

# *The stress patterns of -ative words*

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## 1 Introduction

*-ative* is a complex ending attaching to a number of stems in (1), which is composed of the verb forming *-ate* and the adjective forming *-ive*, but “seems to form a single [...] suffix for stress purposes, irrespective of the derivational structure of the word” (Fudge 1984: 61).

### (1) Stems of *-ative* items

- a. verbs ending in *-ate*: *áternate* — *altérnative*
- b. other verbs: *accúse* — *accúsative*
- c. bound stems: *pejórative*
- d. non-verbal free stems: *cálm* — *cálmative*

Derived items ending in *-ative* generally follow one or two of the three stress patterns shown in (2a–c) below.<sup>1</sup>

- (2) a. *invéstigà:tive*     $\acute{\sigma}$   $\sigma$  à:tive
- b. *génération*         $\acute{\sigma}$   $\sigma$  ative
- c. *affi:rmative*        $\acute{\sigma}$  ative

Words following the (2a) pattern are secondary stressed on the ending and the primary stress falls on the second syllable on the left of the secondary stress.<sup>2</sup> The (2b) pattern is similar in that the primary stress is on the fourth syllable from the end but the ending is not secondary stressed (i.e., pronounced /ətiv/). The third mode is to stress the antepenult as in (2c), and reduce the ending.

This study will examine three approaches to the problem: those of Nanni (1977), Halle & Vergnaud (1985) and Burzio (1994). The relevant

<sup>1</sup> As Wells (1990) does not mark post-tonic secondary stresses, I considered *-ative* stressed when it appeared with a full vowel, i.e., /ətiv/.

<sup>2</sup> Some authors (e.g., Kreidler (1984)) and dictionaries (e.g., Wells 1990) do not regard post-tonic strong syllables as secondary stressed. I use the term “secondary stress” (following Burzio (1994)) both for pre-tonic and post-tonic strong syllables, i.e., syllables which are neither primary stressed nor are unstressed.

parts of these theories will be briefly discussed and the methods described in them will be checked against a corpus of 135 polymorphemic *-ative* words.

The corpus has been collected from Wells 1990. All words ending in *-ative* have been selected but items like *dativ*e which were either monomorphemic or were obviously derived by another suffix have been dropped. Both British and American pronunciations are analysed.

## 2 Rule-based accounts

### 2.1 *-ative* words and metrical trees

Nanni (1977) uses Liberman & Prince's (1977) (henceforth LP) framework to account for the stress pattern of *-ative* words. In LP's system an iterative stress rule (3) marks certain vowels stressed and a metrical tree is constructed over the word, which is labelled by the LCPR in (4).

- (3) **English Stress Rule (ESR), Iterative Version** (Nanni 1977: 752)<sup>3</sup>
- $$V \rightarrow [+stress] / \text{---} C_0(\check{V}(C))_a \quad (V \quad C_0)_b \quad (V \quad X)_c \#$$
- $$\langle -long \rangle_d \quad [+stress]$$

Conditions:  $\sim c \supset d$ ;  $\sim a$ ,  $\sim b$  under certain morphological and lexical circumstances.<sup>4</sup>

- (4) **Lexical Category Prominence Rule (LCPR)** (LP: 270)

In the configuration  $[N_1 \ N_2]$ ,  $N_2$  is strong iff it branches.

The metrical tree shows the relative prominence of two adjacent syllables or groups of syllables. After the selection of stressed syllables and the construction of the labelled tree diagram, destressing rules may apply to vowels in order to remove unwanted stresses. Destressing, however, cannot result in an ill-formed structure: metrically strong syllables (syllables immediately dominated by an *s* node in the tree) cannot be reduced (LP: 290).

Nanni (1977) assumes that words ending in *-ative* are weak retractors (marked  $\sim b$  in the lexicon). That is to say, after stressing *-ative*, the ESR

<sup>3</sup> The ESR is given in LP: 278 a bit differently, but it seems to be a typographic error:  $\text{---} C_0(V(C))_a$ . All previous rules contain  $\check{V}$ , except this one.

<sup>4</sup> In LP's system words are marked in the lexicon according to their secondary stress patterns. LP distinguish three different modes for stress retraction, Long, Strong and Weak Retraction. Words marked  $\sim a$  in the lexicon are Strong Retractors,  $\sim b$  marks Weak Retractors (LP: 274–277).

will assign [+stress] to the vowel in the immediately preceding syllable if it is heavy, otherwise the stress will fall on the vowel in the second syllable from the ending. If we apply these rules to the three examples given in (2a–c), the following patterns will arise:<sup>5</sup>

- (5) a. *ínvístigá:tive*
- b. *génerátive*
- c. *áfí:rmátive*

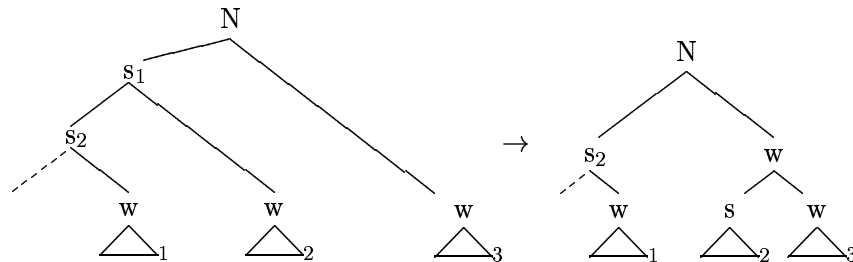
Now tree-construction can begin, but as Nanni (1977:755f) observes, in order to avoid penultimate main stress (i.e., \**invèstigátive*) we must mark the morpheme *-ive* extrametrical (invisible to the stress rules). After labelling the tree, however, all the syllables must be adjoined to the structure.

The two rules at play here are Stray Syllable Adjunction, (6), and Foot Formation, (7). These ensure that an unparsed syllable will be parsed into the preceding foot. If a foot would be too large (containing 4 or more syllables) the second half of the foot will form a new, weak foot, headed by a syllable containing a [+stress] vowel.<sup>6</sup>

(6) **Stray Syllable Adjunction (SSA)** (LP : 294)

Any syllable unaccounted for by the ESR and its concomitant tree-building is to be adjoined as a weak sister to the nearest maximal left foot, respecting word boundaries.

(7) **Foot Formation (FF)** (LP : 296)



<sup>5</sup> I marked the vowels with the feature [+stress] with an accute accent.

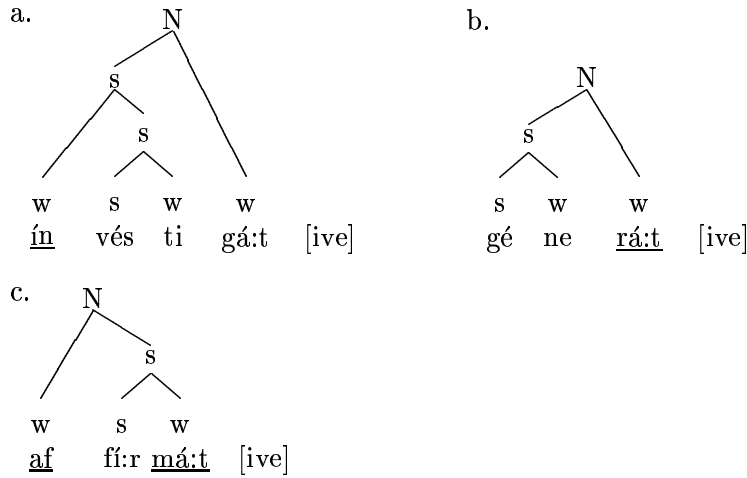
<sup>6</sup> FF creates a tree configuration that is unattested otherwise: a branching right node is labelled *w*. The LCPR, in (4), would give an *s* label to this node in the tree.

In (8) the essential points in the derivation of the stress pattern of *investigative*, *generative* and *affirmative* are shown.<sup>7</sup>

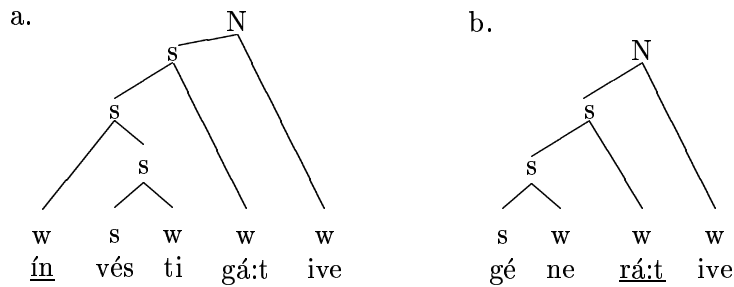
(8) i. The last syllable is marked extrametrical and the ESR assigns [+stress] to vowels, which is marked by acute accents here.

- a. ín.vés.ti.gá:t[ive]      b. gé.ne.rá:t[ive]      c. áf.fí:r.má:t[ive]

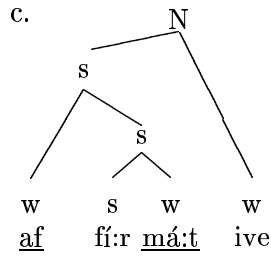
ii. Binary branching metrical trees are built above the words (leaving extrametrical syllables untouched), which are labelled by the LCPR.



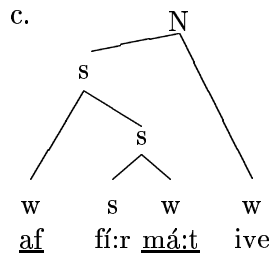
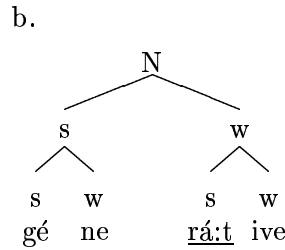
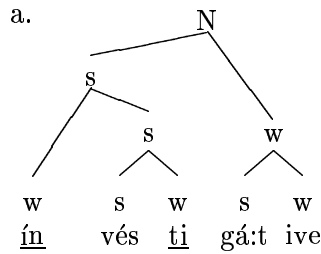
iii. The extrametrical syllables are incorporated into the tree by the SSA (6).



<sup>7</sup> Extrametrical syllables are enclosed in square brackets, and syllables which should be destressed are underlined.



iv. Where necessary (in (a) and (b)), new feet are formed by FF (7).



Now we have to account for the destressing of the vowels in the underlined syllables. LP propose that weakening occurs in three positions: (i) word-initially immediately before a stronger stressed syllable (police), (ii) in medial open syllables before a more strongly stressed syllable (definition) and (iii) in prefixes which are followed by a more strongly stressed syllable (MacDonald), which is reflected in the destressing rule given in (9).

(9) **English Destressing Rule (EDR)** (LP : 290)<sup>8</sup>

$$V \rightarrow \left[ \begin{array}{l} -\text{stress} \\ -\text{long} \end{array} \right] / \# \langle X V \rangle_b C_0 \text{ — } \langle C_0 = \rangle_c (C) V$$

[(+long)<sub>a</sub>]

Condition: a  $\supset$  (b  $\vee$  c)

<sup>8</sup> = stands for a prefix boundary here, e.g., *in=tense*, *ab=surd*.



## 2.2 Problems with Nanni's account

The theory described above makes good predictions in the majority of cases with a rather complicated rule system. It allows for some variation, because the application of *At*-destressing is optional. Due to the ESR, however, one string cannot have two different distributions of [+stress] syllables, which seems to be the case in words like *connótative* ~ *cónnotàtive*. Nanni (1977: 755) remarks that she cannot account for these examples. These items seem to behave as if they were Long Retractors and Weak Retractors at the same time.

Furthermore, the stress pattern of some words simply cannot be generated by the ESR. These examples include (i) *múltiplicàtive*, which behaves as a Long Retractor despite the ending and (ii) *affrícative*, which should not be stressed on an open syllable before the ending.

Thirdly, there are words which do undergo *At*-destressing, though *-ative* is not preceded by a single vowel plus an optional sonorant, but by an obstruent, as in *quálitative* or by a consonant cluster, as in *administrative*.

