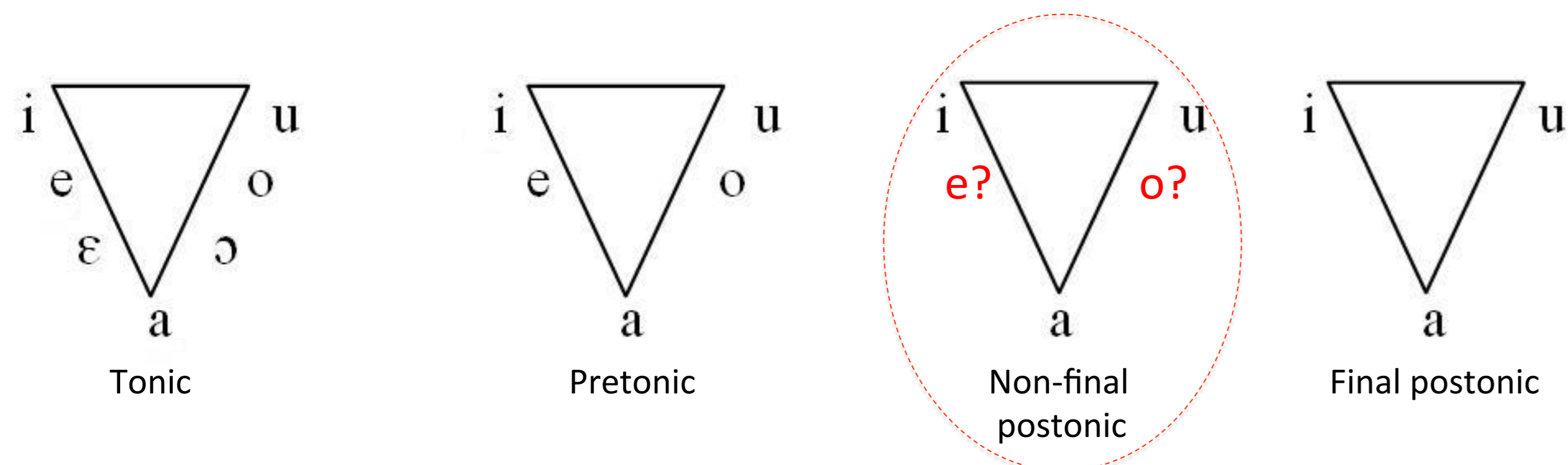


INTRODUCTION

It is well established in the literature that Brazilian Portuguese (BP) has a symmetrical seven oral vowel system in stressed position, which is reduced to subsystems with and three vowels in pretonic and final post-tonic syllables, respectively. (cf. Câmara Jr, 1970). However, authors haven't found an agreement on the configuration of non-final posttonic subsystem (a subsystem which exists exclusively in words with proparoxytonic stress (x**)). (cf. 1).



- There has never been found a minimal pair that could prove the phonemic character of /e/ and /o/ in non-final posttonic position.
- The alternations [e ~ i], [o ~ u] are fairly common and in northeastern dialects it also happens with low-mid vowels [e ~ ɛ], [o ~ ɔ]. (cf. 2)
- The alternation [e ~ i] is not always possible (cf. 3)

hipót[e]se	hipót[i]se	<i>hypothesis</i>	hét[e]ro	*hét[i]ro	<i>straight</i>
nád[e]ga	nád[ɛ]ga	<i>buttock</i>	óp[e]ra	*óp[i]ra	<i>opera</i>
políg[o]no	políg[u]no	<i>polygon</i>	vésp[e]ra	*vésp[i]ra	<i>eve</i>
abób[o]ra	abób[ɔ]ra	<i>pumpkin</i>	cérebro	*cér[i]bro	<i>brain</i>

APPROACHES TO NEUTRALIZATION

Trubetzkoy (1936)

Only distinctive properties should be considered when determining phonemic content.

Dresher's (2003)

Both contrasts and phonological processes play a major role in defining underlying forms and the way they should be represented.

PREVIOUS PROPOSALS FOR THE NON-FINAL POSTONIC SUBSYSTEM IN BP

Câmara Jr (1970)

Non-final posttonic subsystem in BP should consist of four vowels /a, e, i, u/ as /o/ is mostly realized as [u] in some dialects.

Bisol (2003)

Non-final post-tonic subsystem should be consisted of three vowels /a, i, u/ as result of a change in course.

