L30A - Prominence & Metrical Theory

The phenomenon of stress

1. **Syllable Prominence** – (R & J, pp. 295 – 296)
   Prominence in Nouns and Verbs, Consider the data below:

   (1) increase imprint relay torment upset
       contest contract escort decrease protest
       contrast implant survey convict digest

   Pronounce the above words
   Each of them can be pronounced in two ways as follows:

<table>
<thead>
<tr>
<th>Set 1</th>
<th>Set 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>increase</td>
<td>inCREASE</td>
</tr>
<tr>
<td>CONtest</td>
<td>conTEST</td>
</tr>
<tr>
<td>CONtrast</td>
<td>conTRAST</td>
</tr>
</tbody>
</table>

   The words in set I has prominence on first syllable, while in set II it is on
   the second.

   It can be made clear in (3) in sentences

   Prominence in question is called **STRESS**

2. **Word prominence** (R & J, pp.296 - 298)
   Consider the data below

   (4) time flies

   the first word in (4) has more stress. Understand the pronunciation of
   items in (7)

   Give further examples of your own

   Lack of differences between pronunciation of time flies and time-flies
   (give other examples)

   In (4) and (7), like in (2), only one word is emphasized in the utterance

   In a sequence of words, only one word is emphasized.
3. **The Foot in a Prosodic Hierarchy**

![Diagram](image)

Roca 1994: 195 (see also Katamba, p.281)

In order to understand the behavior of prominence/stress in words, phrases and sentences we need to motivate another abstract entity called the **FOOT**.

The foot organizes adjacent syllables into units for purposes of marking prominence. The foot organizes the syllables into constituents which mark relative prominence: weak & strong. The strong or the dominant element is called the **HEAD**.

4. **Metrical Grids**

One formal structure or notation for marking prominence is the use of grids. Consider the following examples below (R & J, pp.299-300):

- **IMplant (N)** imPLANT (V) time-flies/time flies

A representation of prominence is given below:

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(10) a.</td>
<td>*</td>
<td></td>
<td>b.</td>
<td>*</td>
<td>Stress line</td>
<td>Stress line</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>*</td>
<td>(to) implant</td>
<td>(an) implant</td>
<td>Baseline</td>
<td>Baseline</td>
</tr>
<tr>
<td>(11) a.</td>
<td>*</td>
<td></td>
<td>b.</td>
<td>*</td>
<td>Stress line</td>
<td>Stress line</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>*</td>
<td>time flies</td>
<td>time-flies</td>
<td>Baseline</td>
<td>Baseline</td>
</tr>
</tbody>
</table>
Stressed elements have more stars than unstressed syllables
- The heavily starred syllables are referred as **HEADS**
- The head of the syllable bears the stress mark
- The head projects onto a higher level such as stress

5. **Motivating Stress contrasts**
We have seen the contrast between certain bisyllabic nouns and verbs. The only difference is in the prominence patterns.

- Is there a necessary connection between stress and meaning?
- Certain structures are in themselves ambiguous. They can only be understood within a phrasal or sentential context, etc. or in the category of words
- Understand the discussion here by referring to syntactic structures of the two – **time flies** & **time-flies**

6. **Motivating the foot (Katamba, p. 225 -239)**
Strong and weak positions or prominent and non-prominent syllables are paired together in a prosodic formation called the **foot**. In some languages, foot formation is binary, while in others it may be unbounded.

- What evidence motivates the foot in phonological analysis?
  
a. Contrast in words such nouns, versus verbs.
b. The phenomenon of segmental aspiration in English (Roca 1994: p.204-206). Consider the data below:

Consider first such data as in (38) (aspiration is informally represented in the data by means of italicisation):

(38) a. time
    talisman
    Tamerlane
    telegraph

b. telegraphic
    tombola
    tuxedo
    Tanganyika
    tambourine
    terrain

All aspirated *s* in (38) are word-initial. Clearly, however, this is not the only context for aspiration:

(39) de\-rain
    de\-tion
    en\-\-ire
    re\-putation

Here, non-word-initial *s* are likewise aspirated. By contrast, those in (40) are not:

(40) alter
    satyr
    shatter
    hospital

The obvious difference between (39) and (40) is that, in the former, the syllable of which *t* is the onset carries the word stress. In this, the data in (39) agree with those in (38a). The problem now is (38b), where the stress falls elsewhere and yet the *t* aspirates.

Consider now (41):

(41) sa\-ire
    reptile
    infant\-ile
    longi\-ude

Here, again, the word primary stress falls outside the syllable containing the aspirated *t*. Interestingly, however, this syllable carries a secondary stress, as an examination of the minimal pair *sa\-ire : satyr* will reveal. In view of this development, it would appear that the strongest criterion on which to base aspiration is stress.
7. **Foot Formation:**

- **Iambic Foot**: a grouping of pairs of syllables in twos following the pattern: unstressed – stressed, a right-headed foot
- **Trochaic Foot (Trochee)**: pairing of syllables in twos following the pattern: stressed – unstressed, a left-head foot

A foot is bounded by a head which dominates its weak counterpart

Illustrate the difference with bisyllabic nouns & verbs in English or Jamaican Creole

**Algorhythms for stress assignment**

END STRESS:
Project the right-most/left-most asterisk

The last stress in a metrical line is copied onto the immediate line above

8. **Feet Extrametrically (Also Katamba, p.231)**

Consider the following examples (Roca 194: 177)

- a. América    b. agénda    Arízona
  cinnamon      conúndrum      cicáda
  Cánada        appéndix       balaláika
  Ágatha        Matílda        Therésa

In the (a), stress is on the antepenultimate syllable
In the (b) stress is the penultimate

Reasons:
- a. the penultimate syllable is either closed, a long vowel or a diphthong – heavy syllable
- b. none of the conditions above is met – light syllable

Another reason may be due to extrametricality
Sometimes peripheral syllables in stress languages are not available for syllabification, perhaps due to the nature of their syllable structure
For purposes of stress assignment, such syllables are bypassed or ignored. Such a syllable is said to be extrametrical.

A language such as Swahili is a typical example of a language with extra-metrical syllables. Only penultimate syllables are stressed. English Examples above also illustrate the phenomenon (use Katamba, p.231).

A rule of such is as follows:

Extrametricality:
Make the right-most/left-most asterisk extrametrical
(notationally: \( * \rightarrow <^* > \))

A condition must be met for extrametricality to apply. Such condition is known, as follows:

Peripherality Condition:
Only peripheral elements can be extrametrical

We can now revise representation of time flies as below:

```
* * * <^*>
Baseline
```

```
time-flies \rightarrow time-flies
```

```
Extrametricality
```

Extrametricality makes the asterisk on flies invisible, and consequently the output now includes only one baseline asterisk. The action of End Stress [ (I) on this structure places the main stress of the collocation in the correct position:

```
* <^*>
```

```
Baseline
```

```
time-flies \rightarrow time-flies
```

```
End Stress [Right]
```