# VARIATION AND CHANGE IN THE HISTORY OF THE STRESSED MID VOWELS OF THE PORTUGUESE LANGUAGE: AN INTERPRETATION OF THE RHYMES OF THE POETRY FROM THE PAST 

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- ABSTRACT: This research aims to investigate the pronunciation of the stressed mid vowels in Portuguese of the 13th, 15th, 16th and 17th centuries, through the observation of the rhymes of the poetry from that period. The corpora comprise the Cantigas de Santa Maria by Alfonso X, the Cancioneiro Geral by Garcia de Resende, Os Lusíadas by Camões and the sonnets by Gregório de Matos. Knowing that the ancient writing, like the present, had only two graphemes to represent phonemes concerning stressed mid vowels of Portuguese, the possibilities and impossibilities of rhyme between mid vowels represented by identical graphemes were evaluated in this work. The results of this research suggest that there was constant phonetic variation in the speech of the stressed mid vowels of the Portuguese language, between the 15 th and 17 th centuries (at least), and that, in some cases, this variation resulted in a change, throughout the history of the language.
- KEYWORDS: stressed mid vowels; rhymes; history of Portuguese; variation; change.


## Introduction

The purpose of this paper is to present and examine rhymes from poetry written in the Portuguese language in the 13th, 15th, 16th, and 17 th centuries, which may contribute to the study of the processes of variation and change involving the stressed mid vowels of Portuguese.

Due to the fact that the Old Portuguese writing system (as well as the current one) has only two symbols ( $<\mathrm{e}, \mathrm{o}\rangle$ ) to represent the phonemes referring to the mid vowels of the language, that is, as the writing does not assign distinct symbols to represent open $(/ \varepsilon, \mathrm{o} /$ ) and closed (/e,o/) mid vowels, it becomes indispensable, in research dedicated

[^0]to stressed mid vowels from remote periods of the language, which have not left oral records, consultation of the rhymes used in poetry of that time, since the possibilities and impossibilities of rhyming between mid vowels (of the stressed syllable) represented by identical graphemes may reveal information about the difference in timbre (open and closed) between the phonemes of the past.

Fonte (2010a, 2010b, 2014) obtained significant clues regarding the pronunciation of stressed mid vowels in 13th, 15th, and 16th century Portuguese, taking as a basis the possibilities and impossibilities of rhyme in the Cantigas de Santa Maria (CSM) of Afonso X, the Cancioneiro Geral (CG) of Garcia de Resende, and Camões' Os Lusíadas.

Concerning the 13th century mid vowels, Fonte (2010a, 2010b) shows that CSM rhymes not only attest to the occurrence of four phonemes (/e, $\varepsilon, 0, \rho /$ ), in stress position, in the vowel system, as well as suggest a change, throughout the history of the language, in the pronunciation of the mid vowel of some specific vocabulary words (e.g. f/っ/go > f/o/go 'fire', inv/e/ja > inv/ع/ja 'envy').

For Fonte (2014), this linguistic change most likely originated from phonetic variations prevailing in the 15th and 16th centuries between open and closed mid vowels. The author reached this conclusion after analysing the rhymes of the GC and Os Lusíadas.

In more recent research, we found that also the rhymes of the 17th century suggest variation in the pronunciation of the stressed mid vowels of the time. In this research, which aimed to extend the temporal delimitation previously established by Fonte (2010a, 2010b, 2014), we mapped and analysed rhymes of not only Portuguese, but also Brazilian Portuguese Baroque poetry, since Brazil saw the emergence, in the 17th century, of significant poetic records. The Portuguese songbook A Fénix Renascida and the sonnets of the Luso-Brazilian poet Gregório de Matos (critical edition by Topa, 1999) served as corpuses for this (recent) research.

In this paper, the data of Fonte (2010a, 2010b, 2014) for the 13th, 15th, and 16th centuries will be resumed and associated with the (unpublished) data from the 17th century coming from the Brazilian strand of Baroque poetry. ${ }^{1}$ We intend to show, through this combination of data, the possible cases of variation and change among the stressed mid vowels in the historical course of the Portuguese language.

