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. My focus is on 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); I also do not discuss words with free root compounds. Thus, the analysis in this paper is limited to the stress system in words with free roots and affixes that are traditionally called "grammatical affixes" (as distinct from "lexical suffixes"). All my data is from Thompson and Thompson's grammar (1992) and dictionary (1996) of TRS; hereafter T&T 1992 and 1996.

TRS has a lexical accent system like most Interior Salishan languages (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" in Salishan literature). I point out in this paper that the lexical accent system in TRS exhibits a pattern of conflicting directionality in stress assignment. 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. Thus, the TRS stress system can be analyzed in a manner that partly resembles OT treatments of conflicting directionality in Zoll 1997 and Crowhurst & Hewitt 1997. However, TRS differs from the systems described in Zoll's and Crowhurst & Hewitt's analyses because conflicting directionality in this language involves a distinction between accented and unaccented morphemes, while those in Zoll 1997 and Crowhurst &Hewitt 1997 involve a distinction between light and heavy syllables. Whereas, the crucial constraints in these authors' analyses involve a combination of Align constraints and constraints referring to syllable weight, my OT analysis will draw upon alignment constraints that include faithfulness to underlying

accent (namely the family of Anchor-Pos constraints discussed in McCarthy 2000).

An interesting aspect of the TRS stress pattern is that it is 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. I argue that a part of this hierarchy can be accounted for within the more general account of bidirectional stress assignment given in this paper; however, a part of the hierarchy must be accounted for as dominance of root-faithfulness, which prevents accent insertion on an unaccented root, making it the least stressable morpheme in the hierarchy.

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 Zoll's and Crowhurst & Hewitt's analyses (cited above) of conflicting directionality.

2. The data.

Thompson River Salish has a lexical stress system. Morphemes fall into stress classes depending on "stressability". Prefixes are never stressed—I assume they are not part of the PrWd. All roots are 'stressable' (that is, they can occur with primary stress on them). Suffixes that have no underlying vowels (e.g. /-t/ 'transitivizer' 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 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-kə́ɫ*   /ʔes-<u>kəɫ</u>/   'detached, separate'
    b) *k'ʷéʔ-t*   /<u>k'ʷeʔ</u>-t/   'chewed'
    c) *xʷə́s-t-e*   /<u>xʷəs</u>-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-<u>kə̣yeʔ</u>-s-t-es /   'respect s.o.'
    b) *péw-s-ts*   /**péw**-s-t-es/   'she makes it swell'

3. a) *c'əqʼʷ-xí-t-s*   /<u>c'əqʼʷ</u>-xi-t-es/   'write to s.o.'
    b) *kʷé-x-t-s*   /**kʷén**-xi-t-es/   'obtain s.t. for s.o.'

4. a) *kɬ-ə́m*   /<u>kəɬ</u>-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*   /<u>kəɬ</u>-**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 /kʷén/ 'grasp' and two accented suffixes /-nwén', -íyxs/. Primary stress occurs on /-íyxs/, which is the rightmost accented morpheme in the word.

6) *kʷe-nwen'-t-íyxs-e-t-m*   /**kʷén**-**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, but all of them are 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 interesting 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-k<u>ə</u>yeʔ-s-t-es /   'respect s.o.'
   b) *c'əqʼʷ-xí-t-s*   /c'əqʼʷ-xi-t-es/   'write to s.o.'
   a) *kɬ-ə́m*   /k<u>ə</u>ɬ-əme/   'subtract'

7. a) *piχ-nwén'-s*   /**píχ-nwén'**-es/   'He managed to put boards down.'
   b) *kʷe-nwen'-t-íyxs-e-t-m*   /**kʷén-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.

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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. This avoidance of stress on an unaccented root suggests that a faithfulness constraint against accent insertion on such roots is highly ranked in TRS:

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 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, of course, dominates a Dep-IO constraint governing accent insertion on affixes:

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

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.'[2]

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

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[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.

[2] Unstressed vowels in TRS get deleted, reduced, or remain unaffected depending on phonological and morphological environment. The candidates in all tableaux in this paper show the expected pattern of vowel deletion or retention, based on T&T's 1992 grammar.

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.

My reason for counting segments rather than syllables in evaluating violations of Align-L is based on the fact that (given the information about syllable structure available in T&T's grammar and making no additional assumptions),[3] both candidates (b) and (c) have only one syllable to the left of the stressed vowel. Thus, counting syllables for Align-L would not yield the correct result. 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.

Note that 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].