## 2.3 A grid-only approach

Halle and Vergnaud (1985) (henceforth HV) follow Nanni (1977) and create a special rule for words ending in *-ative*, though in a very short and undetailed account. Their system, however, does not make use of the metrical tree, like Nanni's, neither do they have a stress rule similar to the ESR ((3) above), but they create a metrical grid for every word on a special autosegmental plane, which is connected to other planes by the string of phonemes (HV:5–6). Their rules are all operations on the metrical grid: first the grid is constructed over a string of syllables, which are the stress bearing elements, then the grid is modified so that it would reflect the actual prominence relations.

The bottom line (line 0=L0) of the grid is the line of slots which are associated with those phonemes on the central axis which are stress-bearing. Stress-bearing units (syllables in English) are arranged into stress domains (constituents) that contain "exactly one rhythmic position that is distinguished from all the others as being more prominent" (HV:9), which is considered to be the head of the constituent in question.<sup>9</sup>

<sup>9</sup> In this respect metrical structure is parallel with syntactic and morphological structure: a constituent is the projection of a head.

The boundaries of constituents are marked by parentheses and their heads (i.e., stressed elements) are represented by an asterisk on the line immediately above the line on which the constituent appears. Asterisks on L0 mark all potential stress-bearing elements, which are arranged into constituents by rules (16a–b), discussed below. (16c) marks the heads of all constituents on L1.

Below the derivation of *affirmative* will be presented following HV, and the rules needed will be cited. The derivations of *investigative* and *generative* are not shown, because HV's rule system will be found insufficient for deriving the pattern of any word ending in *-ative*.

HV postulate that *-ative* is a separate stress domain, therefore up to a certain point in derivation the stem and the ending are treated as separate words (this will be marked by braces around the constituents).<sup>10</sup> The first step in the derivation is to place asterisks over the potential stress bearing elements, as in (13).

(13)    \*    \*    \*    \*    L0  
          {af firm} {at ive}

Now the Accent Rule (14) aligns heavy syllables with stresses, as in (15).

(14) **Accent Rule** (HV: 231)

Assign a line 1 asterisk to a syllable with a branching rime with the proviso that the word-final consonant is not counted in the determination of rime branchingness in the case of the final syllable of underived verbs and adjectives.<sup>11</sup>

(15)    \*    \*    \*    ·    L1  
          \*    \*    \*    \*    L0  
          {af firm} {at i[ve]}

The next step in the derivation is the construction of metrical constituents. The Main Stress Rule (16), which is actually a collection of parameters for grid construction, is responsible for this process.

<sup>10</sup> HV do not give reasons for their decision in the case of *-ative*. Endings are generally treated as separate domains if they are likely to receive stress, like *-ory* in *respiratory*.

<sup>11</sup> This proviso is actually a version of segment extrametricality. HV do not say how affixes as separate stress domains should be treated in this respect, but on the basis of the partial derivations on page 262 we can conclude that segment extrametricality is at work here. These examples will be discussed in detail in (21) below.



(16) **Main Stress Rule (MSR)** (HV : 228)<sup>12</sup>

- a. Line 0 parameter settings are [+HT, +BND, left, right to left].
- b. Construct constituent boundaries on line 0.
- c. Locate the heads of line 0 constituents on line 1.
- d. Line 1 parameter settings are [+HT, -BND, right].
- e. Construct constituent boundaries on line 1.
- f. Locate the head of the line 1 constituent on line 2.
- g. Conflate lines 1 and 2.

(16a) says that unary or binary, left headed feet should be constructed on L0, while on L1 only one right-headed constituent is built. Conflation (16g) means that every asterisk on L1 is deleted that does not have a corresponding counterpart on L2, in order to avoid that the MSR should generate non-existent subsidiary stresses.

$$\begin{array}{cccccccccccc}
 (17) & \cdot & * & * & \cdot & & \cdot & * & * & \cdot & L2 \\
 & (* & *) & (*) & \cdot & & (\cdot & *) & (*) & \cdot & L1 \\
 & (*) & (*) & (*) & *) & \xrightarrow{(16g)} & * & (*) & (*) & *) & L0 \\
 & \{af & firm\} & \{at & i[ve]\} & \longrightarrow & \{af & firm\} & \{at & i[ve]\}
 \end{array}$$

This is the point in derivation when the two separate stress domains are united as the non-cyclic stratum of derivation starts. The syllables regarded as extrametrical are no longer invisible: the stress rules start to apply to them as well. The first half of the MSR (16a-c) (=Alternator) reapplies on the string, marking potential secondary stressed syllables. Then a rule very similar to the MSR, given in (18), creates L3 (19).

(18) **Non-Cyclic Main Stress Rule (MSR)** (HV : 242)

- a. Line 2 parameter settings are [+HT, -BND, right]
- b. On line 2 construct constituent boundaries.
- c. Locate the line 2 constituent head on line 3.

$$\begin{array}{cccccccccccc}
 (19) & & & & & & \cdot & \cdot & * & \cdot & L3 \\
 & & \cdot & * & * & \cdot & (\cdot & * & *) & \cdot & L2 \\
 & & (* & *) & (*) & \cdot & (* & *) & (*) & \cdot & L1 \\
 \xrightarrow{(16a-c)} & & (*) & (*) & (*) & *) & \xrightarrow{(18)} & (*) & (*) & (*) & *) & L0 \\
 & \longrightarrow & \{af & firm\} & \{at & ive\} & \longrightarrow & \{af & firm\} & \{at & ive\}
 \end{array}$$

<sup>12</sup> [+HT]=[±head terminal, i.e., the head of the foot should be adjacent to the left foot boundary. [+BND]=[±bounded], i.e., the head of the foot may be separated from the right foot boundary by maximally one asterisk, therefore only unary (\*) or binary (\* \*) feet are allowed.

At this point the main stress is still on the ending, which would yield the incorrect pattern *affirmátive*. HV generally use the Rhythm Rule (20) to move the stress to the left.

(20) **Rhythm Rule** (HV : 235)

In a constituent C composed of a single word, retract the right boundary of C to a position immediately before the head of C, provided that the head of C is located on the last syllable of C and that it is preceded by a stressed syllable.

However, in this case (20) cannot be applied since the constituent on L2 is not composed of a single word. Since there is no other way of retracting the main stress in HV's system, it seems that *affirmative* cannot be derived with this set of rules. Given that the ending *-ative* would be assigned the same grid in every word, this method cannot account for any instances of *-ative*. With words like *affirmative* we would face the same problems if the ending were not a separate domain, since *-at-* would be the most strongly stressed syllable (as it should be heavy because of the long vowel), but *\*affirmat* still will not be a word.

HV do apply this rule in their example cited below in (21), and do not comment on this "illegal" application. The two additional rules needed in these derivations are given in (22) and (23).

(21) **HV's derivation** (HV : 262 (76) and (77))<sup>13</sup>

|    |      |     |      |     |      |                               |                              |     |     |     |      |      |    |
|----|------|-----|------|-----|------|-------------------------------|------------------------------|-----|-----|-----|------|------|----|
| a. | ·    | *   | ·    | *   | ·    | b.                            | ·                            | ·   | ·   | *   | ·    | L3   |    |
|    | (·   | *   | ·)   | (*  | ·)   | (·                            | *                            | ·   | *   | ·)  |      | L2   |    |
|    | *    | (*  | *)   | (*  | *)   | (*                            | *                            | ·   | *   | ·)  |      | L1   |    |
|    | {au  | tho | rit} | {at | ive} | $\xrightarrow[(18)]{(16a-c)}$ | {au                          | tho | rit | at  | ive} | L0   |    |
|    |      |     |      |     |      |                               |                              |     |     |     |      |      |    |
|    | c.   | ·   | *    | ·   | ·    | d.                            | ·                            | *   | ·   | ·   | ·    | L3   |    |
|    |      | (·  | *    | ·)  | ·    | *                             | (·                           | *   | ·)  | ·   | ·    | L2   |    |
|    |      | (*  | *    | ·)  | (*   | ·)                            | (*                           | *   | ·)  | (·  | *    | L1   |    |
|    | (20) | (*) | (*   | *)  | (*   | *)                            | $\xrightarrow[-ative]{(22)}$ | (*) | (*  | *)  | (·   | *    | L0 |
|    |      | {au | tho  | rit | at   | ive}                          | $\xrightarrow{\text{Rule}}$  | {au | tho | rit | at   | ive} |    |

<sup>13</sup> The rule numbers are changed in these derivations to match the rule numbers of this essay.

(22) **Stress Deletion** (HV : 239)<sup>14</sup>

Over a stress well, delete asterisks on line 1 and above, provided that the well is assigned to a syllable with a nonbranching rime or to a Latinate prefix.<sup>15</sup>

(23) ***-ative* Rule** (HV : 262)<sup>16</sup>

... renders the *-at-* non-stress-bearing. Once the line 0 asterisk over *-at-* is deleted, the stress shifts automatically to *-ive*.

The following problems emerge with the grids in (21): (i) L1 constituents should be head-terminal (+HT) and right-headed, meaning that there must be an asterisk in the rightmost position of a constituent (i.e., (... \*)). Only one constituent on L1 meets this requirement. (ii) The same applies to L2 constituents, though the two constituents in (21c–d) are well-formed. (iii) As a consequence, the Rhythm Rule (20) “can” only apply here because the illegal constituent in (21b) on L2 coincides with the word. (iv) The *-ative* Rule (23) is a rather unique rule because it is capable of deleting L0 asterisks as well. What is more, the constituents affected by this move are not deleted, as in the case of conflation (16g), but are kept and the stress is moved rightwards onto *-ive*, which is another unique process.<sup>17</sup> Furthermore, a right-headed constituent would be created on L0, which is again impossible, since it contradicts the MSR (16). For these reasons HV’s account seems to be deficient and is in contradiction with their own theory.

HV’s system cannot produce the correct patterns for *-ative* items with this collection of rules. The major problem seems to be that due to the long vowel in *-ative* the main stress would go on the suffix and there is no mechanism to move it backwards to the stem. Besides, HV’s *-ative* shortening is not precise and therefore gives rise to illegal structures. Even with a more precise formulation, this system would be rather complicated and could hardly account for the variation found in the stress patterns of most *-ative* items.

<sup>14</sup> This rule applies here vacuously.

<sup>15</sup> Stress well: “every stressed syllable automatically induces a well under the syllable adjacent to it, provided that the stress of the latter is of lesser magnitude than the stress of the former” (HV : 238).

<sup>16</sup> This rule is postulated but not formalized by HV.

<sup>17</sup> HV assume that *-ive* should be stress bearing, because they have found that flapping does not occur before this ending so extensively (flapping is blocked before a stressed syllable). However, Wells (1990) lists all HV’s examples with a flap, which does not support this claim.

### 3 A radically different approach: stress-checking

#### 3.1 Basic notions of Burzio's theory<sup>18</sup>

Unlike the previously presented accounts, Burzio's (1994) (henceforth B) theory is based on a hierarchically ordered set of constraints instead of a collection of rules. No metrical trees or grids are built, but the constraints determine the possible foot-structures that can be constructed over a given string. Stress is assigned underlyingly and is checked (together with vowel length) by the constraints (B:12).<sup>19</sup>

##### 3.1.1 Segments, syllables, feet and levels of stress

Burzio acknowledges the following levels of phonological representation within words: segments, syllables and feet. Segments are arranged into syllables,<sup>20</sup> syllables form feet, and feet are organized into phonological words, based on the Metrical Well-formedness Constraints, which cannot be violated. In order to account for irregularities in the stress patterns of words, the occurrence of exceptional segments is allowed, while syllables and feet must be regular.

There are two types of exceptional segments: (i) the null segment (marked  $\phi$  or mute *-e*) and (ii) bipositional consonants.<sup>21</sup> The null segment (or null vowel) appears at word edges, has no phonetic content (i.e., is never realized on the surface) and can serve as a nucleus of a syllable. This special segment is needed because the well-formedness conditions on feet exclude monosyllabic feet. That is to say, monosyllabic words like *at* will

<sup>18</sup> I will only mention those aspects of the theory which are absolutely necessary here. A more detailed summary of Burzio's system is in Wenszky 1996.

