caught.’

Second, suffixes get preference in stress assignment over roots. Note that the root is stressed only in two cases: (i) when there is no stressable suffix (e.g. *ʔes-kə́ɬ*); and (ii) when it is the only morpheme with underlying accent (e.g. *kʷé-x-t-s* /**kʷén**-xi-t-es/). On the other hand, the suffix rather than the root is stressed when (i) the suffix is accented (irrespective of whether the root is accented or not) or (ii) when all morphemes in the PrWd are unaccented.

3. The Analysis

In the OT analysis given below, I argue that the pattern of conflicting directionality in TRS is due to the interaction of a positional faithfulness constraint (which protects final accent from deletion) with a stress alignment constraint which requires that a stressed vowel be aligned with the left edge of the PrWd. I argue further that the preference for suffix-stress over root-stress is partly due to the positional faithfulness constraints involved in conflicting directionality, but partly also due to the dominance of a root faithfulness constraint that prevents accent insertion on the root.

3.1. Leftward stress in words with no accented morphemes.

Recall that in words containing 'root + stressable suffix', if none of the morphemes are accented, stress falls on the first stressable suffix; e.g. *c'əq'ʷ-xí-t-s* /c'əq'ʷ-xi-t-es/ 'write to s.o.'. Since such words have no underlying accent, stress assignment involves insertion of accent. However, accent is inserted not on the root, but on the first stressable suffix. Avoidance of stress on an unaccented root suggests that a faithfulness constraint against accent insertion on such roots is highly ranked in TRS; this is captured by the following Dep constraint:

8) Dep-IO(Accent)$_{RT}$: Do not insert accent on a root. (Cf. Dep-Accent constraints in Alderete 2001)

Although stress-insertion is avoided on the root, it is inserted as close to the left edge of the prosodic word (PrWd) as possible; i.e. on the first stressable suffix. Leftward stress assignment is captured by the following align-constraint:

9) Align-L: Align-L(Head, PrWd)
-- assign stars for every segment which intervenes between the head vowel of the prosodic word and the left edge of the prosodic word.[1]

Dep-IO(Accent)$_{RT}$ dominates Align-L, ensuring that stress falls on the first stressable suffix. The former also dominates a Dep-IO constraint governing accent insertion on affixes:

10) Dep-IO(Accent)$_{Aff}$: Do not insert accent on an affix

[1]It is unusual to evaluate violations of a stress alignment constraint by counting segments rather than prosodic units. However, see below for an explanation of why I have formulated the align constraint in this manner.

The interaction of these three constraints is shown in tableau 12, where the constraint ranking is:

11) Dep-IO(Accent)$_{RT}$ >> Align-L, Dep-IO(Accent)$_{Aff}$

12) *c'əq'^{w}-xí-t-s* 'write to s.o.'

c'əq'^{w}-xi-t-es	Dep-IO(Accent)$_{RT}$	Align-L	Dep-IO(Accent)$_{Aff}$
a) c'áq'^{w}-x-ts	*!	c'	
☞ b) c'əq'^{w}-xí-ts		c'əq'^{w}x	*
c) c'əq'^{w}-x-t-és		c'əq'^{w}xt !	*

As shown in tableau 12, candidate (a) is ruled out because it has stress on the root and, thus, violates high-ranking Dep-IO(Accent)$_{RT}$. Candidates (b) and (c) both have accent on a suffix, but (b) has fewer segments intervening between the left edge of the PrWd and the accented vowel; therefore, it is the winning candidate.

Note that the candidates in tableau (12) show that all vowels present in the input, except the root vowel and the primary stressed vowel, are deleted in the output candidates. This representation of output candidates is based on the fact that in TRS, as in other Salishan languages, most of the unstressed vowels are deleted, leaving a full primary stressed vowel and a few other full or reduced vowels (depending on the morphophonological environment in which the vowel occurs). The candidates in (12) and all tableaux in this paper show the expected distribution of vowels, based on T&T's 1992 description of this phenomenon in TRS.