By presenting the rhymes of the centuries mentioned, the present work provides data that contemplates different phases of the history of the language, according to the periodization proposed by studies dedicated to the topic (cf. Castro, 2008). The 13th century corresponds to the beginning of Galician-Portuguese, a period in which there would be a unity between the languages spoken in Portugal and Galicia (the Galician-Portuguese). The 15th century corresponds to the second stage of the Old Portuguese (Middle Portuguese), characterised by the distance between the Galician language, in the extreme north of the Iberian Peninsula, and the Portuguese language

[^1]itself. The 16th century represents the beginning of Classic or Modern Portuguese. Finally, the 17 th century, although not a rupture in relation to the previous century, can also be considered a milestone in the history of the Portuguese language, as it witnessed the awakening of Brazilian poetry (or Luso-Brazilian poetry), also covered in this work.

The poetic works that provided the data considered in this study are expressive representatives of each of the centuries addressed. The Cantigas de Santa Maria, by Afonso X, the Wise King of León and Castile, were written in Galician-Portuguese, in the second half of the 13th century, and are an important testimony to the first phase of the Old Portuguese. For Leão (2007, p. 21), this Marian songbook, for its lexical wealth, conditioned by a considerable thematic diversity, and for the primacy of its poetic structures (in terms of metrics and rhyme), is "by far the largest and richest collection produced in the Romance vernaculars of the Middle Ages on this theme". The Cancioneiro Geral (1516), by Garcia de Resende, which brings together poems written during the 15 th and early 16 th centuries by some 300 poets, is an essential reference for anyone wishing to study the period in question, because of the multiplicity of themes it covers (cf. Rocha, 1987). Camões' epic work, Os Lusíadas (1572), composed of 10 cantos and 1102 stanzas, can be considered a genuine representative of modern Portuguese, not only because it is the icon of Renaissance in Portugal, but also (and especially!) because of its decisive role in the history of the Portuguese language, exerting significant influence on the characterization of standard Portuguese, including with regard to the creation of our orthography (cf. Souza, N., 2009). The Brazilian branch of Baroque poetry has its highest representative in Gregório de Matos, who was one of the founders of Brazilian literature and is one of the most important satirical poets in our history. It is worth clarifying, however, that the sonnets of Gregório de Matos analysed in this paper are not restricted to the satirical vein: besides satire, there are also love poems, sacred poems, and laudatory poems, among others, ensuring the thematic diversity of the work, which is expressed through a fixed poetic structure, always represented by fourteen rhymed decasyllable verses.

The following sections are devoted, respectively, to the stressed mid vowels of the 13th, 15 th, 16 th, and 17 th centuries. The main purpose of these sections is to present the rhymes referring to each of the synchronies focused on in this study. Because of the many equivalences among these rhymes (especially those of the 15th, 16th, and 17 th centuries), they will be interpreted together in the last section (5) of this article.

## The 13th century rhymes from the Cantigas de Santa Maria

In this section, the results achieved by Fonte (2010a, 2010b) from the observation of the rhymes of the 420 CSM of Afonso X, which correspond to the religious strand of the troubadour lyric, are presented and discussed.

Knowing that the rhymes in poetic texts are able to distinguish an open mid vowel from a closed mid vowel, Fonte (2010a, 2010b) has used the CSM rhyme dictionary, elaborated by Betti (1997), in order to investigate if the Galician-Portuguese vowel system (first phase of the Old Portuguese) was also constituted, like current Portuguese, of four mid vowels, two open $(/ \varepsilon, \mathrm{o} /)$ and two closed $(/ \mathrm{e}, \mathrm{o} /)$, in the stressed position.

After performing a survey, in the referred rhyme dictionary, of all rhymes containing a mid vowel in the stressed syllable, Fonte (2010a, 2010b) investigated, in the data collected, the occurrence of words that did not rhyme with each other, despite presenting identical endings. From this research, the author found that some rhymes could clearly be divided into two groups: the words in each group rhymed with each other, but never appeared rhyming with the members of the other group. For the ending -er, for example, Fonte (2010a, 2010b) verified in the CSM a group consisting of verbs in the infinitive, such as comer 'to eat', vencer 'to win', querer 'to want', prometer 'to promise', vender 'to sell' etc., and another group composed of some irregular verbs of the second conjugation, inflected in the future subjunctive, such as disser 'say', quiser 'want', saber 'know'etc., or, in the case of the verb querer 'to want', inflected in the third person singular of the present tense (quer 'wants'). Besides the verb forms, the nouns prazer 'pleasure' and moller 'woman' belonged to the first and second group, respectively. Among the posterior mid vowels, Fonte (2010a,b) identified for the ending -ores a smaller rhyming group, composed of the verb forms chores 'you cry' and demores 'you delay', and a larger one, composed of words like sennores 'sirs', amores 'loves (subst.)', doores 'pains', coores 'colors', among others.