<sup>19</sup> In this respect this framework is similar to Optimality Theory (Prince & Smolensky 1993).

<sup>20</sup> Syllable boundaries are determined on the written form of a word. The syllable boundary is generally put between two consonants in consonant clusters and in the case of geminate consonants (e.g., *bac.tericidal*, *ac.celeration* (B:219)). VCV sequences are syllabified as V.CV (e.g., *fa.miliarity* (B:219)). VCCV sequences, however, are syllabified as V.C<sub>1</sub>C<sub>2</sub>V if C<sub>1</sub> is a stop or *f*, and C<sub>2</sub> is a liquid, i.e., if the cluster is a well-formed onset (e.g., *de.preciation* (B:181), *re.frigeration* (B:182), *hy.droxide* (B:280)). *s*+C sequences, even if they can constitute a well-formed onset are parsed as *s.C* (e.g., *mys.terious*, *aus.picious* (B:288)).

<sup>21</sup> Since these segments do not play a crucial rule in the derivation of the items discussed here, I will not elaborate on them. They appear, for example, in finally stressed verbs like *per.mít*: per(mit.t $\phi$ ) (B:52–58).

be composed of two syllables: one that is pronounced and another that has no phonetic content (at.t $\phi$ ) (cf. B : 20–42, 46, 99, 116).

The segments are arranged into syllables. There are three basic types of syllables: H(eavy), L(ight) and W(eak). H and L syllables are defined traditionally, though a class of H syllables is considered to be special: syllables ending in a sonorant or *s* (H<sub>n</sub>) behave as L in unstressed position, and count as H when stressed (i.e., when the head of a foot).<sup>22</sup> Weak syllables are characterized by acoustic weakness, which is witnessed in (i) syllables with high vowels /i u/ (24a), (ii) syllables with consonantal nuclei (24b), or (iii) syllables with null vowels ( $\phi$ ) (24c).

(24) Possible syllable types (B : 16–17, 70–72)

- a. ac.cu.ra.cy HLLW
- b. car.bun.cle H<sub>n</sub>H<sub>n</sub>W
- c. as.te.ris.k $\phi$  H<sub>n</sub>LH<sub>n</sub>W

Weak syllables generally occur at the end of words, and may be parsed in three ways (B : 16, 238). (i) They are the only syllables that may be extrametrical (i.e., remain unparsed at the end of words) (25a), (ii) if they are parsed into a binary foot, they yield a weak foot (25b) or (iii) W syllables may also be parsed into a ternary non-weak foot (25c).

(25) Possible parsing of W syllables<sup>23</sup>

- a. extrametrical                      pe(jó.ra.ti)ve              L(LLW)W
- b. weak binary foot                      (gé.ne)(rà:.ti)ve              (LL)(HW)W
- c. ternary non-weak foot              com(bá.ti.ve)              H(LLW)

The four types of syllables are arranged into feet. Burzio (5, 165) claims that monosyllabic feet are excluded from the universal foot inven-

<sup>22</sup> The curious behavior of H<sub>n</sub> syllables has also been noted by Selkirk (1984 : 127) and HV (255).

<sup>23</sup> Burzio is controversial throughout the whole book concerning weak syllables. It is especially ambiguous when a syllable containing a high vowel should be counted as Weak. The ending *-ive* is generally analysed as WW, but in the case of (25c) we cannot have this structure, since the foot (LWW) would be considered ill-formed (B : 147–155).

tory: well-formed feet are either binary ( $H\sigma$ ) or ( $L\sigma$ ), or ternary ( $\sigma L\sigma$ ).<sup>24</sup> Monosyllabic feet are excluded, because stresses on adjacent syllables are generally found at word edges, but not word-medially. The exclusion of monosyllabic feet makes it impossible to generate two adjacent stresses. Word-initial stresses are accounted for with the help of the null vowel, e.g., *còncàvity* ( $\phi.c\grave{o}n$ )( $c\acute{a}.vi.ty$ )=(WH)(LLW).<sup>25</sup>

Well-formed feet are listed in (26).

(26) **Possible feet** (B : 165)

| Non-rightmost   | Rightmost (=last)                                       |
|---|---|
| ( $H\sigma$ ) mo(n\grave{o}n.ga)h\acute{e}:.la= $\sigma(H_nL)$ HL         | ( $H\sigma$ ) a(g\acute{e}n.da)= $\sigma(H_nL)$         |
| ( $\sigma L\sigma$ ) (w\grave{i}n.ne.pes)s\acute{a}u:.kee=( $H_nLH_n$ )HH | ( $\sigma L\sigma$ ) a(m\acute{e}.ri.ca)= $\sigma(LLL)$ |
| ( $L\sigma$ ) ac(c\acute{e}.le)r\grave{a}:.te= $\sigma(LL)$ HW            | #( $L\sigma$ ) (h\acute{o}.nes)t $\phi$ =( $LH_n$ )W    |

A central question arises with this foot typology, which is not explicitly answered in Burzio: are ( $\sigma H_n\sigma$ ) feet well-formed (since  $H_n$  counts as light in unstressed position) or not? Burzio (138) excludes the pattern \*(*\acute{a}.dum.bra*)*ti.ve* because the foot ( $\sigma H_n\sigma$ ) is regarded ill-formed, but he remarks that *ad(m\acute{i}.nis.tra)ti.ve* — with the same ( $\sigma H_n\sigma$ ) foot — is well-formed because  $H_n$  may function as light (B : 138, fn. 6). The conditions under which ( $\sigma H_n\sigma$ ) is well-formed are not explicitly given. The findings of this study support that ( $\sigma H_n\sigma$ ) feet are well-formed and thus should be part of the foot inventory.

The binary foot ( $H\sigma$ ) has a special subtype, (HW), called weak foot. Weak feet — due to the distribution of weak syllables — occur at the end of words, and are not strong enough to carry the primary stress, which will fall on the preceding foot, as in *acc\acute{e}ler\grave{a}te* in (26) above. A weak foot can only be primary stressed if it is the only foot in a word, as in *top*: (*t\acute{o}p.p\phi*) = (HW).

Burzio distinguishes three levels of stress: primary, secondary (both pre- and posttonic) and zero. Primary stress falls on the rightmost non-weak foot (B : 16). Secondary stress is assigned to all other foot-heads.

<sup>24</sup> Burzio cannot totally reduce feet to these two types: in long, multiply suffixed words he supposes word-internal extrametricality (B : 241, 308–309), which in fact means that feet may be longer than ternary: e.g., a(m\acute{e}.ri.ca)ni(z\acute{a}.tio)n $\phi$ . Tetrasyllabic feet are regarded, however, “highly exceptional” (B : 234, fn. 6) — which means that exceptional feet do exist.

<sup>25</sup> Actually, the foot (WH) is not listed in (3). Burzio (99) considers this the mirror image of (HW), which only appears in words with word initial secondary stress immediately followed by the primary. This foot, contrary to all other possible feet, is right-headed, which is another case of exceptionality.

Post-tonic secondary stress is on the head of a weak foot, while pre-tonic secondary stresses are generally aligned with the heads of non-weak feet. The syllables with no foot-head status are zero stressed.

### 3.1.2 Conditions on parsing

A string of segments can be given more than one possible analysis based on the constraints of foot-formation. Conditions on parsing are needed to choose the most likely foot structure out of these. These constraints differ from Well-formedness Conditions in that (i) they are hierarchically ordered and (ii) they may be violated, thus allowing for variation.

The three relevant constraints referred to as Metrical Alignment are listed in (27), the strongest being the Strong Retraction Condition, while the weakest is the Metrification of verbs. The words ending in *-ative* were parsed following these constraints.

(27) **Metrical Alignment** (B : 166)

- a. Strong Retraction Condition:  $\dots(\sigma\sigma)(HW)\#$   
 $ac(cé.le)(rà.te)$ ,  $*(ác.ce.le)(rà.te)$
- b. Alignment of heavy syllables:  $*(\sigma\dots H\dots)$ ,  
 where the sequence  $\dots$  contains no foot boundaries  
 $*(cál.cu.la:)ti.ve = *(HLH)$ ,  $(cál.cu)(là:ti)ve = (HL)(HL)$
- c. Metrification of verbs:  $\dots\phi$   
 $i(má.gi.ne)$ ,  $*(í.ma.gi)ne$

The Strong Retraction Condition (27a) says that before a weak foot (HW) a binary pattern is preferred to a ternary one:  $ac(cé.le)(rà.te) = \#\sigma(L\sigma)(HW)\#$  instead of  $*(ác.ce.le)(rà.te) = *\#(\sigma L\sigma)(HW)\#$ .

According to (27b), heavy syllables are to be avoided foot-internally: they should begin a new foot (and therefore bear stress). This constraint is violated several times in Burzio's work, and leads to ambiguities, especially in the case of  $H_n$  syllables, as noted above.

(27c) requires that verbs should metrify the final null vowel, in order to account for the difference in the stress patterns of nouns and verbs:  $convert_V = con(vér.t\phi)$  vs.  $convert_N = (cón.ver)t\phi$  (B : 166). This constraint is relevant to our work because the stress pattern of *-ative* items will crucially depend on the stress pattern of the stem (which is in most cases a verb).

The constraints mentioned up to this point are sufficient for checking stress in monomorphemic words. However, another set of principles is

needed for morphologically complex words, which is called Metrical Consistency (28). This assures that the stress pattern of the stem will be respected under certain conditions,<sup>26</sup> viz., that “stem stresses should be preserved *if and only if* they correspond to independently well-formed feet” (B:170).

(28) **Metrical Consistency** (B:228)

Every morpheme must be as metrically consistent as possible

This condition refers both to lexical stems (foot-heads should remain foot-heads during affixation) and to affixes. Affixes generally have pre-determined parsings (B:199ff), i.e., the foot boundaries are “incorporated” into their forms (29). These built-in foot boundaries ensure that the ending is capable of “placing” the stress. *-ic* (29a) always places the stress on the immediately preceding syllable, since only a ternary foot is possible here (note the impossibility of rightmost (Lσ)), while *-al* (29b) places stress on the immediately preceding heavy syllable, or if the immediately preceding syllable is light, one syllable before.

(29) **Examples for suffixes** (B:200, 202)

- a. *-ic* i.cφ = LW) his(tó.ri.cφ)  
 b. *-al* a)lφ = L)W (di.a)(léc.ta)lφ ~ me(dí.ci.na)lφ

Metrical Consistency is stronger than Metrical Alignment, but is naturally overridden by Metrical Well-formedness Constraints, i.e., conditions on foot formation and extrametricality.

### 3.2 The *-ative* suffix

As noted in section 1 above, this is an ending comprised of two suffixes: *-ate* and *-ive*. This complex ending is classified as Pre-stressed 1/2 by Fudge (1984), which means stress should fall on a heavy syllable before the suffix, if there is one, otherwise two syllables away from the suffix, in a similar manner to (29b) above.

However, there are two facts to be noted: (i) in some words the light syllable before the suffix is stressed (*pejórative*), while in other cases the ending itself carries secondary stress (*grávità:tive*). These two facts do not follow from the Pre-stressed 1/2 nature of the ending. Regarding *-ative* Pre-stressed 1/2 would suggest the structure a:)ti.ve = H)WW. However,

<sup>26</sup> HV also suggested that the stress of the stem should be respected (cf. Stress Copy, HV:247).



with this structure the secondary stress can never fall on *-at-*. For that the structure (HW)W = (a:.ti)ve must be hypothesized. It seems that this duality is the reason why Burzio does not assign any pre-determined parsing to this ending.

The ending *-ative* is mentioned in two ways in Burzio. The first occurrence is rather controversial: words like *innovàtive* are first attributed the structure (HW)(σWW): (ín.no)(và:.ti.ve) (B:16), which is impossible according to the principles outlined above (posttonic secondary stress cannot fall on a ternary foot). I shall consider these as misprints for there is a very principled account on pages 295–301, which does not suggest these ill-formed structures.

Burzio (295–301) suggests that there are basically three patterns *-ative* words follow, which were given in (2), but are repeated here in (30).

