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Monodirectionality and Syllable Integrity in Winnebago

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Abstract: The footing theory based on the defect-driven rule formalism developed in Frampton (2007a, 2007b) is used to improve Halle and Idsardi’s 1995 analysis of Winnebago word stress.

1. Preliminaries

1.1. Defect driven footing rules

This will be filled in with something approximately like Section 1 in Frampton (2007b), which is a good introduction to defect driven footing rules.

1.2. Syllable Integrity

I assume Syllable Integrity (SI); if two grid marks are associated (not necessarily directly) with timing slots in the same syllable, then a foot delimiter cannot be inserted between the grid marks. In this form, it is a derivational constraint on delimiter insertion. A stronger constraint might hold, but that is not relevant for the analysis which follows. The basic idea seems to have originated with Prince (1976).

In Southern Paiute, footing appears to count moras and to freely divide the two moras of a heavy syllable between different feet under the pressure of strict binary grouping. This (and similar phenomena in other languages) is often taken as evidence against SI. Hayes (1995, p. 123) argues convincingly against this. Footing systems like Southern Paiute in which there is the appearance of SI violation are invariably ones in which CVC syllables are monomoraic. Free violation of SI leaves this without explanation. There are ready explanations, on the other hand, for the appearance of what seem to be SI violations for CVV(C) syllables. Either it could be that such syllables are actually bisyllabic CV.V(C) sequences at the point at which footing applies (which is the point of view that Hayes adopts), or that the footing process itself can cause a heavy syllable to split into a bisyllabic sequence.

I assume the later. In the unmarked case the standard $\emptyset \rightarrow \langle$ and $\emptyset \rightarrow \rangle$ foot delimiter insertion operations obey SI, but languages may adopt marked syllable splitting extensions of these operations, provided that syllable splitting can be carried out by simple autosegmental disassociation, as exemplified in (1). The syllable splitting
extensions of the basic operations can be restricted to apply only as a last resort, or only in certain environments.

\[
\begin{array}{c}
\times \times \\
\mu \mu
\end{array}
\rightarrow
\begin{array}{c}
\times \langle \times \\
\mu \mu
\end{array}
\]

The restriction of syllable splitting extensions of the basic foot delimiter insertion operations to elementary syllable reorganization prevents such extension from splitting bimoraic CVC syllables, under the reasonable assumption that CV.C does not have well-formed syllable structure and is therefore not a permissible output. See Frampton (2007a) for the theory of syllable structure which underlies the representation in (1). Southern Paiute, under this analysis, adopts a syllable splitting extension of \( \emptyset \rightarrow \rangle \), giving the appearance of free violation of SI.

Winnebago, foots moras (or more accurately, projects grid marks from moras) and, it will be argued below, adopts a syllable splitting extension of \( \emptyset \rightarrow \rangle \) which is restricted to apply in the environment \( \# \times \_ \_ \). It might be that the motivation for adopting this extension is to avoid stress on initial syllables. Without the extension, initial heavy syllables would be stressed.

Even if CVV(C) syllables split in response to foot delimiter insertion, it could be that they reform before they surface. In the first place, Syllable Integrity might be only a derivational constraint on foot delimiter insertion, not a constraint on representations. If so, heavy syllables could reform because of later, perhaps very late, operations. In the second place, there is no requirement that feet survive to the surface. Only stress is visible. If there are no foot delimiters in the surface form, there is no obstacle to heavy syllables reforming.

2. Monodirectionality and Syllable Integrity in Latin (and Tübatulabal)

The Latin and Tübatulabal stress systems are very simple and illustrate the effects of both Monodirectionality and Syllable Integrity, so we use them to illustrate these principles before proceeding to Winnebago. The Latin stress rules are:

\[
(2) \quad \text{EM: } \emptyset \rightarrow \rangle / \_ \_ \times \quad \text{(rightmost)}
\]

\[
\text{IF: } \times ; \text{ Alternation } ; \text{ Right } :: \emptyset \rightarrow \rangle ; ^* \text{Unary}
\]

As Monodirectionality demands, edge marking is at the right edge in right to left footing. Both CVV(C) and CVC syllables are associated (perhaps indirectly via moras) with two grid marks. Stress is trochaic.