The fact that most vowels other than the primary stressed vowel are deleted, indicates that syllabification in TRS appears to be dependent on primary stress assignment. This raises a problem for an analysis of stress assignment if the analysis involves counting syllables in assigning stress, because syllabification itself is dependent on which vowel (and, therefore, syllable) is assigned stress. This problem is exemplified in the issue of optimal candidate selection among the output candidates (b) and (c) in tablueau (12). Based on the information about vowel deletion in T&T's grammar, the root vowel is retained in the output candidates (b) and (c) because it is a pretonic vowel (that is, a vowel occurring before the primary stressed vowel) which lies immediately before a consonant cluster. The only other vowels retained in these candidates is the stressed vowel itself. Based on T&T's description of syllable structure, there is only one syllable immediately before the primary stressed vowel in each candidate.[2] Since both candidates have the same number of syllables to the left of the stressed vowel, an Align-L constraint formulated to count syllables would not provide a basis for selecting one of these candidates as optimal. On the other hand, counting segments does yield the attested output, candidate (b), because this candidate has fewer segments to the left of the stressed vowel.

[2] See T&T 1992 for fuller details about vowel reduction and deletion. Details given in the grammar about syllable structure are summarized below. In this paper, I limit my evaluation of syllable structure solely to the information given in T&T's grammar and make no additional assumptions.

My assessment of syllable structure in these two candidates is based on the following information given in T&T's 1992 grammar: (i) only vowels and voiced consonants in TRS can be syllable peaks, voiceless consonants cannot—thus, the only syllable peaks in these candidates are /ə, i, e/; and (ii) the onset requirement is obeyed in TRS; thus, the two syllables in candidate (b) are composed of **at least** the segments [c'ə] and [xí], and those in candidate (c) are composed of **at least** the segments [c'ə] and [té].[3] This approach is admittedly not based on a full and detailed analysis of TRS syllable structure. Further research is necessary to decide how segments other than a CV sequences mentioned above are syllabified in this language, after which it might be possible to adopt a formulation of Align-L that counts prosodic units to correctly select the attested candidate. It could be, for example, that voiceless consonants can also be syllable peaks, when they are not already syllabified as onsets or codas of a syllable with a voiced peak (Cf. of Dell and Elmedlaoui's 1988 analysis of Berber). It could also be that TRS syllables are maximally CVC, as suggested in several analyses of other Salishan languages.[4] If this is the case, then candidates (b) and (c) would have the structure [c'əq'^{w}.xí.ts] and [c'ə.q'^{w}x.tés], respectively. If in this case, Align-L were formulated to count syllables, candidate (b) would be correctly selected as the optimal candidate because it has fewer syllables to the left of the stressed syllable. It is also possible that unsyllabified consonants in TRS are licensed as unsyllabified moras (as suggested in Bagemihl 1991), in which case, Align-L could be formulated to count moraic segments. However, for the time being I adopt the formulation of Align-L given in (9).

3.2. Root stress in words with no stressable suffixes.

Although my analysis in section 3.1. shows that Dep-IO(Accent)$_{RT}$ is highly ranked, unaccented roots do occur with primary stress in words with no stressable suffix (e.g. *ʔes-kə́ɬ* /ʔes-kəɬ/ 'detached'). The occurrence of stress on unaccented roots in such words can be accounted for by the role of Culminativity, which requires that every PrWd have primary stress:

13) Culminativity-PrWd: Every prosodic word has exactly one head.

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[3] The information T&T give about syllable peaks indicates that when the underlying vowels /ə, e, a, o/ occur in surface forms, they are always syllable peaks; in addition, /i, u/ and voiced consonants can be syllable peaks if they occur word-initially before a consonant or if they have an available onset. Further, several phonological processes mentioned in their description indicate that syllables in TRS obey the onset requirement in non-initial syllables. Note that this distribution of syllable peaks together with the onset requirement suggests that syllabification in TRS proceeds as in Berber (see Dell and Elmedlaoui 1988 and Prince and Smolensky 1993 for details about syllabification in Berber); however, pending further research on syllable structure, I do not wish to prematurely adopt a specific syllable analysis in this paper.

[4] Several linguists have attempted to arrive at explanations for the challenging distribution of consonants in the Salishan languages, with their unusually large consonant clusters; see, for example, Bagemihl 1991, Bates and Carlson 1992, Urbanczyk 1996, Czaykowska-Higgins and Willett 1997. All these authors claim that the Salishan languages they analyze basically contain simple syllables. Bagemihl claims that consonants not syllabified by his simple syllable analysis of Bella Coola are licensed as unsyllabified moras. Urbanczyk argues that aspiration on voiceless obstruents can be treated as a voiceless vowel and, thus, as a syllable peak with the obstruent as onset.