- (30) Pattern 1 *invéstigà:tive*     $\acute{o}$   $\sigma$  à:tive  
 Pattern 2 *génératíve*         $\acute{o}$   $\sigma$ ative  
 Pattern 3 *affí:rmatíve*        $\acute{o}$  ative

The choice between the three patterns in (30) is determined by the stem, especially by the syllable before the ending<sup>27</sup> and by the interplay of two constraints discussed below in 3.2.1. There are six basic categories of stems:

(31) **Stems of *-ative* items** (based on B:297f)

- |        |              |             |
|--------|--------------|-------------|
| Type 1 | (σL)(à:.te)# | invéstigàte |
| Type 2 | (σH)(à:.te)# | désignàte   |
| Type 3 | bound stem   | pejór-      |
| Type 4 | (Hφ)#        | affírmφ     |
| Type 5 | óσφ#         | áalterφ     |
| Type 6 | non-verbal   | authórity   |

Verbs ending in *-ate* belong to Types 1 and 2 depending on the weight of the syllable before them. Oxytonic verbs like *explóit* are of Type 3, while verbs which are stressed on the penult like *imáGINE* are of Type 5. Bound stems belong to Type 3, while free but non-verbal stems belong to Type 6. Burzio claims that no stem class will choose all the three patterns but would rather select two. To understand his reasoning, first we have to get acquainted with the two constrains that are at work here.

<sup>27</sup> This is similar to Nanni (1977)'s view that destressing depends on the nature of segments before *-ative*.

### 3.2.1 Two constraints: Stress Preservation and Generalized Shortening

One of the constraints is not new: it is an instance of Metrical Consistency discussed in (28) above, namely Stress Preservation (SP) (32). SP1 means the preservation of the first stem stress, while SP2 stands for preservation of the second stem stress (usually that of *-ate*).

(32) **Stress Preservation (SP1, SP2)** (B : 166, 296–301)

Stem stresses must be preserved (i.e., foot-heads should remain foot-heads).

The other constraint concerns vowel length. In this theory vowels can be either short or long underlyingly, but vowels cannot lengthen.<sup>28</sup> The only constraint concerned with length is Generalized Shortening (GS) (33), which says that the long vowel of a stem should shorten due to affixation.

(33) **Generalized shortening (GS)** (B : 320)

V must be short in the context of an affix:

... — ...-affix (linear order irrelevant)

The work of these constraints is illustrated in below.<sup>29</sup> SP and GS are ordered according to Burzio in the following manner: acceptable patterns are those which satisfy two of the three constraints (SP1, SP2, GS). In some cases, however, the satisfaction of GS alone may produce a satisfactory result, as in (34d). Therefore, GS is the strongest constraint. In (34a) both the primary and the secondary stress are preserved, while in (34b) there is only one stress in the stem, and it is kept. As the words in (34c–e) show, in all instances the long vowel is shortened (in fact, reduced) after affixation.

- (34) a. (grá.vi)(tà:.te) ~ (grá.vi)(tà:.ti)ve **SP1, SP2, GS\***  
 b. cre(á:.te) ~ cre(á:.ti)ve **SP1, SP2-, GS\***  
 c. (dé.co)(rà:.te) ~ (dé.co.ra)ti.ve **SP1, SP2\*, **GS****  
 d. con(nó:.te) ~ (cón.no)(tà:.ti)ve **SP1\*, SP2-, **GS****  
 e. (cón.tem)(plà:.te) ~ con(tém.pla.ti)ve **SP1\*, SP2\*, **GS****

<sup>28</sup> In the first part of Burzio's book the situation is just the opposite. There vowels may lengthen, but no shortening occurs. Both systems are capable of deriving the majority of cases, but the exceptions will be different classes of words for each type (cf. B : 127–165).

<sup>29</sup> In the examples in the rest of this essay the name of the satisfied constraints will be given in bold face, the name of violated constraints will be marked with an asterisk and will be underlined. If a constraint is inapplicable, a hyphen is put after the name of the constraint.

### 3.2.2 The choice of stress pattern

Burzio makes predictions concerning the choice of stress pattern, which are summarized in (35).

(35) **Predictions on the stress of *-ative*** (based on B:297f)

|               | Stem        | Pattern 1 (à:ti)ve          | Pattern 2 a)ti.ve | Pattern 3 a.ti)ve           |
|---------------|-------------|-----------------------------|-------------------|-----------------------------|
| <b>Type 1</b> | (σL)(à:te)# | in(vés.ti)(gà:ti)ve         | (gé.ne.ra)ti.ve   | ⊗* <u>SP1</u> , * <u>GS</u> |
| <b>Type 2</b> | (σH)(à:te)# | (dé.sig)(nà:ti)ve           | ⊗*(σHσ)           | al(té:r.na.ti)ve            |
| <b>Type 3</b> | bound stem  |                             |                   | pe(jó.ra.ti)ve              |
| <b>Type 4</b> | (Hφ)#       | ⊗* <u>SP1</u> , * <u>GS</u> |                   | af(fí:r.ma.ti)ve            |
| <b>Type 5</b> | σσφ#        | (ál.te)(rà:ti)ve            | (ál.te.ra)ti.ve   |                             |
| <b>Type 6</b> | non-verbal  | stress preserving           |                   |                             |

The cells where examples are given show that these are the patterns a word derived from the stem in question would choose according to Burzio. Cells marked with ⊗ are the ones which are impossible based on Burzio's predictions. Blank cells stand for variants which are not mentioned. Here I shall repeat his assumptions, but the results of my analysis (which sometimes contradict these predictions) will be given below.

Burzio (297) claims that forms like \**ge(né.ra.ti)ve*, in which the stem ends in a L syllable plus *-àte* (i.e., Type 1) Pattern 3 is unattested, because the first stem stress (*generate*) is not preserved and GS is not satisfied. However, this reasoning is not correct: GS does apply to *-ative* /ətiv/, but SP2 is violated, for *-ative* is no longer stressed. This is exactly the case when GS wins over SP, and as the data show, examples of this kind are attested.

Secondly, if the ending is preceded by a H syllable, the second pattern is excluded because a ternary foot with a heavy medial is not allowed, though both SP1 and GS would be satisfied.

The third negative prediction Burzio makes is that oxytonic stems (Type 4) will reject Pattern 1 when *-ative* attaches, because this variant (*áffirmàtive*) would violate both \*SP1 and \*GS. While this prediction is certainly correct in the case of *affirmative*, my data show different results in this group.

The table in (35) further suggests that a binary foot is preferred before a weak foot (Pattern 1), which is the Strong Retraction Condition, given in (27a) above. Furthermore, if the ending is unstressed (i.e., has a short vowel), a ternary pattern is expected.

### 3.3 The analysis of *-ative* items

This section shows what the data suggest compared to Burzio's expectations. The words collected have been analysed according to Burzio's principles, but very few of these are actually given in the original work. After establishing parsings and finding roots, I grouped the words in a similar fashion to (35), so that each section in my charts would correspond to one cell of (35), but containing all the relevant examples. The complete list of the items analysed can be found in Appendix 2.

In all of the charts below the numbers in the first column indicate the type of the stem (corresponding to (35) above), and the cells marked "||" are the ones that Burzio (297f) predicts to be empty. Column 2 shows the stem and the constraints.

The classification of stems is in Appendix 1. I tried to find stems which are existing words, to be able to see the stress pattern of the stem. In some cases the stems I hypothesized do not coincide with the historical stems: in the case of *carminative*, for example, I took the adjective *carmine* as the stem, as the only candidate in Wells (1990), while the Oxford English Dictionary (1994) gives "L. *cārmināt*- ppl. stem of *cārmināre* to card + -iv" as the origin of the word. The same applies to *administrative* — to *administrate* — to *administer*.

As for the constraints, in the case of bound stems (Type 3) we cannot determine which constraints are relevant, since there is no free stem on which the stem stress pattern could be seen. The numbers before the words in column 3 and 4 show which variant of the word is inserted, the numbers being the same as in Appendix 2: "2.accú:mulà:tive" means that it is the second most frequent pronunciation of the word. \$ marks words that have two different pronunciations with the same stress pattern. These usually differ in one having a reduced vowel where the other has a short lax monophthong (e.g., *cóntemplàtive* /'kɒntɛmpleɪtɪv, 'kɒntɛmpleɪtɪv/). A hyphen indicates syncope, while underlined vowels are long, but they are in an unstressed syllable.

#### 3.3.1 Pattern 1: (à:.ti)ve

As I have noted, the first group of examples have two binary feet, obeying the Strong Retraction Condition, the second of which is weak. Burzio claims that we shall find examples in Types 1, 2 and 5, but not in 4. (36), on the next page, is the complete list of words following Pattern 1.

(36) Pattern 1: (σL)(à:ti)ve<sup>30</sup> = ac(cú:mu)(là:ti)ve

| Type      | Stem  | British  | American  |
|-----------|---|--|---|
| <b>1</b>  | (óL)(à:te) =<br>ac(cú:mu)(là:te)<br>SP1 SP2 GS*   | 2.accú:mulà:tive, 2.áffricà:tive,<br>2.agglú:tinà:tive, 2.allíterà:tive,<br>1.amé:liorà:tive, <sup>31</sup><br>2.appré:cià:tive, 2.assímilà:tive,<br>2.assó:cià:tive, 2.cálcúlà:tive,<br>2.cógità:tive, 2.colláborà:tive,<br>2.commémorà:tive,<br>2.commíserà:tive,<br>2.commú:nicà:tive,<br>2.cópulà:tive, 2.corróborà:tive,<br>2.cú:mulà:tive, 3.degénerà:tive,<br>3.delímità:tive, 2.discrímínà:tive,<br>2.éducà:tive, 1.émanà:tive,<br>2.féderà:tive, 1.grávità:tive,<br>2.ímità:tive, 2.incommú:nicà:tive,<br>1.ínno:và:tive, 2.inóperà:tive,<br>2.invéstigà:tive, 2.íterà:tive,<br>2.manípulà:tive, 2.méditã:tive,<br>2.óperà:tive, 1.óxidà:tive,<br>2.:pò:stóperà:tive,<br>1.própagà:tive, 3.recú:perà:tive,<br>3.regénerà:tive, 3.remú:nerà:tive,<br>2.rú:minà:tive, 2.spéculà:tive,<br>2.stímulã:tive, 2.úlcerà:tive,<br>2.ùncommú:nicà:tive,<br>2.végetã:tive, 3.vi:tú:perã:tive | 3.accú:mulà:tive, 3.agglú:tinà:tive,<br>4.allíterà:tive, 1.amé:liorà:tive,<br>6.appré:ciã:tive, 3.assímilã:tive,<br>3.assó:ciã:tive, 3.cálcúlã:tive,<br>3.có:gitã:tive, 3.colláborã:tive,<br>4.commémorã:tive,<br>3.commíserã:tive,<br>3.commú:nicã:tive,<br>3.co:ó:perã:tive, 4.cópulã:tive,<br>3.corró:borã:tive, 3.décorã:tive,<br>5.degénerã:tive, 3.delíberã:tive,<br>4.delímitã:tive, 3.discrímínã:tive,<br>3.éducã:tive, 3.émanã:tive,<br>3.féderã:tive, 3.génerã:tive,<br>1.grávità:tive, 3.ímitã:tive,<br>3.incommú:nicã:tive,<br>4.ínnovã:tive, 4.inó:perã:tive,<br>3.invéstigã:tive, 3.íterã:tive,<br>3.manípulã:tive, 3.méditã:tive,<br>4.ó:perã:tive, 2.ó:xidã:tive,<br>2.pállã:tive, 3.prédicã:tive,<br>1.pró:pagã:tive, 5.regénerã:tive,<br>5.remú:nerã:tive, 3.séparã:tive,<br>3.spéculã:tive, 3.stímulã:tive,<br>3.úlcerã:tive, 3.ùncommú:nicã:tive,<br>3.végetã:tive, 5.vi:tú:perã:tive |
| <b>2</b>  | (óH)(à:te) =<br>ad(mí.nis)(trã:te)<br>SP1 SP2 GS* | 3.admínistrã:tive,<br>3.cóntemplã:tive \$,<br>2.íllustrã:tive, 1.íntegrã:tive,<br>2.léglislã:tive  | 4.admínistrã:tive,<br>7.cóntemplã:tive \$, 5.íllustrã:tive,<br>1.íntegrã:tive, 3.léglislã:tive  |
| <b>3</b>  | bound stem  | 2.ho:r(tã:ti)ve  | —   |
| <b>4a</b> | (Hφ) = con(nó:te)<br>SP1* SP2- GS                 | 2.cómmutã:tive, 1.cónnotã:tive,<br>3.dénotã:tive   | 3.có:mmutã:tive, 5.có:nnotã:tive,<br>4.dénotã:tive, 4.réstora:tive  |
| <b>4a</b> | ab(lã:te)<br>SP1 SP2- GS*                         | 1.ab(lã:ti)ve <sub>2</sub> , 1.cre(ã:ti)ve,<br>2.(φ.crè:)(ã:ti)ve,<br>2.e(lã:ti)ve \$, 1.ro:(tã:ti)ve  | 1.ab(lã:ti)ve <sub>2</sub> , 1.cre(ã:ti)ve  |
| <b>5</b>  | (óσφ) =<br>in(tér.pre.tφ)<br>SP1 SP2- GS*         | 2.inté:rpretã:tive   | 3.detérminã:tive, 3.imáginã:tive,<br>3.inté:rpretã:tive   |
| <b>6a</b> | Other (non-<br>verbal stem)<br>SP1 SP2- GS-/*     | 2.au:thóritã:tive, 2.quálitã:tive,<br>2.quántitã:tive  | 3.au:thóritã:tive, 3.quá:litã:tive,<br>3.quá:ntitã:tive   |
| <b>6b</b> | SP1 SP2- GS                                       |  | 3.cá:rminã:tive   |