Below are highly annotated derivations of the stress pattern of some Latin words. \( \times-\times \) indicates that the two grid marks are associated with the same syllable, which
is relevant to Syllable Integrity. Foot delimiters are excluded by SI from the inter
grid mark position. The rightmost accessible defective grid mark is indicated by a
shaded box, as is the rightmost accessible defective grid mark which can be repaired.
Inaccessible (because of Monodirectionality) grid marks are indicated by an enclosing
(unshaded box). Defective grid marks are not indicated in the initial representation
because they are a feature of iterative footing, so are only relevant after EM has applied.

(3) Latin examples

\begin{tabular}{ccc}
  a. & \textit{si.mulu} & b. & \textit{a.mii.kus} & c. & \textit{do.mes.ti.kus} \\
  \times & \times & \times & \times & \times & \times & \times & \times & \times \\
  EM & \textit{\times x)\times} & EM & \textit{\times-x)(x-x)} & EM & \textit{\times-x)(x-x)(x-x) \\
  1. & \langle \times \times \rangle \times & 1. & \times(\times-x)(x-x) & 1. & \times(\times-x)(x-x)(x-x) \\
  \textit{si.mulu} & \textit{a.mic.kus} & \textit{do.mes.ti.kus} & \\
\end{tabular}

In (3c.1), *Unary and SI conspire to prevent repair of the rightmost accessible defective
grid mark. Later representations in this paper will not annotate inaccessible grid marks;
it is done above to make clear the effect of Monodirectionality.

The stress rules make no mention of the distinction between heavy and light
syllables. Heavy syllable effects in Latin are completely explained by Syllable
Integrity; they come essentially for free.

2.1. Tübatulabal

Since the Tübatulabal foot delimiter insertion rules are almost identical to the corre-
sponding Latin rules, they will be illustrated as well. The two footing systems are
remarkably similar, differing only in the delimiters that are inserted by the edge marking
rules, which both operate in the same context. Foot stress is trochaic, as in Latin.

(4) EM: \( \emptyset \rightarrow \langle / \_\_\times \) (rightmost)

\begin{tabular}{l}
  IF: \( \times ; \) Alternation ; Right :: \( \emptyset \rightarrow \langle ; \) *Unary \\
\end{tabular}

Illustrative derivations follow. Here and throughout this paper no distinction is
made between primary and secondary stress since only foot level stress is investigated.

(5) Tübatulabal examples

\begin{tabular}{ccc}
  a. & \textit{p\^o.nih.w\^i.n} & b. & \textit{e.le:git} & c. & \textit{ta:ha.wi.la:p} \\
  \times & \times & \times & \times & \times & \times & \times & \times & \times \\
  EM & \textit{\times x(x)} & EM & \textit{\times-x(x)} & EM & \textit{\times-x(x)(x-x)} \\
  1. & \langle \times \times \rangle \times & 1. & \times(\times-x)(x-x) & 1. & \times(\times-x)(x-x)(x-x) \\
  \textit{p\^o.nih.w\^i.n} & \textit{e.le:git} & \textit{ta:ha.wi.la:p} \\
\end{tabular}
As in Latin, heavy syllable effects in Tübatulabal are completely explained by Syllable Integrity and come essentially for free.

Although the final syllable is unstressed in Latin and stressed in Tübatulabal, in both languages it is true that if the penultimate syllable of a polysyllabic word is heavy, it is stressed, otherwise the antepenultimate syllable is stressed.
3. Winnebago basics


CVV(C) syllables are bimoraic. Other syllables are monomoraic. The footing rule (6) makes the correct predictions for words which do not have initial heavy syllables and which are not subject to Dorsey’s Law (which will be taken up shortly).

(6) IF: \[ \times ; \text{Alternation} ; \text{Left} :: \left[ \emptyset \rightarrow \langle \emptyset \rightarrow \rangle \right] ; ^*\text{Unary} \]

Some illustrative derivations follow in (7) and (8). ^*Unary plays a major role in forcing repair by the lower ranked repair operation at numerous points in these derivations. Foot stress is iambic.