Fonte (2010a, 2010b) interpreted these rhyme impossibilities as an indication that the graphemes $\langle\mathrm{e}\rangle$ and $<0\rangle$ represented distinct phonemes $(/ \mathrm{e}, \varepsilon /$ and $/ \mathrm{o}, \mathrm{o} /$ ) at the endings corresponding to each of the rhyming groups. Having made this observation, the research still needed to define the phonemes (/e/ or $/ \varepsilon /$, /o/ or $/ \mathrm{\rho} /$ ) corresponding to each group. At this point in her work, the author used data from the present to interpret the clues from the past, since the words mentioned in the previous paragraphs could not compose perfect rhymes in today's Portuguese (in most varieties, at least), because they have different vocalic phonemes in the stressed syllables: the stressed vowel is closed (/e,o/) in forms like comer 'to eat', vencer 'to win', amores 'loves', dores 'pains'etc., but is open ( $/ \varepsilon, 0 /$ ) in verbs as disser 'say', quiser 'want (subjunctive)', quer 'want', chores 'cry', demores 'delay', among others. Thus, in order to associate each phoneme with its respective rhyming group, Fonte (2010a, 2010b) deduced that, in these specific cases, the pronunciation of the Galician-Portuguese stressed mid vowel was equivalent to the pronunciation found in current Portuguese.

The data presented so far not only show the difference in timbre (open and closed) between the stressed mid vowels of the 13th century, but also suggest an equivalence between past and present pronunciations. This similarity does not hold, however, when one examines the totality of the rhymes of the CSM. And it is at this point that the other major contribution (besides the finding of the difference in timbre between the
stressed mid vowels of the 13th century) of Fonte's work (2010a, 2010b) is fixed: the one that indicates changes, in the course of history, in the pronunciation of the stressed mid vowel of certain words of Portuguese.

By analysing all the rhymes in the CSM, Fonte (2010a, 2010b) found that, in some cases, words that present phonologically different stressed vowels in today's Portuguese rhymed with each other. The examples listed below correspond to cases involving mid front ( $<\mathrm{e}>$ ) and back ( $<0>$ ) stressed vowels, respectively: ${ }^{2}$

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            deseja/peleja/enveja 'wish'/‘fight'/'envy' (CSM 67)
            enveja/peleja/sobeja 'envy'/‘fight'/‘surplus’ (CSM 184)
                enveja/seja/deseja 'envy'/`be'/‘wish' (CSM 241)
            seja/Eigreja/enveja/peleja/deseja/sobeja/veja 'be'/ 'church'/
            'envy'/ 'fight'/ 'wish'/ 'surplus'/ 'see'(CSM 280)
            Eigreja/seja/sobeja/deseja/enveja/peleja 'church'/ 'be'/
                'surplus' / 'wish' / 'envy'/ 'fight' (CSM 409)
            sejas/envejas/ygrejas 'be'/ 'envy'/ 'churches' (CSM 78)
                    sela/donzela/vee-la 'saddle'/ 'maiden'/ 'to see her' (CSM 153)
daquela/vence-la/move-la 'that (female)'/ 'conquer her'/ 'move her' (CSM 305)
            prende-la/ela 'arrest her'/ 'she' (CSM 369)
            essa/abadessa/condessa/promessa 'this one (female)'/
            'abbess'/ 'countess'/ 'promise' (CSM 195)
                essa/abadessa 'this one (female)'/ 'abbess' (CSM 285)
                teta/saeta 'breast' / 'arrow' (CSM 51)
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logo/rogo/jogo 'soon'/ 'pray'/ 'game' (CSM 79) logo/jogo 'soon'/ 'game' (CSM 422)
loor/Sennor/mellor/trobador 'praise'/ 'Lord'/ 'better'/ 'troubadour' (CSM B) mayor/Sennor/for/amor 'bigger'/ 'Lord'/ 'be'/ 'love' (CSM 30) sabor/mayor/pavor 'flavor'/ 'bigger'/ 'dread' (CSM 35) mayor/mellor/Sennor 'bigger'/ 'better'/ 'Lord' (CSM 70)