<sup>30</sup> Except for words in groups 3 and 4b, where the pattern is (á:te), with the main stress on -ate.

<sup>31</sup> If this word is parsed with a ternary foot before the final weak one, it violates the Strong Retraction Condition. If /lɪə/ is one syllable, no such problem occurs. But in that case the word belongs to Type 2, with a H syllable before the ending.

As expected, we find numerous examples in the first two cases, where both the stress of the original stem and the stress on the suffix *-ate* are preserved, but the vowel does not shorten. Type 4 is the one the line that is expected to be empty. However, we find two groups here.

In group 4a stress is shifted, but the vowels which bear the primary stress in the stem are shortened at the same time, thus satisfying GS, which — as it is the strongest constraint — is enough to mark the words well-formed.

Group 4b (and 3) is exceptional because the first syllable of the ending receives primary stress rather than secondary, preserving the original stem stress. But the length of the vowel is retained. Here SP1 is satisfied, SP2 is not applicable and GS is violated. It seems SP1 alone can win over GS in this case, just like in groups 5 and 6a (though in the latter GS is simply inapplicable in BrE, therefore the only constraint to be satisfied here is SP1). The word *cá:rminà:tive* preserves its stem stress (SP1), while the stem-final long vowel is shortened (GS), satisfying two of the constraints.

Almost all the above cases (i.e., Pattern 1) have been explained theory-internally, except for 4b and 5, where only SP1 is satisfied. We shall return to this question later.

### 3.3.2 Pattern 2: $(\sigma\sigma a)ti.ve$

The second pattern, (37) on the next page, is characterized by a short vowel in the ending (thus where relevant, GS will be satisfied) and a ternary foot, plus two consecutive extrametrical syllables: *ti.ve*. We expect that there will be no examples in Type 2 due to the ill-formedness of  $(\sigma H\sigma)$ .

While the words in Types 1 and 6 show the expected patterns, Type 2 is not empty — contrary to expectations. There two constraints (SP1, GS) are satisfied, but the ternary foot is of the form  $(\sigma H_n\sigma)$ . As noted before,  $H_n$  syllables count as light in unstressed position, i.e., here. The existence of the forms listed in Type 2 supports that this foot is well-formed (though may not be the ideal ternary foot).

As for Types 4 and 5, the phenomenon noted in connection with Pattern 1 occurs again: the satisfaction of SP1 and no other constraint is enough for a well-formed output.

(37) Pattern 2: a)ti.ve = ac(cú:mu.la)ti.ve

| Type | Stem  | British   | American  |
|------|---|---|---|
| 1    | (óL)(à:te) =<br>ac(cú:mu)(là:te)<br>SP1 SP2* GS   | 1.accú:mulative, 1.agglú:tinative,<br>1.allíterative, 1.appré:ciative,<br>3.appré:c-ative, 1.assimilative,<br>1.assó:ciative, 1.cá:calculative,<br>1.có:gitative, 1.colláborative,<br>1.commémorative, 1.commíserative,<br>1.commú:nicative, 1.co:óperative,<br>1.có:putative, 1.corróborative,<br>1.cú:mulative, 1.décorative,<br>1.degénérative \$, 1.delíberative \$,<br>1.delímitative \$, 1.díscríminative,<br>1.éducatíve, 2.émanative,<br>1.féderative, 1.générative,<br>1.ímitative, 1.incommú:nicative,<br>1.inít-ative, 2.inítíative,<br>2.ínnó(:)vative, <sup>32</sup> 1.inóperative,<br>1.invéstígate, 1.íterative,<br>1.manípulative, 1.médítative,<br>1.nóminative, 1.óperative,<br>1.pállíative, 1.pénétrative,<br>1.pò:stóperative, 1.recú:perative \$,<br>1.regénérative \$, 1.remú:nerative \$,<br>1.rú:minative, 1.séparative,<br>1.spéculative, 1.stímulative,<br>1.úlcerative, 1.úncommú:nicative,<br>1.végetative, 1.ví:tú:perative,<br>2.vítú:perative | 4.accú:mulative,<br>4.agglú:tinative,<br>3.allíterative, 4.appré:c-ative,<br>5.appréc-ative,<br>4.assimilative, 4.assó:ciative,<br>4.colláborative,<br>3.commémorative,<br>4.commú:nicative,<br>2.co:óperative, 3.có:putative,<br>4.corróborative,<br>1.cú:mulative, 2.décorative,<br>4.degénérative,<br>4.delíberative,<br>4.díscríminative,<br>4.féderative, 2.générative,<br>4.incommú:nicative,<br>1.inít-ative B, 3.inó:perative,<br>4.íterative, 4.manípulative,<br>2.nó:minative, 3.ó:perative,<br>3.pállíative, 3.pò:stó:perative,<br>1.recú:perative,<br>4.regénérative,<br>4.remú:nerative,<br>1.rú:minative,<br>2.séparative, 4.spéculative,<br>3.úncommú:nicà:tive,<br>4.ví:tú:perative |
| 2    | (óH)(à:te) =<br>ad(mí:nis)(trà:te)<br>SP1 SP2* GS | 1.adminístrative \$, 5.cóntemplative,<br>1.íllustrative, 1.lé:gislatíve   | 5.adminístrative, 4.lé:gislatíve  |
| 3    | bound stem  | 2.pé:yorative   | —   |
| 4    | (Hφ) =<br>com(mú:te)<br>SP1 SP2- *GS              | 1.commú:tative  | 4.commú:tative  |
| 5    | (óσφ) =<br>de(té:r.mi.ne)<br>SP1 SP2- GS*         | 1.deté:rminative \$, 1.fígurative,<br>1.imáginative, 1.inté:rpretative  | 4.deté:rminative,<br>1.fígurative, 1.imáginative,<br>1.inté:rpretative  |
| 6a   | Other (non-<br>verbal stem)<br>SP1 SP2- GS        | 1.cá:rminative  | —   |
| 6b   | SP1 SP2- GS-                                      | 1.au:thóritative, 1.quálitative,<br>1.quántitative  | —   |

<sup>32</sup> If there is a long vowel in *ínnó:vative*, then GS is violated, not only SP2, which seems to be a problem.

**3.3.3 Pattern 3: (σa.ti)ve**

In the third regular pattern of *-ative* items, (38) on the next page, the ending is again reduced and a ternary foot is constructed, parallel to Pattern 2, but there is only one extrametrical syllable: main stress falls on the (surface) antepenult.

Burzio predicts that there should be no words in Type 1 in (38). However, there are some examples in group 1, which preserve neither stress but the vowel is shortened in them. This is the case when the satisfaction of GS alone is enough. Words in Type 2 display the same behaviour. In 6b SP2 is inapplicable, so GS alone wins over SP1.

Bound stems usually follow Pattern 3 (38) but the constraints SP and GS are irrelevant here as there is no fully specified stem.

The most numerous type in this pattern is 4, the group of oxytonic verbs. Most of them preserve their only stem stress but do not shorten the vowel. This is the phenomenon mentioned above: **SP1** SP2- GS\*/-. This is observed in 6a too. In 4b and 4c GS is satisfied, while in 4d both stem stresses are preserved.

**3.3.4 SP1, SP2-, \*GS**

Numerous examples have been found in the above charts which only satisfied SP1, and GS was violated. Burzio claims that only GS is strong enough to win over the other constraints, therefore in these cases the stress patterns should not exist.

However, there are two solutions to this problem. In Burzio's interpretation SP2 and GS can apply to the first syllable of *-ative* even if *-ate* is not part of the base. If we stick to this interpretation, in all these cases the ending is either stressed (**SP2**, \*GS), as in (39a) or destressed (\*SP2, **GS**) as in (39b).

| (39) | Stem        | <i>-ative</i>    | Pattern — Type |
|------|-------------|------------------|----------------|
| a.   | inté:rpret  | inté:rpretà:tive | 1 — 5          |
|      | quáality    | quálità:tive     | 1 — 6a         |
|      | cá:rmi:ne   | cá:rminà:tive    | 1 — 6b         |
| b.   | commú:te    | commú:tative     | 2 — 4          |
|      | deté:rmine  | deté:rminative   | 2 — 5          |
|      | au:thóritiy | au:thóritative   | 2 — 6b         |
|      | accú:se     | accú:sative      | 3 — 4a         |
|      | cómbat      | cómbative        | 3 — 6a         |