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 in correctly selecting the optimal 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). In that case, assuming that TRS syllables

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[3] Their description 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. Vowel hiatus is prevented by various processes described in T&T 1992—vowel deletion in some environments (p.31), avoidance of /h/ deletion in some environments (p.39), and /h/ insertion in some environments (p.46). Note that the distribution of segments in TRS together with the onset requirement suggests that syllabification in this language proceeds as in Berber (see Dell and Elmedlaoui 1988 and Prince and Smolensky 1993); except that the question of whether voiceless obstruents can be syllable peaks (as they are in Berber) remains debatable.

are maximally CVC, as suggested in several analyses of other Salishan languages,[4] candidates (b) and (c) might have the structure [c'əq'ʷ.xí.ts] and [c'ə.q'ʷx.tés], respectively. In this case, if Align-L were evaluated by counting 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-<u>kəɬ</u>/ 'detached'). In this case, Dep-IO(Accent)$_{RT}$ is dominated by Culminativity, which requires that every PrWd have primary stress:

13) <u>Culminativity-PrWd</u>: Every prosodic word has exactly one head.

The ranking, Culminativity >> Dep-IO(Accent)$_{RT}$ is illustrated in tableau 14. 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 constraint because it has accent, but which incurs a violation of the lower constraint because accent is inserted on the root.

14) *ʔes-kə́ɬ* 'detached'

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

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[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. Pending further research, I am non-committal about the applicability of these approaches to TRS and do not wish to prematurely adopt a specific syllable analysis in this paper.

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. *kʷe-nwen'-t-íyxs-e-t-m* /**kʷén**-**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) <u>I-Anchor-Final</u>: 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) <u>I-Anchor-Initial</u>: Initial accent in the input prosodic word must correspond to initial accent in the output prosodic word.

Since all non-final accents are deleted, I-Anchor-Final also dominates a constraint against deletion of accent:

17) <u>Max-IO(Accent)</u>: 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) *kʷe-nwen'-t-íyxs-e-t-m* 'They got caught'

kʷén-nwén'-t-íyxs-n-t-em	I-A-Fin	Max-IO(Acc)	Align-L	I-A-In
a) kʷé-nwen'-t-ixs-e-t-m	*!	**	*	

b) kʷe-nwén'-t-ixs-e-t-m	*!	**	****	*
☞ c) kʷe-nwen'-t-íyxs-e-t-m		**	*******	*
d) kʷe-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 (c) 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) *kʷé-x-t-s* 'obtain s.t. for s.o.'

kʷén-xi-t-es	I-A-Fin	Max-IO(Acc)	Align-L	I-A-In
☞ a) kʷé-x-t-s			*	
b) kʷe-xî-t-s	*!	*	***	*
c) kʷe-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)   Culminativity   I-Anchor-Final
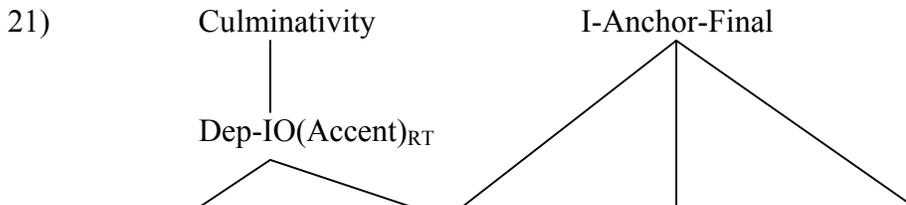
Dep-IO(Accent)$_{RT}$

Dep-IO(Accent)$_{Aff}$ Align-L   I-Anchor-Initial   Max-IO(Accent)

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 belonging to the two different accent classes. Those with unaccented roots get primary stress on the suffix (where available) 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 and the faithfulness constraints, I-Anchor-Initial and Max-IO(Accent). That is, the 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]

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[5] Hayes 1995 and Halle and Vergnaud 1987 use metrical analyses involving feet in their accounts of conflicting directionality. Eric Baković suggested, during the SCIL conference, 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.

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 include 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 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**-<u>yəx</u>-pi 'us to say'
    c) Unaccented root + accented suffix -- <u>kus</u>-**í** 'female initiate from outside'
    d) Unaccented root + two accented suffixes -- <u>yəx</u>-**qəl**-**í** 'while ... was saying'
    e) Unaccented root + unaccented suffix -- <u>kúsa</u>-t 'female initiate from outside'
    (Crowhurst 1994:185-6)

In Cupeño, therefore, 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, 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 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 bears some resemblance to that in Zoll 1997 because I too claim that conflicting directionality is a consequence of 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 (that is, a constraint against deletion of rightmost accent is highly ranked) and, thus, that conflicting directionality here is the result of a conflict between faithfulness to rightmost-accent and default leftward stress.

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