VOWEL REDUCTION, VOWEL ASSIMILATION AND INHERENT VOWEL WEIGHT IN EUROPEAN PORTUGUESE: ASYMMETRIC INTER-RELATIONS BETWEEN ELEMENTS

João Veloso
University of Porto, Portugal
jveloso@letras.up.pt

PRELIMINARY REMARKS. In this presentation, we shall develop an Element Theory (ET)-based approach (Schane 1984; Brandão de Carvalho 1993; Angoujard 2003, 2006; Brandão de Carvalho et al. 2010; Backley 2011) for the explanation of two different phonological processes of European Portuguese (EP) – Vowel Reduction (VR) and Vowel Assimilation (VA) – and for supporting the hypothesis of Inherent Vowel Weight (IVW) of vowels with {A} in Head position. It will be proposed that these phonologically processes and IVW are best described if conceived of as a trade of elements between and within vowels and if an asymmetric relation between {A}, {I} and {U} is accepted in this language.

THE PHENOMENA. STRUCTURAL BRIEF DESCRIPTIONS. 1. Vowel reduction (VR). EP, traditionally categorized as a stress-timed language, incorporates in its phonology a process of VR (Mateus & Andrade 2000). The same morpheme – as it is the case, very often, of noun- and verb-stems – will specify the vowel height of its last vowel differently if such vowel, due to morphological operations, occurs in stressed position (=predominance of open and mid-open vowels) or in unstressed syllables (=predominance of close and mid-close, central/back vowels). Morphophonemic alternations such as {*medo* [ˈmedu] 'fear' vs. *medroso* [miˈdɾozu] 'fearful'} or {*torre* [ˈtoʀɨ] 'tower' vs. *torrinha* [tuˈʀɨɲɐ] 'small tower'} illustrate it. **2. Vowel assimilation (VA).** Both diachronically and synchronically, vowel adjacencies such as {AI} and {AU} give rise to respecifications of vowel height of V_1. In the history of the language, this is the main cause of the modern diphthongs [ej] (<{AI}; Lat. *laicu* > EP *leigo* [ˈlejgu] 'layman') and [ow] (<{AU}; Lat. *auru* > EP *ouro* [ˈowɾu] 'gold'), reduced, in the Southern dialects of EP, to "monophthongs" [e] and [o] respectively ([ˈlegu], [ˈoɾu]) through a process of subsequent coalescence (Angoujard 2003). In contemporary EP, VA is still active in the inflection of 1st class verbs (whose theme vowel, /a/, often surfaces as [e] or [o] depending on the first vowel of the following morpheme – e.g.: {*amei* '[I] loved' (=[[ama]$_{\text{VerbTheme}}$[i]$_{\text{Tense\_PersonMarker}}$]$_{\text{Verb}}$} ; {*amou* '[s/he] loved (=[[ama]$_{\text{VerbTheme}}$[u]$_{\text{Tense\_PersonMarker}}$]$_{\text{Verb}}$}). **3. Inherent vowel weight (IVW).** Vowels with an element {A} in its internal structure, especially if in Head position, tend to attract word-stress if found in the last three syllables of the word (Brandão de Carvalho 2011; Veloso 2017) and are very often perceived as stress-bearers by native speakers of EP (Veloso, forthcoming).

THE HYPOTHESIS. For VR and VA, we shall propose a unified description postulating that Donegan's (1973) two-fold categorization of vocalic process – bleaching and coloring – can be accepted. During all periods of the history of Portuguese, VA has acted very steadily as a process of vowel coloring. Contrarily, though, the same conclusion cannot be drawn regarding VR. As for the latter, indeed, two contradictory, conflicting behaviors of vowel elements are quite apparent: palatal vowels undergo bleaching (tonal elements are deleted), whereas labial vowels are colored (tonal elements are reinforced), as shown in Table 1.

Table 1: Vowel Reduction in European Portuguese and Element Respecifications: deletion of {I}, reinforcement of {U}

	Underlying Vowel (≡Stressed position)	Untressed position	Stressed → Unstressed position
Palatal vowels ({I} either as vowel Head or Operator)	/i/: {I, I}	[i]: {@,@} (word-finally only)	{~~I~~, I} → {@,@}
	/e/: {I, A}	[i]: {@,@}	{~~I~~, ~~A~~} → {@,@}
	/ɛ/: {A, I}	[i]: {@,@}	{~~A~~, ~~I~~} → {@,@}
	/a/: {A, A}	[ɐ]: {A, @}	{A, ~~A~~} → {A, @}
Labial vowels ({U} either as vowel Head or Operator)	/o/: {U, A}	[u]: {U, U}	{U, ~~A~~} → {U, **U**}
	/ɔ/: {A, U}	[u]: {U, U }	{~~A~~, U} → { **U**, U }

This can lead us to postulate a clear **asymmetry** between {I} and {U} in VR in EP: {I} is deleted by VR, whereas {U} is reinforced (in Crosswhite's (2004) terms, {I} triggers a contrast reduction and {U} is subject to contrast reinforcement; according to Harris (2005), {I}-reduction is centripetal, {U} reinforcement is centrifugal).

We shall propose here that VR does not correspond, in EP, to one single phonological process with different surface manifestations; instead, it could be viewed as the divergent results of **two intrinsically distinct phonological processes: bleaching vs. coloring.** This interpretation finds support, for instance, in some historical evidence showing that not all vowels underwent VR at the same stage of the language history.

As for the IVW related to the predominance of {A} within the segmental internal structure of vowels, our results may be seen as additional evidence that word-stress in EP is, in fact, weight-sensitive (Brandão de Carvalho 1988; 1989; 2011; Wetzels 2007; Veloso 2017).

CONCLUDING REMARKS. ET seems to offer a plausible explanation for the phonological processes which are explored in this presentation. The asymmetry between palatality ({I}) and labiality ({U}) in VR and the role of {A} in assigning IVW to certain vowels seem quite explanatory within this framework.

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