(38) Pattern 3: (σa.ti)ve = af(frí.ca.ti)ve

| Type | Stem  | British   | American  |
|------|---|---|---|
| 1    | (σL)(à:te) =<br>(áf.fri)(cà:te)<br>SP1* SP2* GS | 1.affrícative, 1.corrélatiue \$,<br>1.indicative, 1.interrógative,<br>1.predicative \$  | 1.affrícative, 1.corrélatiue,<br>1.indicative, 3.innó:vative,<br>2.interró:gative   |
| 2    | (σH)(à:te) =<br>(ál.ter)(nà:te)<br>SP1 SP2* GS  | 1.álté:rnative, 1.contémplative \$,<br>1.demónstrative, 1.fíxative,<br>3.illú:strative, 2.re:mónstrative,<br>1.ùndemónstrative \$   | 1.álté:rnative, 6.contémplative,<br>2.demó:nstrative, 1.fíxative,<br>4.illú:strative, 3.remó:nstrative,<br>3.ùndemó:nstrative   |
| 3    | bound stem                                      | 1.frícative, 1.hó:rtative,<br>1.impérative, 1.lú:crative,<br>1.pejó:rative, 1.prerógative \$,<br>1.pú:tative, 1.téntative,<br>1.vócative  | 1.frícative, 1.hó:rtative,<br>1.impérative, 1.lú:crative,<br>3.pejó:rative, 3.prerógative,<br>1.pú:tative, 1.téntative,<br>2.vócative   |
| 4a   | (Hφ) =<br>ac(cú:se)<br>SP1 SP2- GS*/-           | 1.accú:sative, 1.affí:rnative,<br>1.cá:usative, 3.connó:tative \$,<br>1.consé:rvative \$, 1.consúltative \$,<br>1.cú:rative, 2.dè:nó:tative,<br>1.dú:rative, 1.é:lative,<br>1.exhó:rtative, 1.explóitative,<br>1.expló:rative, 2.expló:rative,<br>1.fíxative, 1.fó:rmative,<br>1.infó:rmative, 1.láxative,<br>1.óptative, 1.presé:rvative \$,<br>1.prevéntative \$, 1.pró:bative,<br>1.pú:rgative, 1.refó:rmative \$,<br>2.re:stó:rative \$, 1.tá:lkative | 1.accú:sative, 1.affí:rnative,<br>1.cá:usative, 6.connó:tative,<br>1.consé:rvative, 3.consúltative,<br>1.cú:rative, 5.denó:tative,<br>2.evó:cative, 1.exhó:rtative,<br>1.explóitative, 3.expló:rative,<br>1.fíxative, 1.fó:rmative,<br>1.infó:rmative, 1.láxative,<br>3.ó:ptative, 1.presé:rvative,<br>1.prevéntative, 1.pró:bative,<br>1.provó:cative, 1.pú:rgative,<br>1.refó:rmative, 1.repá:rative,<br>1.restó:rative, 1.tá:lkative |
| 4b   | SP1* SP2- GS                                    | 1.áblative <sub>1</sub> , 1.dó:native,<br>2.dónative, 1.ló:cative,<br>1.nárrative, 1.négative, 1.rélatiue,<br>2.ró:tative, <sup>33</sup> 1.sédative   | 1.áblative <sub>1</sub> , 3.dó:native, <sup>34</sup><br>1.é:lative, 2.ló:cative,<br>1.nárrative, 1.négative,<br>1.rélatiue, 1.sédative  |
| 4c   | SP1 SP2- GS                                     | 1.compá:rative \$, 1.declá:rative \$,<br>1.derívatíue \$, 1.evócative,<br>1.prepá:rative \$, 1.prescríptíue \$,<br>1.provócative \$, 1.repá:rative \$   | 1.compá:rative, 1.declá:rative,<br>1.derívatíue, 2.dú:rative,<br>1.prepá:rative, 1.prescríptíue   |
| 4d   | SP1 SP2 <sup>35</sup> GS-                       | 1.rèprésentative  | 1.rèprésentative  |
| 5    | σσφ = dó:na:te<br>SP1 SP2/- GS                  | —   | 3.dó:native, 3.ró:tative  |
| 6a   | Other (non-<br>verbal stem)<br>SP1 SP2- GS*/-   | 1.àrguméntative, 1.cálmative,<br>2.cá:lmative, 1.cómbative,<br>1.nó:rmative   | 1.àrguméntative, 1.cálmative,<br>1.nó:rmative   |
| 6b   | SP1* SP2- GS                                    |   | 2.ca:rmínative  |

<sup>33</sup> Different patterns of stem in AmE and BrE: BrE ror:tà:te (4b), AmE ró:tà:te (5).  
<sup>34</sup> The stem of this word has two different stress patterns in AmE: dó:na:te<sub>1</sub> and do:ná:te<sub>2</sub>. This is derived from stem<sub>2</sub>, the other variant belongs to group 5.  
<sup>35</sup> In this case both stem stresses are preserved, but here the order is different from all other cases, since this word has pre-tonic secondary stress.

Another solution is if we interpret SP1 and SP2 as preservation of real stem stresses, as I have done, keeping to the analysis of *-ative* as one ending. In this case, according to the data, SP1 can only win over GS if there is no second stress on the stem to be preserved. This means that if full stress preservation (SP1 + SP2 or SP1 if SP2 is inapplicable) is satisfied, the output will be correct.

### 3.3.5 Problematic cases

There are surprisingly few cases not accounted for in the above three sections. These are listed in (40).

- (40) a. 2.cónno:tà:tive (connó:te), 4.cónsultà:tive SP1\*, SP2-, GS\*  
 b. 2.com(bá.ti.ve) \$, 2.op(tá.ti.ve) \* $\sigma(L\sigma)$   
 c. 3.4.(pé.ne)(trà:ti)ve \* $\#(L\sigma)(Foot)$   
 d. 1.mùltiplicative, 2.mùltiplicà:tive || ? stem pattern  
     3.mùltiplicative, 4.mùltiplicà:tive

Words in (40a) violate all the applicable constraints, but well-formed feet can be assigned to the strings. Forms in (40b) have a word-final ternary foot, which is absolutely well-formed. This pattern is not expected, because the ending should be parsed either as a)tive or as ati)ve. Therefore we violate suffix consistency (which is, I believe, not a very strong violation, since the suffix does not have a constant form like *-ic*), but the feet are well-formed. These cases are not numerous, and the unviolable constraints are respected. I have no further explanation for them.

In (40c) the foot structure that can be assigned to the word will be ill-formed. *-ative* has a long vowel, i.e., is secondary stressed, which entails that *-tra-* is the head of a weak foot. So there are only two syllables left at the beginning of the word, which form a binary left-headed foot. However, the foot ( $L\sigma$ ) can only be a leftmost foot if it is the rightmost foot at the same time (B:165). Here the parsing violates this Well-formedness Condition. I have no solution for this problem.

The word in (40d), *multiplicative*, is only problematic because the stem, *multiply*, cannot be put into the stem types observed above in (34). This word must be analysed as (mùl.ti.ply:) (cf. B:51, 232), and thus has the structure  $\acute{\sigma}\sigma$ , which is unique among the items collected. The two stress patterns, however, which are followed by the derived word *multiplicative* correspond to our Pattern 1: (mùl.ti.pli)(cà:ti)ve, and Pattern 3: (mùl.ti)(plí.ca.ti)ve. In both cases the stem stress is preserved (SP1) and

the final vowel of the stem is shortened (GS), which means that the two constraints are satisfied.

Finally, there is one *-ative* word to be analysed here, which is rather problematic. The word *rècitative* is derived from *recite*, but it is a noun, so the suffix should be different from the *-ative* we are discussing. It is worth mentioning that the main problem posed by this item is that a weak syllable gets the primary stress (rè.ci.ta)(tí:ve) = (LLL)(HW), when there is another candidate—a non-weak foot—for it. Thus this word is problematic for this theory.

#### 4 Summary

In the sections above we have seen that Burzio's theory can account for the stress patterns of *-ative* items. It allows for variation, but it cannot predict which possible form the speakers will choose. The choice is made with the help of two competing constraints: stress preservation and shortening of the vowel in the context of an affix.

Though I have examined both the British and the American forms, I have not found considerable difference between the two dialects. Both of them displayed all the three stress patterns and no signs of different constraint ordering have been noticed.

Additionally, the existence of forms like *administrative* supports the idea that syllables closed by sonorants or *s* behave as light in unstressed position.

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APPENDIX 1

|                                 |                                 |                                      |
|---------------------------------|---------------------------------|--------------------------------------|
| 1. ablá:te 4                    | 46. demonstrá:te 2 <sub>n</sub> | 91. negá:te 4                        |
| 2. ablá:te 4                    | 47. denó:te 4                   | 92. nóminà:te 1                      |
| 3. accú:mulà:te 1               | 48. derí:ve 4                   | 93. nó:rma 6                         |
| 4. accú:se 4                    | 49. deté:rmine 5                | 94. óperà:te 1                       |
| 5. admínistrà:te 2 <sub>n</sub> | 50. discriminà:te 1             | 95. ópt 4                            |
| 6. advé:rse 4                   | 51. do(:)ná:te 4                | 96. óxidà:te 1                       |
| 7. affí:rm 4                    | dó:nà:te 5, do:ná:te 4          | 97. pállia:te 1                      |
| 8. áffricà:te 1                 | 52. dú:re 4                     | 98. (pejórà:te) 3                    |
| 9. agglú:tinà:te 1              | 53. éducà:te 1                  | 99. pénetrà:te 1                     |
| 10. allíterà:te 1               | 54. elá:te 4                    | 100. (óperative*) 1                  |
| 11. á:ltèrnà:te 2 <sub>n</sub>  | 55. émanà:te 1                  | 101. prédicà:te 1                    |
| 12. amé:liorà:te 1              | 56. evó:ke 4                    | 102. prepá:re 4                      |
| 13. appré:cià:te 1              | 57. exhó:rt 4                   | 103. (pre+rógare) 3                  |
| 14. á:rgument 6                 | 58. explóit 4                   | 104. presé:rve 4                     |
| 15. assímilà:te 1               | 59. expló:re 4                  | 105. prevént 4                       |
| 16. assó:cià:te 1               | 60. féderà:te 1                 | 106. pró:be 4                        |
| 17. au:thó:ry 6                 | 61. fí:gue 5                    | 107. própagà:te 1                    |
| 18. cá:lcúlà:te 1               | 62. fíx 4 / fíxà:te 2           | 108. provó:ke 4                      |
| 19. cá:lm 6                     | 63. fó:rm 4                     | 109. pú:rge 4                        |
| 20. cá:rmi:ne 6, cá:rmine 6     | 64. (fricà:te) 3                | 110. (putat-us) 3                    |
| 21. cá:use 4                    | 65. génerà:te 1                 | 111. quá:lity 6                      |
| 22. cógítà:te 1                 | 66. grávità:te 1                | 112. quá:ntity 6                     |
| 23. colláborà:te 1              | 67. (hortare) 3                 | 113. recú:perà:te 1                  |
| 24. cómbat, combát              | 68. íllustrà:te 2 <sub>n</sub>  | 114. refó:rm 4                       |
| combát, có:mbat 6               | 69. imá:gue 5                   | 115. regénerà:te 1                   |
| 25. commémorà:te 1              | 70. ímità:te 1                  | 116. relá:te 4                       |
| 26. commiserà:te 1              | 71. (ímperà:te) 3               | 117. rémonstrà:te 2 <sub>n</sub>     |
| 27. commú:nicà:te 1             | 72. (commú:nicative*) 1         | 118. remú:nerà:te 1                  |
| 28. commú:te 4                  | 73. índicà:te 1                 | 119. repá:re    repá:re 4            |
| 29. compá:re 4                  | 74. infó:rm 4                   | 120. rèpresént 4                     |
| 30. connó:te 4                  | 75. inítia:te 1                 | 121. restó:re 4                      |
| 31. consé:rve 4                 | 76. ínnó(:)vã:te 1              | 122. ro:tã:te 4    ró:tã:te 5        |
| 32. consúlt 4                   | 77. (óperative*) 1              | 123. rú:minà:te 1                    |
| 33. cóntemplà:te 2 <sub>n</sub> | 78. íntegrà:te 2                | 124. sedá:te 4                       |
| 34. co:óperà:te 1               | 79. inté:rpret 5                | 125. séparà:te 1                     |
| 35. cópulà:te 1                 | 80. inté:rrogà:te 1             | 126. spéculà:te 1                    |
| 36. córrelà:te 1                | 81. invéstigà:te 1              | 127. stímulà:te 1                    |
| 37. corróborà:te 1              | 82. íterà:te 1                  | 128. tá:lk 4                         |
| 38. creá:te 4                   | 83. lãx 4                       | 129. (témp) 3                        |
| 39. cú:mulà:te 1                | 84. législà:te 2 <sub>n</sub>   | 130. úlcerà:te 1                     |
| 40. cú:re 4                     | 85. lo:cá:te 4                  | 131. (commú:nicative*) 1             |
| 41. declá:re, 4                 | 86. (lúcrate) 3                 | 132. (demónstrative*) 2 <sub>n</sub> |
| 42. decórà:te 1                 | 87. manípulà:te 1               | 133. végetà:te 1                     |
| 43. degénerà:te 1               | 88. médità:te 1                 | 134. ví:tú:perà:te 1                 |
| 44. delíberà:te 1               | 89. múltiply: 7                 | 135. (vocare) 3                      |
| 45. delímità:te 1               | 90. narrá:te 4                  |                                      |

|                |                           |              |  |
|----------------|---------------------------|--------------|--|
|                | AmE pattern follows       | 4            | (Hφ)#  |
|                | (where diff. from BrE)    | 5            | σσφ#   |
| 1              | (σL)(à:te)#               | 6            | non-verbal stem                                  |
| 2              | (σH)(à:te)#               | 7            | verbal stem different from types 1-2 and 4-5     |
| 2 <sub>n</sub> | (σH <sub>n</sub> )(à:te)# | (operative*) | the item is derived form this <i>-ative</i> word |
| 3              | bound stem                |              | by prefixation                                   |