(7) a. \( hi.\acute{z}a \)  
\[ \times \times \]  
1. \( \times \langle \times \times \rangle \)  
\( hi.\acute{z}a \)  

b. \( ho.ta.xi \)  
\[ \times \times \times \]  
1. \( \times \langle \times \times \rangle \times \)  
2. \( \times \langle \times \times \rangle \times \)  
\( ho.ta.xi \)  

[Hayes: 86a, 86b, 86c]

Hayes’ numbering is given so that the reader can find glosses and/or the original sources of the examples, if desired. For the convenience of the reader, the leftmost accessible defective grid mark in representations to which iterative footing applies is indicated by enclosing the offending grid mark in a shaded box. I assume footing Monodirectionality, as proposed in Frampton (2007b), so defective grid marks to the left of previously inserted foot delimiters in left to right footing are inaccessible and cannot be the targets of repair. If the leftmost accessible defective grid mark cannot be repaired (because of derivational constraints), then the leftmost accessible grid mark which can be repaired is also enclosed in a shaded box. See (5b) below for an example in which the leftmost accessible defective grid mark cannot be repaired. This annotation is intended to help the reader see why the displayed sequence of repair operations constitutes the iterative footing process.

Further illustrations follow.
In the (8) examples, and all the examples which follow, I have not distinguished between primary and secondary stress in the output. This paper is concerned only with how the lowest level of stress assignment, foot level stress, is determined and has nothing to say about word level stress.

In (9) and (10), the symbol “-” which appears between grid marks is a diacritic for the reader, not a symbol which actually appears on the grid. It is used to indicate that the two grid marks it comes between are associated with moras of the same syllable. It therefore says something about the context that the grid marks appear in, information which is available in a full representation but not available in the abbreviated grid only representations which are shown.

(9) a.  

\[ \text{ki.ři:na} \]  

\[ \times \times \times \times \]  

1. \( \times (\times \times \times \times) \)  

2. \( \times (\times \times \times) \)  

3. \( \times (\times \times) \)  

\[ \text{ki.ří:na} \]  

b.  

\[ \text{hit.Šet.Šei.re} \]  

\[ \times \times \times \times \]  

1. \( \times (\times \times \times \times) \)  

2. \( \times (\times \times \times \times) \)  

3. \( \times (\times \times \times \times) \)  

\[ \text{hit.Šet.Šei.re} \]  

c.  

\[ \text{ha.ro.gi.nai.če} \]  

\[ \times \times \times \times \times \]  

1. \( \times (\times \times \times \times \times) \)  

2. \( \times (\times \times \times \times \times) \)  

3. \( \times (\times \times \times \times \times) \)  

\[ \text{ha.ro.gi.nai.če} \]

[Hayes: 88a, 88d, 88g]

Recall that \( \emptyset \rightarrow ( \) and \( \emptyset \rightarrow ) \) are subject to SI (Syllable Integrity). Along with *Unary, this is responsible for the ternary foot in (9b) and the use of the lower ranked repair operation at (9c.3), which should be contrasted with (8b).

Although stress is assigned to the second mora of heavy syllables, note that in the output forms in (9) that it is the first vowel of the diphthong that has the stress mark. See the discussion in Hayes (1995, pp. 348–49), where he shows that the realization of stress on diphthongs in Winnebago depends on the relative prominence of the vowels. He claims that this is evidence that it is syllables that are footed, not moras. But it is evidence only of the fact that stress is realized at the surface as a property of syllables, not of the fact that footing counts (or groups) syllables rather than moras. One has the choice between a mismatch between stress realization on VV sequences and foot
finality, on the one hand, and explaining why bimoraic syllables count as 2 monomoraic syllables in footing, on the other. Claiming that the “foot inventory” consists of feet which have one heavy syllable or two light syllables, is the statement of a problem, not an explanation.