RESULTS FROM SANTANA (2015)

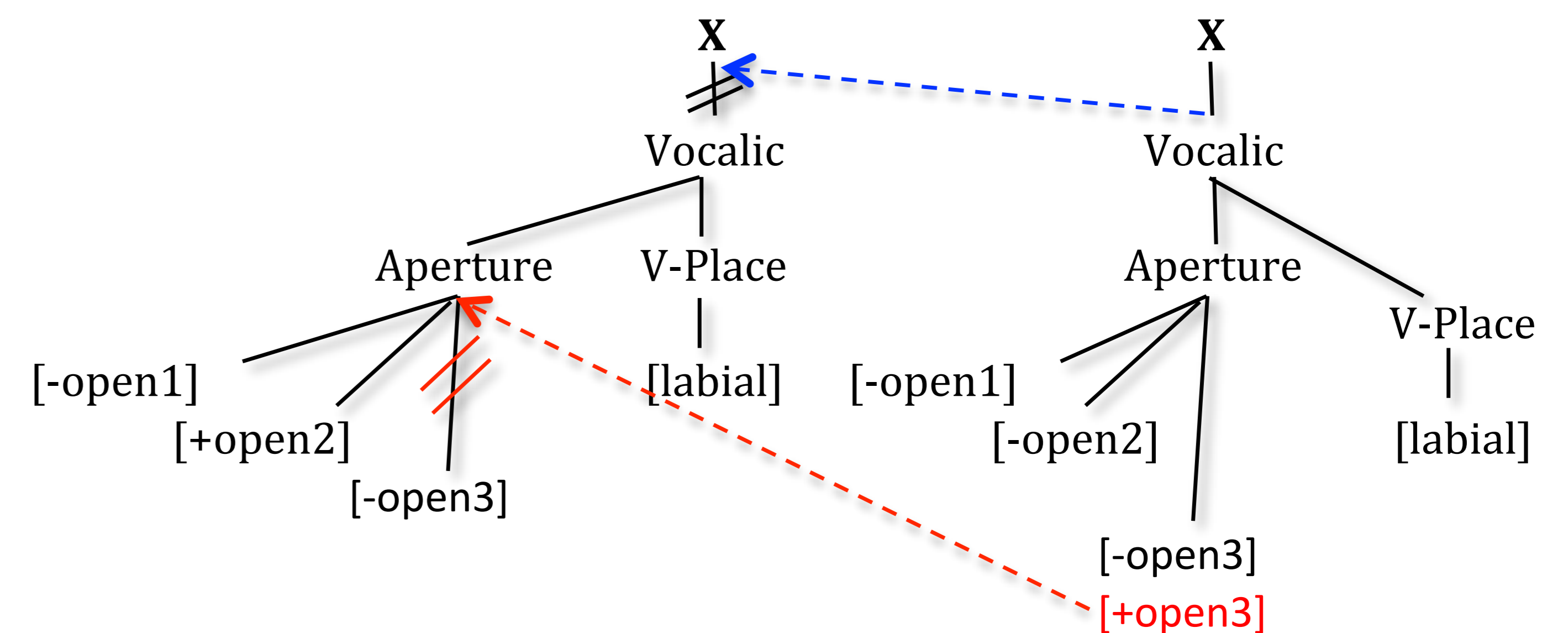
São Paulo (Southern Dialect)

	[i]	[e]	[u]	[o]
Events	149	1031	192	988
Value in %	12,6%	87,4%	16,3%	83,7%
Total	1180		1180	

São Luís (Northeastern Dialect)

	[i]	[e]	[ɛ]	[u]	[o]	[ɔ]
Events	107	755	318	100	831	249
Value in %	9%	64%	27%	8,4%	70,4%	21,2%
Total	1180			1180		

THE PHONOLOGICAL ACCOUNT FOR THE DERIVED FORMS



Derived high vowels [i, u]; derived low-mid vowels [ɛ, ɔ]

PROBLEMS WITH PREVIOUS PROPOSALS

- Câmara Jr.'s hypothesis is problematic because there isn't enough evidence that the non-final posttonic subsystem should be asymmetrical. Specially when taking into consideration the fact that such configuration wouldn't be captured by Clements' (1989) account to vowel height in Romance languages.

- Bisol's hypothesis mainly focuses on the definition of contrast. As o contrast between high-mid and high vowels in non-final posttonic position has never been found, the author claims /e, o/ should be neutralized. However:

- if we assume a three vowel subsystem in non-final posttonic position, there wouldn't be possible to define when, and for that reason, high-mid vowels emerge as the most frequent vowel;
- there would have to be a rule which would derive low-mid vowels (in dialects in which they are possible) from high vowels; that is, a two height level change (high → mid-high → low-mid), something that hasn't been described in BP or in any other romance language, as far as we know.

PHONOLOGICAL PROCESSES AND THE UNDERLYING FORMS

- Camara Jr.'s and Bisol's hypothesis, which only the definition of contrast take into consideration to defining the subsystem, are not able to capture the empirical facts observed by Santana.

- It has been shown that it is possible to account for the emergency low-mid [ɛ, ɔ] and high vowels [i, u] through assimilatory processes, but no pattern for the emergency of high-mid vowels [e, o] in non-final posttonic position was found.

- Assuming Dresher's proposal that phonological processes should also play a role in defining underlying forms, we believe that both /e, o/ are part of the non-final posttonic subsystem, which i) explains why no pattern for the emergency of such forms was found; ii) explains why such forms are the most frequent case; iii) allows for the existence of one-level-height alternation rule for the emergence of both low-mid and high derived vowels.

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