Dep-IO(Accent)$_{RT}$ is dominated by Culminativity; therefore, words with unaccented roots but no stressable suffixes must get primary stress on the unaccented root, as shown in tableau 14. In this tableau, Candidate (a) does not have root stress, avoiding a violation of Dep-IO(Accent)$_{RT}$, but it violates the higher ranked constraint Culminativity and is, therefore, ruled out. The winning candidate is (b), which satisfies the higher ranked constraint because it has primary stress, but which incurs a violation of the lower ranked constraint because accent is inserted on the root.

14) *ʔes-kə́ɬ* 'detached'

ʔes-kəɬ	Culminativity	Dep-IO(Accent)$_{RT}$
a) ʔes-[$_{PW}$ kəɬ]	*!	
☞ b) ʔes-[$_{PW}$ kə́ɬ]		*

3.3. Rightward stress in words with accented morphemes.

As shown in section 3.1, stress assignment involves accent insertion in words with no underlying accent. However, words which do have underlying accent do not require accent insertion; instead, one of the accent-bearing vowels is selected as the primary stressed vowel, and accent on all remaining vowels is deleted. As shown in (7) above, the rightmost accent-bearing vowel is the one selected for primary stress (e.g. *k^{w}e-nwen'-t-íyxs-e-t-m* /**k^{w}én-nwén'**-t-**íyxs**-n-t-em/ 'They got caught'). In other words, the rightmost accent-bearing vowel shows faithfulness in accent to the input, as captured in the positional faithfulness constraint, I-Anchor-Final:

15) I-Anchor-Final: Final accent in the input prosodic word must correspond to final accent in the output prosodic word. (Cf. Anchor-Pos constraints in McCarthy 2000)

This constraint dominates a positional faithfulness constraint that requires preservation of accent on the leftmost accented vowel:

16) I-Anchor-Initial: Initial accent in the input prosodic word must correspond to initial accent in the output prosodic word.

I-Anchor-Final also dominates a constraint against deletion of accent; accounting for the fact that all non-final accents are deleted in TRS words:

17) Max-IO(Accent): Do not delete accent

The constraint ranking that is responsible for rightward stress assignment among words with underlying accent is, thus, the one shown in (18) and illustrated in tableau 19.

18) I-Anchor-Final >> Max-IO(Accent), Align-L, I-Anchor-Initial

19) *k^{w}e-nwen'-t-íyxs-e-t-m* 'They got caught'

k^{w}én-nwén'-t-**íyxs**-n-t-em	I-A-Fin	Max-IO(Acc)	Align-L	I-A-In
a) k^{w}é-nwen'-t-ixs-e-t-m	*!	**	*	
b) k^{w}e-nwén'-t-ixs-e-t-m	*!	**	****	*
☞ c) k^{w}e-nwen'-t-íyxs-e-t-m		**	*******	*
d) k^{w}e-nwen'-t-ixs-e-t-ém	*!	***	******* *****	*

In candidate (a), the accent is on the root and, thus, does not correspond to final accent in the input, which is on the suffix /-iyxs/; therefore, it violates high-ranking I-Anchor-Final. Similarly, in candidate (b), accent is on /-nwen'/ rather than /-iyxs/, a fatal violation of I-Anchor-Final. Candidate (d) also violates this constraint because accent on /-em/ in the output does not correspond to accent on /-iyxs/ in the input. The winning candidate is (c) because its accent corresponds to final accent in the input. Deletion of root accent is tolerated in words with multiple accented morphemes due to the lower ranking of Max-IO(Accent).

The same constraint ranking accounts for stress on the root in words where the only accented morpheme is the root, as shown in tableau (20). Here, candidate (a) does not violate high-ranking I-Anchor-Final because final accent is on the root in the input and output forms. Candidates (b) and (c) do not have accent on the corresponding vowel in the input and output; therefore, they each incur a fatal violation of this constraint.