Further examples:

(10) a. hi.ža.ki: čaš.gu.niŋa.na.qa
   \[\times \times \times-\times \times-\times \times \times \times\]
   1. \(\times(\times \times-\times \times-\times \times-\times \times \times \times)\)
   2. \(\times(\times \times-\times \times-\times \times-\times \times \times \times)\)
   3. \(\times(\times \times-\times \times-\times \times-\times \times \times \times)\)
   4. \(\times(\times \times-\times \times-\times \times-\times \times \times)\)
   5. \(\times(\times \times-\times \times-\times \times-\times \times \times \times)\)

   hi.ža.ki: čaš.gu.niŋa.na.qa

b. wa.yi.ɡiš.gap.ʔuʔi ŋe.rea.na.qa
   \[\times \times \times \times \times \times-\times \times \times \times \times \times \times \times \times \times\]
   1. \(\times(\times \times \times \times \times-\times \times \times \times \times \times \times \times \times \times)\)
   2. \(\times(\times \times \times \times \times-\times \times \times \times \times \times \times \times \times \times)\)
   3. \(\times(\times \times \times \times \times-\times \times \times \times \times \times \times \times \times \times)\)
   4. \(\times(\times \times \times \times \times-\times \times \times \times \times \times \times \times \times \times)\)
   5. \(\times(\times \times \times \times \times-\times \times \times \times \times \times \times \times \times \times)\)

   wa.yi.ɡiš.gap.ʔuʔi ŋe.rea.na.qa

[Hayes: 88f, 88j]

4. Initial heavy syllables

Initial heavy syllables behave differently than noninitial heavy syllables. I assume that alongside \(\emptyset \rightarrow \langle\) and \(\emptyset \rightarrow \rangle\), with their default SI restriction, Winnebago has the additional repair operation \(\emptyset \rightarrow \langle / \# \times \rangle\), which splits CVV(V) syllables if required. Call this repair operation EF (Edge Footing). The revised iterative footing rule (11) accounts for all heavy syllable effects in Winnebago.

(11) \(\times\); Alternation; Left :: \[
\begin{array}{c}
\emptyset \rightarrow \langle \\
\emptyset \rightarrow \rangle
\end{array}\]

*Unary

Some illustrative derivations follow:

(12) a. ho.čǎk
   \[\times-\times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times 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\times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \time
5. Dorsey Law

In Winnebago, underlying CRV syllables (voiceless obstruent + sonorant + vowel) appear at the surface as a CV.RV syllable sequence.

(13) Dorsey’s Law

\[
\begin{array}{c}
\mu \\
\times \times \times \\
\mid \mid \\
\times \times \\
\mid \\
\k \ r \ o
\end{array} \rightarrow 
\begin{array}{c}
\mu \\
\times \times \times \\
\mid \mid \\
\times \times \times \\
\mid \\
\mu \ 
\end{array} \\
\mu
\begin{array}{c}
\mu \\
\times \times \\
\mid \\
\times \times \times \\
\mid \\
\k \ r \ o \end{array}
\]

In the output, the first syllable, called the Dorsey syllable, is the epenthetic one. The second one maintains its original associations with \(r\) and \(o\).

The accentual effect of Dorsey’s Law has been the subject of much discussion in the literature. Halle and Idsardi (1995) appears to be the first study which recognized that the interaction should be analyzed as a post-accenting phenomenon; if \(\sigma_n\) is a Dorsey syllable, then \(\sigma_{n+2}\) is always stressed if there is a \(\sigma_{n+2}\) syllable. Underlying \(ho.kro.ho\), for example, surfaces as \(ho.ko.ro.hó\), with stress on the fourth syllable, which comes two syllables after the Dorsey syllable.