Sennor/flor/peor 'Lord'/ 'flower'/ 'worse' (CSM 72) pavor/coor/derredor 'dread'/ 'color'/ 'around' (CSM 82) arredor/Mayor/Sennor 'around'/ 'bigger'/ 'Lord' (CSM 86)

[^2]redor/loor/Sennor 'around’/ 'praise'/ 'Lord' (CSM 157)
Sennor/pecador/meor 'Lord'/ ‘sinner'/ 'smaller' (CSM 168)
sabedores/mayoresffiadores 'knowledgeable'/ 'bigger ones'/ 'guarantor' (CSM 214)
loores/sennores/mellores 'praises'/ 'misters'/ 'better ones' (CSM 288)
loores/sennores/mayores 'praises'/ 'misters'/ 'bigger ones' (CSM 315, 341)
esposa/fremosa/Groriosa 'wife'/ 'beautiful'/ 'glorious' (CSM 241)
fremosa/Esposa/maravillosa 'beautiful'/ 'wife'/ 'wonderful' (CSM 309)
groriosa/esposa/preciosa 'glorious'/ 'wife'/ 'precious' (CSM 340)
In a first analysis, based only on the current pronunciations of the language, these data could lead to the conclusion that rhymes occur in CSM between open and closed mid vowels. Fonte (2010a, 2010b) shows, however, that the historical origin of the mid vowels present in the stressed syllable of these rhyming words allows us to state that, in the 13th century, unlike what is observed in today's Portuguese, these rhymes were perfect, that is, between mid vowels of the same pitch (open or closed).

Knowing that the short mid vowels (/ॅ, $\check{\mathrm{c}} \mathrm{\sigma} /$ ) of Classical Latin gave rise, in Portuguese, to open mid vowels (e.g., pétram >p/\&/dra 'stone', lŏcum >l/ग/go 'soon'), in the stressed syllable, and that long mid vowels (//e, $\overline{\mathrm{o}} /$ ) and short high vowels ( $/ \overline{1}, \mathrm{u} /$ / of Classical Latin gave rise to closed mid vowels (e.g.: bēstiam > b/e/sta 'beast', viridem > verde 'green', tōtum $>$ t/o/do 'all', *türrem $>$ torre 'tower'), the author concluded that, in the 13th century, the pronunciation of the stressed vowel (at least, in the case of these words) still corresponded to the inherited timbre of the etymological vowel: ${ }^{3}$

Table 1 - Putative timbre changes involving the anterior mid vowel, in the history of Portuguese

| Latin | Galician-Portuguese | Current Portuguese | English |
| :---: | :---: | :---: | :---: |
| $\check{l}$ | $e$ | $\varepsilon$ |  |
| invĭdia | env[e]ja | inv[ع]já | envy |
| illa | [e]la | [c]la | she |
| eccu illa | aqu[e]la | aqu[ع]la | that one |
| domnicilla | donz[e]la | donz[ع]la | maid |
| $\check{l} p s a$ | [e]ssa | [ $\varepsilon$ ]ssa | this one |
| promissa | prom[e]ssa | prom[ $¢ 7$ ssa | promise |
| sagītta | sa[e]ta | $s[\varepsilon] t a$ | arrow |

Source: authors' elaboration.

[^3]Table 2 - Putative timbre changes involving the posterior mid vowel, in the history of Portuguese

| Latin | Galician-Portuguese | Current Portuguese | English |
| :---: | :---: | :---: | :---: |
| јо̆си | j[J]go | j[o]go | game |
| fŏcu | f[o]go | f[o]go | fire |
| meliōre | mell[o]r | melh[ว]r | better |
| peiōre | pe[o]r | $p i[2] r$ | worse |
| maiōre | mai[o]r | mai[J]r | bigger |
| formōsa | frem[o]sa | form[0]sa | beautiful |
| gloriōsa | glori[o]sa | glori[J]sa | glorious |

Source: authors' elaboration.