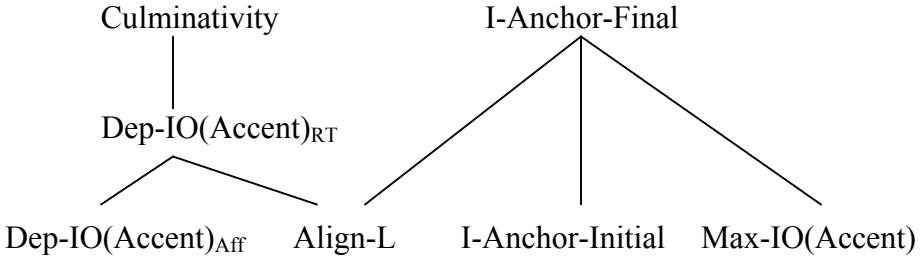
20) *k^{w}é-x-t-s* 'obtain s.t. for s.o.'

k^{w}én-xi-t-es	I-A-Fin	Max-IO(Acc)	Align-L	I-A-In
☞ a) k^{w}é-x-t-s			*	
b) k^{w}e-xî-t-s	*!	*	***	*
c) k^{w}e-xə-t-és	*!	*	*****	*

3.4. Summary of my analysis.

The primary stress system in TRS presented in this paper can be accounted for by the following interaction of constraints:

21)



The ranking Dep-IO(Accent)$_{RT}$ >> Dep-IO(Accent)$_{Aff}$, Align-L is responsible for leftward stress assignment with stress falling on the first stressable suffix in words that have no accented morphemes, but which contain stressable suffixes. The ranking Culminativity >> Dep-IO(Accent)$_{RT}$ is responsible for primary stress on the root in words with no stressable suffixes. The ranking I-Anchor-Final >> Align-L, I-Anchor-Initial, Max-IO(Accent) is responsible for rightward stress assignment in words with accented morphemes.

The suffix-dominant system in TRS, with preference for suffix stress rather than root stress, is derived by differing constraints in words with roots belonging to the two different accent classes. Those with unaccented roots get primary stress on the suffix (when a suffix is present) because of the dominance of Dep-IO(Accent)$_{RT}$ over Align-L, a ranking which disallows accent insertion on a root. Those with accented roots, on the other hand, get primary stress on an accented suffix because of the dominance of I-Anchor-Final over Align-L, I-Anchor-Initial, and Max-IO(Accent). That is, rightmost underlying accent is protected from deletion in this language.

4. TRS compared to some other languages with conflicting directionality.

Conflicting directionality has been discussed in, for example, Hayes 1995 and Halle and Vergnaud 1987. Hayes 1995 lists a number of languages with this phenomenon, showing that conflicting directionality can work in two ways: In Classical Arabic, Kuuku-Yaʔu, Huasteco, Chuvash, and Eastern Cheremis, stress is on the rightmost heavy syllable, otherwise the leftmost light syllable. In Komi and Kwakw'ala, stress is on the leftmost heavy syllable, otherwise on the rightmost light syllable (Hayes 1995: 296-7). Hayes uses the term 'heavy syllable' to cover both 'weight by quantity' (e.g., CV:, CVC) or 'weight by prominence' (e.g. full vowels are prominent compared to schwa, non-high vowels are prominent compared to high vowels). TRS fits into the first of the two sets of languages – if underlying accent is treated as prominence, stress is on the rightmost prominent vowel, otherwise on the leftmost vowel, barring the root.[5]

In addition to conflicting directionality, TRS exhibits suffix-dominant stress. This forms an interesting contrast to another language that has conflicting directionality involving a distinction between accented and unaccented vowels, but which has root-dominant stress. Cupeño (stress pattern described in Hill and Hill 1968 and discussed further in Crowhurst 1994) has accented and unaccented roots, prefixes, and suffixes. If the root is accented, stress surfaces on the root, irrespective of whether there are accented affixes in the word (22a). If the root is unaccented, and there are accented affixes in the word, stress surfaces on the rightmost accented affix (22b-d). If the root is unaccented, and there are no accented affixes, stress is on the leftmost vowel in the word. The examples below illustrate stress in various combinations of root plus affix; an example of accented root plus accented suffix is not included because Hill and Hill 1968 and Crowhurst 1994 do not have examples of it. (Words are shown in their surface forms rather than the underlying form in these examples. Therefore, only surface stress is marked – as

[5] Hayes 1995 and Halle and Vergnaud 1987 use metrical analyses involving feet in their accounts of conflicting directionality. During the TLS conference, Eric Baković suggested a foot-based analysis that could be used to account for TRS conflicting directionality. Further research into TRS syllable and foot structure would, therefore, yield interesting insights into this stress pattern.

an acute accent over the vowel. The root is underlined and accented morphemes are shown in bold typeface.)