(14)

<table>
<thead>
<tr>
<th>underlying</th>
<th>surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (ho.kwe)</td>
<td>(ho.k) (wé)</td>
</tr>
<tr>
<td>b. (ho.kro.ho)</td>
<td>(ho.ko.ro.hó)</td>
</tr>
<tr>
<td>c. (hi.) (ra.kro.ho.nji)</td>
<td>(hi.) (ra.kó.ro.hó.nj)</td>
</tr>
<tr>
<td>d. (wa.kri.pro.pro)</td>
<td>(wa.ki.) (pó.ro.pó.ro)</td>
</tr>
<tr>
<td>e. (hi.ro.) (ki.ya.pro.kšé)</td>
<td>(hi.ro.) (kí.ya.) (po.ro.kšé)</td>
</tr>
</tbody>
</table>

[Hayes: 94a, 94b, 95c, 96d, 96h]

To implement this, Halle and Idsardi (1995) proposed that left foot delimiters are always inserted to the left of CRV syllables before Dorsey’s Law applies, provided only that enough material is available to constitute a foot, i.e. that the Dorsey syllable is nonfinal. This occurs prior to heavy syllable marking, end marking, and iterative footing (all separate operations in their theory). So, for example, (14b) would have the structure at the left below at some point in the derivation. Dorsey’s Law then applies, with the stipulation that epenthesis is always to the left of the foot delimiter.

(15)

\[
\begin{array}{c}
* \langle \ * \ * \\
| \mid \mid \\
* \ * \ * \ * \\
\end{array} \rightarrow 
\begin{array}{c}
* \ * \ * \ * \\
| \mid \mid \\
* \ * \ * \ * \ * \\
| \mid \mid \\
* \ * \ * \ * \ * \ * \\
| \mid \mid \\
\end{array} \\
\begin{array}{c}
h \ o \ k \ r \ o \ h \ o \\
}\mid \mid \mid \\
\h \ o \ k \ o \ r \ o \ h \ o \\
\end{array}
\]
This account is quite successful, giving evidence not only that post-accenting idea is correct, but that Idsardi’s idea of one-sided foot delimiters is correct, since it crucially relies on it. One other stipulation is required. In order to prevent iterative footing from creating (16) when it applies to (15), the derivational constraint \( \star \langle \rangle \) must be imposed on iterative footing. Otherwise, the incorrect stress assignment \( \text{hokóroho} \) would be predicted.

\[
\begin{array}{c}
\star & \star \\
\hline
\langle \rangle & \langle \star & \star \rangle
\end{array}
\]

The defect-driven rule formalism, combined with the principle of footing Monodirectionality proposed in Frampton (2007a), provides a way to give a less stipulative implementation of Halle and Idsardi’s insight that the disruption of normal footing in Winnebago caused by Dorsey epenthesis is a post-accenting phenomenon. Assume that footing takes place after Dorsey epenthesis and that iterative footing incorporates post-accenting into its desiderata. Dorsey syllables can be identified by feature sharing between their vowels and the vowels of the following syllable, assuming that the repair of the long-distance geminate in (13) does not carry out any more disassociation than necessary. Let \( \text{DorseyCondx} \) be the desideratum \( \star \Rightarrow \langle \rangle \), where \( \star \) represents a grid mark associated with a Dorsey syllable. The \( \times/\star \) distinction is for the reader only. The phonology determines the difference via the different environments the grid marks appear in.

\[
\begin{array}{c}
\star \\
\hline
\langle \rangle \\
\text{DorseyCondx}
\end{array}
\]

Some illustrative derivations:

\[
\begin{array}{c}
\text{hi.\textit{k}o.ro.ho} \\
\times \times x \times \times \times \times \times
\end{array}
\]

Removing the DorseyCondx violation at step (18a.1) takes precedence over removing the Alternation violation, forcing \( \langle \rangle \)-insertion after the second grid mark. The second grid mark then satisfies \( \star \Rightarrow \langle \rangle \), but still violates Alternation. Because of Monodirectionality, this defect becomes inaccessible to the computation, essentially invisible. In effect, repair of one defect has bled repair of the other defect. At (18b.2),
*Unary prevents DorseyCondx violation repair, but the Alternation violation can be repaired.

