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Weight scales in the computation of word accent: the case of Central Selkup

1. *Introduction*

The primary goal of the Extended Accent First theory is to provide a uniform account of accent assignment in phonological and lexical accent systems, whereby word accent is assigned in both by a single mechanism.

- How the theory works

- To illustrate: a case study from Central Selkup

- Specific predictions borne out in other languages

2. *The parameter system*

The parameters of the Extended Accent First theory are listed in (1).

(1) *The parameters of the ExtAF theory*

   a. The Domain Size parameter (DS): the accent domain is {Bounded/Unbounded}.

   b. The Domain Edge parameter (DE): a bounded accent domain is formed at the
      {Left/Right} word edge.

c. The Nonfinality parameter (NF): the peripheral element at the right word edge is not allowed to receive accent. (Yes/No)

d. The Nonfinality Unit parameter (NF Unit): the NF Unit is a {Syllable/Seg- ment}.

e. The Weight parameter (W): the language has weight distinctions.[1] (Yes/No)

f. The Project Position parameter (PP): project {Leftmost/Rightmost} position in the accent domain onto line 1 of the Accent Grid.

g. The Select parameter (Sel): choose the {Leftmost/Rightmost} gridmark on line 1 by placing a gridmark over it on line 2.

(1f) *The Project Position parameter: project {Leftmost/Rightmost} position in the accent domain onto line 1 of the Accent Grid.*

- In forms without heavy syllables ("all-light" forms), accent is peripheral. ***In both BS and US***, accent falls either on the leftmost, or on the rightmost syllable within the domain (if there is extrametricality, default accent shifts one syllable inside).

- The Project Position parameter places a gridmark over the {leftmost/rightmost} syllable in the domain on line 1 of the Accent Grid.

(2)

```
   *      *           *                Project Position (Left)
[('l l)   ('l l)]    [('l l l l l)]
```

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[1] For any type of weight (phonological and/or diacritic), the Weight parameter is set to "Yes". The "No" setting corresponds to weight-insensitive systems.

```
        *        *                *                 Project Position (Right)
    [(l 'l)    (l 'l)]        [(l l l l 'l)]
```

- As we see from (3), the interaction of Project Position and Select successfully captures the parallel between BS and US with respect to default accent location:

(3)   Domain Size
                    Bounded   *Unbounded*   *Bounded*   *Unbounded*

        Left   [('l l)   [('l l l l l)   [('l l)   [('l l l l l) <σ>]
    PP

        Right   [(l 'l)   [(l l l l 'l)   [(l 'l)   [(l l l l 'l) <σ>]

(1g) *The Select parameter: choose the {Leftmost/Rightmost} gridmark on line 1 by placing a gridmark over it on line 2.*

- In forms with more than one heavy syllable, one such syllable must be selected to receive word accent.
- To that end, weight (in words with heavies) is projected onto line 1 of the Accent Grid. The Select parameter chooses the {leftmost/rightmost} line 1 gridmark by placing another gridmark over it on line 2. → <u>word accent</u>

(4)   Domain Size

        Bounded   *Unbounded*

        *   *   *   Select (Left)
        * *   * *   *   * *   Weight Projection
    [('h h)   ('h h)]   [(l 'h l h h l)]
```