22. a) Accented prefix + accented root -- **t͡ʃəm**-**təsíwə**-n ‘we should play’
    b) Accented prefix + unaccented root -- **t͡ʃə́m**-yəx-pi ‘us to say’
    c) Unaccented root + accented suffix -- kus-**í** ‘female initiate from outside’
    d) Unaccented root + two accented suffixes -- yəx-**qəl-í** ‘while ... was saying’
    e) Unaccented root + unaccented suffix -- kúsa-t ‘female initiate from outside’

(Crowhurst 1994:185-6)

Cupeño, therefore, differs from TRS in that accent insertion on the root is not avoided and accent deletion on the root is banned. Thus, a Max-IO(Accent) constraint forbidding root-accent deletion would be ranked high in Cupeño, while a Dep-IO(Accent) constraint forbidding accent insertion on a root would be ranked low. In TRS, instead, accent insertion on the root is avoided and accent deletion on the root occurs whenever the word has an accented suffix. The languages are similar in that both protect rightmost accent from deletion (albeit in a weaker form in Cupeño, where suffix accent is deleted after an accented root) and both have leftward stress in words with no underlying accent.

5. Comparison to previous OT analyses of conflicting directionality.

Zoll 1997 and Crowhurst & Hewitt 1997 provide OT analyses of conflicting directionality in Selkup and Dongolese Nubian, respectively. In Selkup, stress is on the rightmost heavy syllable, otherwise the leftmost syllable. Zoll argues that this system involves a contrast between marked structure (stressed light syllables) and unmarked structure (stressed heavy syllables). She employs two align constraints; one is a general stress assignment constraint which optimally aligns a stress-bearing syllable with the right edge of the PrWd and the other is a constraint that licenses marked structure (stressed light syllables) at the left edge of the PrWd. These constraints and their ranking are given below, the former refers to stressed light syllables ($\acute{\sigma}_{\mu}$) and the latter to any stressed syllable ($\acute{\sigma}$):

23) Align-L($\acute{\sigma}_{\mu}$, PWd) >> Align-R($\acute{\sigma}$, PWd)

Zoll’s analysis, thus, involves two alignment constraints, each referring to two different kinds of structures and targeting two edges of the PrWd. My analysis a resemblance to that in Zoll 1997 because I too claim that conflicting directionality results from the interaction of two alignment constraints that target different edges. However, the difference in my analysis is that these constraints do not involve marked vs. unmarked structure. The conflict is instead between an alignment constraint which also involves faithfulness to the input (I-Anchor-Final) and a general stress alignment constraint (Align-L).

Crowhurst & Hewitt 1997 provides an OT analysis of Dongolese Nubian, which has an identical stress pattern to that in Selkup (stress the rightmost heavy syllable, otherwise the

leftmost light syllable). The authors use an implicational relationship between two constraints that together require a heavy stressed syllable to be aligned with the right edge of the PrWd; this implicational macro-constraint dominates a general leftward stress alignment constraint. In an earlier analysis of TRS, I have employed the concept of implicationally related constraints to account for the pattern presented in this paper. In that analysis, two implicationally related constraints require that if accent is not inserted in a PrWd (which is the case in words with underlying accent), then the head of the PrWd should be as close as possible to the right edge of the PrWd (see Coelho 2000 for further details). These together dominate a general leftward stress alignment constraint. However, I believe my present analysis (which employs I-Anchor-Final instead of the implicational macro-constraint) has an advantage over the previous one in that it more explicitly captures the fact that rightmost stress is protected in TRS and, thus, that conflicting directionality here is the result of a conflict between faithfulness to rightmost-accent and default leftward stress assignment.

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Gail Coelho,
Department of Linguistics,
Calhoun Hall 501,
University of Texas at Austin,
Austin, TX 78712-1196.
gail@utxvms.cc.utexas.edu