Some further illustrative derivations follow:

(19) a. ša.wa.žok  
   [x] [x]  
   1. [x][x]  
   2. [x][x]  
   ša.wa.žok  
   3. [x][x][x][x]  
   hi.ra.kó.ro.hó  
   4. [x][x][x][x]  

b. hi.ra.ko.ro.ho  
   1. [x] [x] [x]  
   2. [x] [x] [x]  
   c. hi.ro.kí.ya po.ro.kšé  
   1. [x] [x] [x]  
   2. [x] [x] [x]  
   3. [x] [x] [x]  
   4. [x] [x] [x]  

[Hayes: 93b, 95b, 96h, 96n, 96k]

To conclude the discussion of Dorsey syllables in Winnebago, its advantages over the Halle-Idsardi analysis should be noted. One desideratum has been imposed on iterative footing, which is roughly equivalent to Halle and Idsardi’s assumption that ⟨-insertion applies to the left of underlying Dorsey syllables. But two stipulations have been removed. There is no need to stipulate that the epenthetic syllable projects its grid mark to the left of the delimiter, and there is no need to suppose that delimiter insertion is constrained by *)⟨. 
6. Binary/Ternary alternation

Only a few of the examples which have been considered to this point give evidence that iterative footing is carried out by (20a), as I have assumed to this point, rather than (20b).

(20)  

a. Rule A: \( \times \); \[
\begin{bmatrix}
\text{DorseyCondx Alternation} \\
\text{Left} :: \\
\begin{bmatrix}
\text{EF} \\
\emptyset \\
\emptyset
\end{bmatrix}
\end{bmatrix} \); *Unary

b. Rule B: \( \times \); \[
\begin{bmatrix}
\text{DorseyCondx Alternation} \\
\text{Left} :: \\
\begin{bmatrix}
\text{EF} \\
\emptyset \\
\emptyset
\end{bmatrix}
\end{bmatrix} \); *Unary

Hayes give two examples which require (20b) rather than (20a). One of them, given below, appears with both stress patterns.

(21)  
\(\text{wi:.ra.guˇs.ge.ra}\)
\(\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\times\time
The internal orphan which appears in (22.4), which is generally the sign of ternary rule ordering (⟨-insertion ordered before ⟩-insertion in left to right footing), is not a consequence of rule ordering here, but a consequence of the DorseyCondx desideratum. ⟨-insertion is the only way to satisfy this desideratum.

A compendium of all the examples in Hayes, other than (21), which are footed differently by the two rules is given below.

(23) Examples which give evidence for Rule A or Rule B

a. ha.a.kí.tu.jík.sā.na
   ×⟨x x⟩× x	imes x [B] (96j), HWE
   *x(x x)×(x x) [A]

b. ho.ki.wá.ro.ro.ké
   ×⟨x x⟩× ⟨x x⟩ [A] (86e), M81
   *x(x x)× x [B]

c. wi.i.pá.mä.ke.ré
   ×⟨x x⟩× ⟨x x⟩ [A] (96m), M79
   *x(x x)× x [B]

d. hi.i.zú.go.ki.rús.ge
   ×⟨x x⟩× ⟨x x⟩ [A] (87e), M79
   *x(x x)× x [B]

e. yu.u.kí:hi.näng.kí
   ×⟨x x⟩× ⟨x x⟩ [A] (87h), H90
   *x(x x)× x [B]

f. hi.zhá.kí:čaš.gu.ní
   ×⟨x x⟩× ⟨x x⟩ [A] (88e), M79
   *x(x x)× x [B]

g. ník.sík.sí.ník.ja.né:nä
   ×⟨x x⟩× ⟨x x⟩ [A] (88h), S43
   *x(x x)× ⟨x x⟩ [B]

h. wa.yí.yí.giš.gap.?új.že.ré
   ×⟨x x⟩× ⟨x x⟩ [A] (88i), M79
   *x(x x)× ⟨x x⟩ [B]

i. hi.zhá.kí:čaš.gu.ní:ga.ná.gá
   ×⟨x x⟩× ⟨x x⟩ [A] (88f), M79
   *x(x x)× ⟨x x⟩ [B]
Regardless of the exact status of the variation in Winnebago, an adequate account of Winnebago stress must include an explanation for the variation. In the theory proposed in this paper, it is a question of a minor variation in repair rule order. HI, on the other hand, present no analysis of the ternary examples and it is not clear that one can be given in their framework. It is still less clear whether one can be given that is a minor variation of the binary analysis. This is a strong argument for the analysis given in this paper.

References