```
    *       *                        *            Select (Right)
  * *     * *                   *   *  *          Weight Projection
[(hˈh)   (hˈh)]           [(l h l h ˈh l)]
```

- In all-light words in the same language, the Select parameter must be set to the same value for both words with heavy syllables and all-light words.

3. *Diacritic weight*

3.1. *The notion of "diacritic weight"*

- In some languages, accent location is (entirely or in part) phonologically <u>unpredictable</u>.

- Morphemes can attracting/repel word accent → diacritic weight (van der Hulst 1999:19)

- *Diacritic weight is a type of weight*, on a par with phonological weight.

- Accent-attracting morphemes: *diacritically heavy* (rather than lexically accented), accent-repelling morphemes are *diacritically light* (rather than lexically unaccented).

- Another important feature of diacritic weight is that it is ***<u>scalar</u>***, while lexical accent is ***categorical***.

3.2. *Diacritic weight scale*

In some WS languages, accent is assigned with reference to a *phonological <u>weight scale</u>*.

Examples of some such scales are given in Table 1.

TABLE 1. *Examples of phonological weight scales. (From Gordon 2006:27-28).*

Klamath (isolate; Oregon, USA)	CVV(C) > CVC > CV
Moro (Niger-Kongo; Sudan)	CVC > full V > reduced V
Kobon (Trans-New Guinea; PNG)	low V > mid V > high V > reduced V
Asheninca (Maipurean; Peru)	CVV > Ca(C),Ce(C),Co(C), CiC > Ci > Cɨ

- Phonological weight scales → Weight is scalar

- Diacritic weight is a type of weight.

- It is predicted that, in some language(s), accent is assigned with reference to a diacritic weight scale.

Diacritic weigh scale: a language-specific scale in which (sets of) morphemes are ordered according to their relative diacritic weight.

3.3. *Diacritic weight scale in Central Selkup*

Central Selkup is a moribund Samoyedic language (Uralic) spoken near the Ob' River in Siberia (Tomsk region, Russian Federation). All Selkup data here are drawn from descriptions in Normanskaya (2011), based on extensive fieldwork materials. These data only appeared in Russian-language publications.

- Central Selkup has been characterized in the literature as a *lexical accent system*.

(5) a. ˈydəʃpa   fall-PRES-3Sg (of a night)
    b. yˈdəʃpa   get drunk-PAST-3Sg

The general accent rule of Central Selkup, formulated in terms of lexical accents, is given in (6).

(6) *The accent rule (preliminary)*

Accent falls on the leftmost lexically accented morpheme in the word, if any; otherwise, accent is initial.

Examples

(7) Napas

a. *accented root-accented suffix*

ˈkomd-e	money
ˈkverʲ-e	crow
ˈtʲʃʲib-e	fly

b. *unaccented root-unaccented suffix*

ˈam-a	mother
ˈloɣ-a	fox
ˈlak-a	thing

(8) Parabel

accented root-accented suffix

ˈarm-a	coolness
ˈkag-a	corpse
ˈkad-e	spruce
ˈkyʒ-e	urine

[*data for default accent unavailable*]

6

- However, in cases like (9), accent does not fall on the leftmost morpheme. It falls on the suffix *-ol/-al* (accent-categorizing), instead.

(9) *accented root-categorizing suffix-accented suffix*

    taˈp-ol-gu   kick (*of an animal*)-SEMEL-INF
    koˈb-al-gu   scour-SEMEL-INF

- This pattern is not compatible with the general accent rule (6).
- In order to account for this behavior without violating (6), lexical accent theories view such morphemes as "dominant" and implement dominance as Accent Deletion, whereby the dominant morpheme deletes all lexical accents to its left, except its own (Poser 1984, Alderete 1999).
- Instead of viewing such morphemes as exceptional, I argue that *Central Selkup has the diacritic weight scale:*

(10)   superheavy > heavy > light

The scale in Central Selkup has three weight degrees, with the superheavy (*i.e.* heaviest) morpheme being accented in all words where it occurs.

4. *Accent assignment in Central Selkup*

    The parametric system of the ExtAF theory, augmented with the diacritic weight scale (10), successfully accounts for (9).

4.1. *Introducing the Weight Grid*

A *Weight Grid* is a phonological representation of relative weight (according to the weight scale) in terms of columns of gridmarks: the taller the column, the heavier the relevant unit (syllable or morpheme); a light unit gets one gridmark.

Example: The weight scale *superheavy > heavy > light* corresponds to the Weight Grid in (11).

(11) *The Weight Grid*

```
sup    h    l
 *     *    *
 *     *
 *
```

Phonological and diacritic scales (as well as some others) can all be translated into such Weight Grids.

The ExtAF theory distinguishes two grids: the Weight Grid that represents the weight scale and the Accent Grid where accent is assigned.

Their interface is controlled by Weight Projection, which projects the **<u>heaviest</u>** units from the Weight Grid onto the Accent Grid. The Select and Project position parameters determine a unique word accent on the Accent Grid.

4.2. *The weight scale and weight grid in Central Selkup*

- I propose that accent is assigned in C. Selkup with reference to the diacritic weight scale in (12):

(12) $\text{sup}_d > h_d > l_d$

(where the subscript "$_d$" stands for "diacritically"; "sup", "h", and "l" stand for "heavy", "light" and superheavy, respectively).

- The scale (12) translates into the Weight Grid (13).

(13) *The Weight Grid*

$$\begin{array}{ccc}
\text{sup}_d & h_d & l_d \\
* & * & * \\
* & * & \\
* & &
\end{array}$$

4.3. *The accentual grammar of Central Selkup*

This consists of the Weight Grid (13) and of the combination of parameter settings in (14).

(14)   Domain Size (Unbounded)
Nonfinality (No)
Weight (Yes)
Project Position (Left)
Select (Left)

4.4. *Derivations*

4.4.1. *>1 heavy morpheme*

(15) [aˈvʲeʃpugu] /avʲ-eʃ-pu-gu/ ("burn-down-INF")

    /av/: *light*; /-eʃ/: *heavy*; /-pu/: *light*; /-gu/: *heavy*

9

(16)　　　*　　　　　　　Select (Left)
　　　　　*　　*　　　　Weight projection
　　avʲ-eʃ-pu-gu
　　　*　*　*　*　　　Weight Grid
　　　　*　　　*

4.4.2. *A superheavy morpheme*

Accent on /-ol/ in [taˈp-ol-gu] ("kick (*of an animal*)-SEMEL-INF"), where the superheavy

/-ol/ follows a heavy root and precedes a heavy suffix /-gu/, is assigned as in (17).

(17)　　　*　　　　　　Select (L)
　　　　*　　　　　　Weight projection
　　/tap-ol-gu/
　　　*　*　*　　　　　Weight Grid
　　*　*　*
　　　　*

5. Conclusions

　　　The ExtAF parameter system augmented with a *diacritic weight scale* can account for

accent location in lexical accent systems. It accounts for accentual dominance so as to uniformly

capture the accent rule of the language and the exceptions to it using the same accent-assigning

mechanism.