## APPENDIX 2

1. 1.(áb.la.ti)ve<sub>1</sub> (*case*) || 1.(áb.la.ti)ve<sub>1</sub> (*case*)
2. 1.áb(lá:.ti)ve<sub>2</sub> (*ablating*) || 1.áb(lá:.ti)ve<sub>2</sub> (*ablating*)
3. 1.ac(cú:.mu.la)ti.ve, 2.ac(cú:.mu)(là:.ti)ve || 3.ac(cú:.mu)(là:.ti)ve,  
4.ac(cú:.mu.la)ti.ve
4. 1.ac(cú:.sa.ti)ve || 1.ac(cú:.sa.ti)ve
5. 1.ad(mí.nis.tra)ti.ve, 2.ád(mí.nis.tra)ti.ve, 3.ad(mí.nis)(trà:.ti)ve ||  
4.ad(mí.nis)(trà:.ti)ve, 5.ad(mí.nis.tra)ti.ve
6. 1.ad(vé:r.sa.ti)ve, 2.ád(vé:r.sa.ti)ve || 1.ad(vé:r.sa.ti)ve
7. 1.af(fí:r.ma.ti)ve || 1.af(fí:r.ma.ti)ve
8. 1.af(frí.ca.ti)ve, 2.(áf.fri)(cà:.ti)ve || 1.af(frí.ca.ti)ve
9. 1.ag(glú:.ti.na)ti.ve, 2.ag(glú:.ti)(nà:.ti)ve || 3.ag(glú:.ti)(nà:.ti)ve,  
4.ag(glú:.ti.na)ti.ve
10. 1.al(lí.te.ra)ti.ve, 2.al(lí.te)(rà:.ti)ve || 3.al(lí.te.ra)ti.ve, 4.al(lí.te)(rà:.ti)ve
11. 1.al(té:r.na.ti)ve || 1.al(té:r.na.ti)ve
12. 1.a(mé:.li.o)(rà:.ti)ve, 2.a(mé:.li.o)ra.ti.ve || 1.a(mé:.li.o)(rà:.ti)ve
13. 1.ap(pré:.ci.a)ti.ve, 2.ap(pré:.ci)(à:.ti)ve, 3.ap(pré:.c-.a)ti.ve || 4.ap(pré:.c-.a)ti.ve,  
5.ap(pré:.c-.a)ti.ve, 6.ap(pré:.ci)(à:.ti)ve
14. 1.(à.r.gu)(mén.ta.ti)ve || 1.(à.r.gu)(mén.ta.ti)ve
15. 1.as(sí.mi.la)ti.ve, 2.as(sí.mi)(là:.ti)ve || 3.as(sí.mi)(là:.ti)ve, 4.as(sí.mi.la)ti.ve
16. 1.as(só:.ci.a)ti.ve, 2.as(só:.ci)(à:.ti)ve || 3.as(só:.ci)(à:.ti)ve, 4.as(só:.ci.a)ti.ve
17. 1.áu:(thó.ri.ta)ti.ve, 2.áu:(thó.ri)(tà:.ti)ve || 3.áu:(thó.ri)(tà:.ti)ve
18. 1.(cál.cu.la)ti.ve, 2.(cál.cu)(là:.ti)ve || 3.(cál.cu)(là:.ti)ve
19. (cál.ma.ti)ve, 2.(cá:l.ma.ti)ve || 1.(cál.ma.ti)ve
20. 1.(cá:r.mi.na)ti.ve || 2.cā:r(mí.na.ti)ve, 3.(cá:r.mi)(nà:.ti)ve
21. 1.(cá:u.sa.ti)ve || 1.(cá:u.sa.ti)ve
22. 1.(có.gi.ta)ti.ve, 2.(có.gi)(tà:.ti)ve || 3.(có:.gi)(tà:.ti)ve
23. 1.col(lá.bo.ra)ti.ve, 2.col(lá.bo)(rà:.ti)ve || 3.col(lá.bo)(rà:.ti)ve, 4.col(lá.bo.ra)ti.ve
24. 1.(cóm.ba.ti)ve, 2.com(bá.ti.ve) @ || 3.com(bá.ti.ve)
25. 1.com(mé.mo.ra)ti.ve, 2.com(mé.mo)(rà:.ti)ve || 3.com(mé.mo.ra)ti.ve,  
4.com(mé.mo)(rà:.ti)ve
26. 1.com(mí.se.ra)ti.ve, 2.com(mí.se)(rà:.ti)ve || 3.com(mí.se)(rà:.ti)ve
27. 1.com(mú:.ni.ca)ti.ve, 2.com(mú:.ni)(cà:.ti)ve || 3.com(mú:.ni)(cà:.ti)ve,  
4.com(mú:.ni.ca)ti.ve
28. 1.com(mú:.ta.ti)ve, 2.(cóm.mu)(tà:.ti)ve || 3.(có:m.mu)(tà:.ti)ve, 4.com(mú:.ta.ti)ve
29. 1.com(pá.ra.ti)ve, 2.com(pá.ra.ti)ve +@ || 1.com(pá.ra.ti)ve
30. 1.(cón.no)(tà:.ti)ve, 2.(cón.no:)(tà:.ti)ve, 3.con(nó:.ta.ti)ve, 4.cōn(nó:.ta.ti)ve ||  
5.(có:n.no)(tà:.ti)ve, 6.con(nó:.ta.ti)ve
31. 1.con(sé:r.va.ti)ve, 2.con(sé:r.va.ti)ve + @ || 1.con(sé:r.va.ti)ve
32. 1.con(súl.ta.ti)ve, 2.con(súl.ta.ti)ve + @ || 3.con(súl.ta.ti)ve, 4.(cón.sul)(tà:.ti)ve

|          |                                     |                    |  |
|----------|-------------------------------------|--------------------|--|
| á        | primary stress                      |                    | AmE pattern follows (if same as BrE 1, |
| à        | secondary stress                    |                    | with number 1)                         |
| a:, a(:) | long vowel, optionally long vowel   | ( <i>italics</i> ) | meaning (where relevant)               |
| <u>a</u> | full vowel in unstressed syllable   | +                  | British English non-RP                 |
| -        | syncope                             | @                  | secondary stress (with a full V) on    |
| *        | stress shift likely (unstable form) |                    | the first syllable is optional         |
|          |                                     | word <sub>1</sub>  | first meaning                          |

33. 1.con(tém.pla.ti)ve, 2.con(tém.pla.ti)ve + @, 3.(cón.tem)(plà:ti)ve,  
4.(cón.tem)(plà:ti)ve, 5.(cón.tem.pla)ti.ve || 6.con(tém.pla.ti)ve,  
7.(cón.tem)(plà:ti)ve, 8.(cón.tem)(plà:ti)ve
34. 1.co:(ó.pe.ra)ti.ve || 2.co:(ó:pe.ra)ti.ve, 3.co:(ó:pe)(rà:ti)ve
35. 1.(có.pu.la)ti.ve, 2.(có.pu)(là:ti)ve || 3.(có.pu.la)ti.ve, 4.(có.pu)(là:ti)ve
36. 1.cor(ré.la.ti)ve, 2.co<sub>r</sub>(ré.la.ti)ve || 1.cor(ré.la.ti)ve
37. 1.cor(ró.bo.ra)ti.ve, 2.cor(ró.bo)(rà:ti)ve || 3.cor(ró.bo)(rà:ti)ve,  
4.cor(ró.bo.ra)ti.ve
38. 1.cre(á:ti)ve, 2.(φ.crè:)(á:ti)ve || 1.cre(á:ti)ve
39. 1.(cú:mu.la)ti.ve, 2.(cú:mu)(là:ti)ve || 1.(cú:mu.la)ti.ve
40. 1.(cú:ra.ti)ve || 1.(cú:ra.ti)ve
41. 1.dec(lá.ra.ti)ve, 2.de<sub>c</sub>(lá.ra.ti)ve + || 1.dec(lá.ra.ti)ve
42. 1.(dé.co.ra)ti.ve || 2.(dé.co.ra)ti.ve, 3.(dé.co)(rà:ti)ve
43. 1.de(gé.ne.ra)ti.ve, 2.de:(gé.ne.ra)ti.ve +, 3.de(gé.ne)(rà:ti)ve || 4.de(gé.ne.ra)ti.ve,  
5.de(gé.ne)(rà:ti)ve
44. 1.de(lí.be.ra)ti.ve, 2.de:(lí.be.ra)ti.ve + || 3.de(lí.be)(rà:ti)ve, 4.de(lí.be.ra)ti.ve
45. 1.de(lí.mi.ta)ti.ve, 2.de:(lí.mi.ta)ti.ve +, 3.de(lí.mi)(tà:ti)ve || 4.de(lí.mi)(tà:ti)ve
46. 1.de(món.stra.ti)ve || 2.de(món.stra.ti)ve
47. 1.de(nó:ta.ti)ve, 2.(φ.dè:)(nó:ta.ti)ve, 3.(dé.no)(tà:ti)ve || 4.(dé.no)(tà:ti)ve,  
5.de(nó:ta.ti)ve
48. 1.de(rí.va.ti)ve, 2.de:(rí.va.ti)ve + || 1.de(rí.va.ti)ve
49. 1.de(tér.mi.na)ti.ve, 2.de:(tér.mi.na)ti.ve + || 3.de(tér.mi)(nà:ti)ve,  
4.de(tér.mi.na)ti.ve
50. 1.dis(crí.mi.na)ti.ve 2.dis(crí.mi)(nà:ti)ve || 3. dis(crí.mi)(nà:ti)ve  
4.dis(crí.mi.na)ti.ve
51. 1.(dó:na.ti)ve, 2.(dó.na.ti)ve || 3.(dó:na.ti)ve
52. 1.(dú:ra.ti)ve || 2.(dú.ra.ti)ve
53. 1.(é.du.ca)ti.ve, 2.(é.du)(cà:ti)ve || 3.(é.du)(cà:ti)ve
54. 1.(é:la.ti)ve, 2.e(lá:ti)ve, 3.e(lá:ti)ve || 1.(é:la.ti)ve
55. 1.(é.ma)(nà:ti)ve, 2.(é.ma.na)ti.ve || 3.(é.ma)(nà:ti)ve
56. 1.e(vó.ca.ti)ve || 2.e(vó:ca.ti)ve
57. 1.ex(hó:r.ta.ti)ve || 1.ex(hó:r.ta.ti)ve
58. 1.ex(plói.ta.ti)ve @ || 1.ex(plói.ta.ti)ve
59. 1.ex(pló.ra.ti)ve 2.ex(pló:ra.ti)ve || 3. ex(pló:ra.ti)ve
60. 1.(fé.de.ra)ti.ve, 2.(fé.de)(rà:ti)ve || 3.(fé.de)(rà:ti)ve, 4.(fé.de.ra)ti.ve
61. 1.(fí.gu.ra)ti.ve || 1.(fí.gu.ra)ti.ve
62. 1.(fí.xa.ti)ve || 1.(fí.xa.ti)ve
63. 1.(fó:r.ma.ti)ve || 1.(fó:r.ma.ti)ve
64. 1.(frí.ca.ti)ve || 1.(frí.ca.ti)ve
65. 1.(gé.ne.ra)ti.ve || 2.(gé.ne.ra)ti.ve, 3.(gé.ne)(rà:ti)ve
66. 1.(grá.vi)(tà:ti)ve || 1.(grá.vi)(tà:ti)ve
67. 1.(hó:r.ta.ti)ve, 2.ho<sub>r</sub>(tá:ti)ve || 1.(hó:r.ta.ti)ve

|          |                                     |                    |  |
|----------|-------------------------------------|--------------------|--|
| á        | primary stress                      |                    | AmE pattern follows (if same as BrE 1, |
| à        | secondary stress                    |                    | with number 1)                         |
| a:, a(:) | long vowel, optionally long vowel   | ( <i>italics</i> ) | meaning (where relevant)               |
| <u>a</u> | full vowel in unstressed syllable   | +                  | British English non-RP                 |
| -        | syncope                             | @                  | secondary stress (with a full V) on    |
| *        | stress shift likely (unstable form) |                    | the first syllable is optional         |
|          |                                     | word <sub>1</sub>  | first meaning                          |

68. 1.(fl.us.tra)ti.ve, 2.(fl.us)(trà:ti)ve, 3.il(lú:s.tra.ti)ve || 4.il(lú:s.tra.ti)ve,  
5.(fl.us)(trà:ti)ve
69. 1.i(má.gi.na)ti.ve || 2.i(má.gi.na)ti.ve, 3.i(má.gi)(nà:ti)ve
70. 1.(í.mi.ta)ti.ve, 2.(í.mi)(tà:ti)ve || 3.(í.mi)(tà:ti)ve
71. 1.im(pé.ra.ti)ve || 1.im(pé.ra.ti)ve
72. 1.(in.com)(mú:ni.ca)ti.ve\*, 2.(in.com)(mú:ni)(cà:ti)ve ||  
3.(in.com)(mú:ni)(cà:ti)ve, 4.(in.com)(mú:ni.ca)ti.ve
73. 1.in(dí.ca.ti)ve || 1.in(dí.ca.ti)ve
74. 1.in(fó:r.ma.ti)ve || 1.in(fó:r.ma.ti)ve
75. 1.i(ní.t-.a)ti.ve, 2.i(ní.ti.a)ti.ve || 1.i(ní.t-.a)ti.ve
76. 1.(ín.no(:))v(à:ti)ve, 2.(ín.no(:).va)ti.ve, 3.in(nó:va.ti)ve || 4.(ín.no)v(à:ti)ve
77. 1.i(nó.pe.ra)ti.ve @, 2.i(nó.pe)(rà:ti)ve || 3.i(nó:pe.ra)ti.ve, 4.i(nó:pe)(rà:ti)ve
78. 1.(ín.te)(grà:ti)ve || 1.(ín.te)(grà:ti)ve
79. 1.in(té:r.pre.ta)ti.ve, 2.in(té:r.pre)(tà:ti)ve || 3.in(té:r.pre)(tà:ti)ve,  
4.in(té:r.pre.ta)ti.ve
80. 1.(in.ter)(ró.ga.ti)ve\* || 2.(in.ter)(ró.ga.ti)ve
81. 1.in(vés.ti.ga)ti.ve, 2.in(vés.ti)(gà:ti)ve || 3.in(vés.ti)(gà:ti)ve
82. 1.(í.te.ra)ti.ve, 2.(í.te)(rà:ti)ve || 3.(í.te)(rà:ti)ve, 4.(í.te.ra)ti.ve
83. 1.(lác.a.ti)ve || 1.(lác.a.ti)ve
84. 1.(lé.gis.la)ti.ve, 2.(lé.gis)(là:ti)ve || 3.(lé.gis)(là:ti)ve, 4.(lé.gis.la)ti.ve
85. 1.(ló.ca.ti)ve || 2.(ló.ca.ti)ve
86. 1.(lú:ra.ti)ve || 1.(lú:ra.ti)ve
87. 1.ma(ní.pu.la)ti.ve, 2.ma(ní.pu)(là:ti)ve || 3.ma(ní.pu)(là:ti)ve, 4.ma(ní.pu.la)ti.ve
88. 1.(mé.di.ta)ti.ve, 2.(mé.di)(tà:ti)ve || 3.(mé.di)(tà:ti)ve
89. 1.(múl.ti)(plí.ca.ti)ve 2.(múl.ti.pli)(cà:ti)ve || 3.(múl.ti)(plí.ca.ti)ve  
4.(múl.ti.pli)(cà:ti)ve
90. 1.(nár.ra.ti)ve || 1.(nár.ra.ti)ve
91. 1.(né.ga.ti)ve || 1.(né.ga.ti)ve
92. 1.(nó.mi.na)ti.ve || 3.(nó:mi.na)ti.ve
93. 1.(nó:r.ma.ti)ve || 1.(nó:r.ma.ti)ve
94. 1.(ó.pe.ra)ti.ve, 2.(ó.pe)(rà:ti)ve || 3.(ó:pe.ra)ti.ve, 4.(ó:pe)(rà:ti)ve<sup>36</sup>
95. 1.(óp.ta.ti)ve, 2.op(tá.ti)ve || 3.(óp.ta.ti)ve
96. 1.(ó.x.id)(à:ti)ve || 2.(ó:x.i)(dà:ti)ve
97. 1.(pál.li.a)ti.ve || 2.(pál.li)(à:ti)ve, 3.(pál.li.a)ti.ve
98. 1.pe(jó.ra.ti)ve, 2.(pé:jo.ra)ti.ve || 3.pe(jó:ra.ti)ve
99. 1.(pé.ne.tra)ti.ve, 2.(pé.ne)(trà:ti)ve || 3.(pé.ne)(trà:ti)ve
100. 1.(f.pò:s)(tó.pe.ra)ti.ve\*, 2.(f:pò:s)(tó.pe)(rà:ti)ve \* || 3.(f.pò:s)(tó:pe.ra)ti.ve\*
101. 1.pre(dí.ca.ti)ve, 2.pre:(dí.ca.ti)ve + || 3.(pré.di)(cà:ti)ve
102. 1.pre(pá.ra.ti)ve, 2.pre:(pá.ra.ti)ve + || 1.pre(pá.ra.ti)ve
103. 1.pre(ró.ga.ti)ve 2.pre: (ró.ga.ti)ve + || 3.pre(ró:ga.ti)ve
104. 1.pre(sé:r.va.ti)ve, 2.pre:(sé:r.va.ti)ve + || 1.pre(sé:r.va.ti)ve

<sup>36</sup> -à:ti.ve is more common for the noun.

|          |                                     |                    |  |
|----------|-------------------------------------|--------------------|--|
| á        | primary stress                      |                    | AmE pattern follows (if same as BrE 1, with number 1)              |
| à        | secondary stress                    |                    |  |
| a, a(:)  | long vowel, optionally long vowel   | ( <i>italics</i> ) | meaning (where relevant)   |
| <u>a</u> | full vowel in unstressed syllable   | +                  | British English non-RP   |
| -        | syncope                             | @                  | secondary stress (with a full V) on the first syllable is optional |
| *        | stress shift likely (unstable form) | word <sub>1</sub>  | first meaning  |



105. 1.pre(vén.ta.ti)ve, 2.pré:(vén.ta.ti)ve + || 1.pre(vén.ta.ti)ve  
 106. 1.(pró:.ba.ti)ve || 1.(pró:.ba.ti)ve  
 107. 1.(pró.pa)(gà:.ti)ve || 2.(pró:.pa)(gà:.ti)ve  
 108. 1.pro(vó.ca.ti)ve, 2.pró:(vó.ca.ti)ve || 3.pro(vó:.ca.ti)ve  
 109. 1.(pú:r.ga.ti)ve || 1.(pú:r.ga.ti)ve  
 110. 1.(pú:.ta.ti)ve || 1.(pú:.ta.ti)ve  
 111. 1.(quá.li.ta)ti.ve, 2.(quá.li)(tà:.ti)ve || 3.(quá.li)(tà:.ti)ve  
 112. 1.(quán.ti.ta)ti.ve, 2.(quán.ti)(tà:.ti)ve || 3.(quán.ti)(tà:.ti)ve  
 113. 1.re(cú:.pe.ra)ti.ve, 2.re:(cú:.pe.ra)ti.ve +, 3.re(cú:.pe)(rà:.ti)ve || 1.re(cú:.pe.ra)ti.ve  
 114. 1.re(fó:r.ma.ti)ve, 2.re:(fó:r.ma.ti)ve + || 1.re(fó:r.ma.ti)ve  
 115. 1.re(gé.ne.ra)ti.ve, 2.re:(gé.ne.ra)ti.ve +, 3.re(gé.ne)(rà:.ti)ve || 4.re(gé.ne.ra)ti.ve,  
 5.re(gé.ne)(rà:.ti)ve  
 116. 1.(ré.la.ti)ve || 1.(ré.la.ti)ve  
 117. 1.re(món.stra.ti)ve, 2.re:(món.stra.ti)ve + || 3.re(món.n.stra.ti)ve  
 118. 1.re(mú:.ne.ra)ti.ve, 2.re:(mú:.ne.ra)ti.ve, 3.re(mú:.ne)(rà:.ti)ve ||  
 4.re(mú:.ne.ra)ti.ve, 5.re(mú:.ne)(rà:.ti)ve  
 119. 1.re(pá.ra.ti)ve, 2.re:(pá.ra.ti)ve + || 1.re(pá.ra.ti)ve  
 120. 1.(rèp.re)(sén.ta.ti)ve\* || 1.(rèp.re)(sén.ta.ti)ve\*  
 121. 1.res(tó:.ra.ti)ve, 2.re:s(tó:.ra.ti)ve +, 3.res(tó.ra.ti)ve, 4.(rés.to)(rà:.ti)ve ||  
 1.res(tó:.ra.ti)ve  
 122. 1.ro:(tá:.ti)ve, 2.(ró:.ta.ti)ve || 3.(ró:.ta.ti)ve  
 123. 1.(rú:.mi.na)ti.ve, 2.(rú:.mi)(nà:.ti)ve || 1.(rú:.mi.na)ti.ve  
 124. 1.(sé.da.ti)ve || 1.(sé.da.ti)ve  
 125. 1.(sé.pa.ra)ti.ve || 2.(sé.pa.ra)ti.ve, 3.(sé.pa)(rà:.ti)ve  
 126. 1.φs(pé.cu.la)ti.ve, 2.φs(pé.cu)(là:.ti)ve || 3.φs(pé.cu)(là:.ti)ve, 4.φs(pé.cu.la)ti.ve  
 127. 1.φs(tí.mu.la)ti.ve, 2.φs(tí.mu)(là:.ti)ve || 3.φs(tí.mu)(là:.ti)ve  
 128. 1.(tá:l.ka.ti)ve || 1.(tá:l.ka.ti)ve  
 129. 1.(tén.ta.ti)ve || 1.(tén.ta.ti)ve  
 130. 1.(úl.ce.ra)ti.ve, 2.(úl.ce)(rà:.ti)ve || 3.(úl.ce)(rà:.ti)ve  
 131. 1.(ùn.com)(mú:.ni.ca)ti.ve\*, 2.(ùn.com)(mú:.ni)(cà:.ti)ve ||  
 3.(ùn.com)(mú:.ni)(cà:.ti)ve, 4.(ùn.com)(mú:.ni.ca)ti.ve  
 132. 1.(ùn.de)(món.stra.ti)ve\*, 2.(ùn.de):(món.stra.ti)ve + || 3.(ùn.de)(món.n.stra.ti)ve  
 133. 1.(vé.ge.ta)ti.ve, 2.(vé.ge)(tà:.ti)ve || 3.(vé.ge)(tà:.ti)ve  
 134. 1.vi(tú:.pe.ra)ti.ve, 2.vi(tú:.pe.ra)ti.ve, 3.vi:(tú:.pe)(rà:.ti)ve || 4.vi:(tú:.pe.ra)ti.ve,  
 5.vi:(tú:.pe)(rà:.ti)ve  
 135. 1.(vó.ca.ti)ve || 2.(vó:.ca.ti)ve

|          |                                     |                    |  |
|----------|-------------------------------------|--------------------|--|
| á        | primary stress                      |                    | AmE pattern follows (if same as BrE 1, with number 1)              |
| à        | secondary stress                    |                    |  |
| a:, a(:) | long vowel, optionally long vowel   | ( <i>italics</i> ) | meaning (where relevant)   |
| <u>a</u> | full vowel in unstressed syllable   | +                  | British English non-RP   |
| -        | syncope                             | @                  | secondary stress (with a full V) on the first syllable is optional |
| *        | stress shift likely (unstable form) | word <sub>1</sub>  | first meaning  |