In view of the above, it can be said that the analysis of the rhyme possibilities (strange to current Portuguese) presented in (01) and (02) revealed two important characteristics of the troubadour period: one about poetry and the other about pronunciations.

As far as troubadour poetry is concerned, Fonte's analyses (2010a, 2010b) clarify that, at least in the religious strand, that is, in the 420 CSM of Afonso X, the rhymes are all perfect, that is, rhymes between open and closed mid vowels do not occur in the Alfonsine collection.

Regarding the pronunciations of the time, the arguments presented by Fonte (2010a, 2010b) support the hypothesis that some Portuguese words presented a different vocalic phoneme in the accented syllable in the 13th century.

It is important to note, by the way, that previous studies had already considered the hypothesis that the stressed vowel of some of these words had a different timbre than the present one, in the Old Portuguese (cf. Williams, 1975[1938]; Silva Neto, 1952; Nunes, 1960; Coutinho, 1974; Cunha, C., 1985, 1991). Fonte's data (2010a, 2010b) thus confirm this proposition of the previous studies, suggesting that there was, in the course of language history, a linguistic change that originated the current vocalic timbre.

The rhymes presented in the following sections lead us to believe that this change most likely originated from phonetic variations prevailing in the 15 th, 16th, and 17th centuries (at least) between open and closed mid vowels, in the stressed syllable. We will see, in the next sections, that the other poetic works discussed in this study also present rhymes between open and closed mid vowels (by today's standards). However, contrary to what was observed for the 13th century (with the CSM), etymology does not explain all the possibilities of rhyme recorded in the poetry of the 15 th, 16 th, and 17th centuries.

At first, we might think that the GC, Os Lusíadas and the sonnets of Gregório de Matos, unlike the Alfonsine collection, have imperfect rhymes. C. Cunha (1985, 1991), for example, states that, after Gil Vicente, rhyme between open and closed mid vowels became common in Portuguese poetry. We consider, however, this interpretation
premature and, after presenting the rhymes of the 15 th, 16 th and 17 th centuries, in the following sections, we will defend, in section 5 , based not only on etymology, but also on current pronunciations of other languages of Romance origin (e.g Galician, Spanish, Italian, French) and different varieties of Portuguese, the hypothesis that a supposed phonetic variation of the past would guarantee perfect homophony between the rhyming mid vowels in all the poetic works analysed.

## The rhymes of the 15th century from the Cancioneiro Geral

After a century and a half of troubadour lyricism, poetry disappeared from the Portuguese records until the 16th century, when Garcia de Resende decided to gather, in his Cancioneiro Geral (CG), first published in 1516, the poetic texts produced throughout the 15 th and early 16 th centuries.

In order to follow the course of the mid vowels in Portuguese over the centuries and to investigate whether the stressed vowel of the words mentioned in the previous section was still pronounced with a different timbre than today, in the second stage of the Old Portuguese - at which time the separation between the Galician and Portuguese languages would have already occurred -, Fonte (2014) made a survey of all GC rhymes involving mid vowel in the stressed syllable. As there is no rhyme dictionary in Resende's collection, it was necessary for the author to map the rhymes directly from the poetic work, starting with Dias' edition (1990-1993), published in four volumes.

In analysing the data surveyed, Fonte (2014) found that many other cases (in addition to those that raised the hypothesis of change, in the previous section) of rhyme between open and closed mid vowels occur in the Cancioneiro de Resende, according to the current parameter - including among those words that, in the CSM, constituted distinct rhyming groups, as shown in the following examples: ${ }^{4}$

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                    vier/morrer 'come'/ 'to die' ( }\mp@subsup{\textrm{n}}{}{0}134
            molher/escrever 'woman'/ 'to write' ( }\mp@subsup{\textrm{n}}{}{0}142
    quiser/querer 'want (subjunctive)'/ 'to want (infinitive)' (n' 238)
        tevera/atrevera/conhecera 'had had'/ 'dare'/ 'knew' (n' 280)
falecesse/soubesse/quisesse 'passed away'/ 'knew'/ 'wanted' (n' 281)
            interesse/quisesse 'interest'/ 'wanted' ( }\mp@subsup{\textrm{n}}{}{\textrm{o}}561
        quisestes/perdestes 'you (pl.) wanted'/ 'you (pl.) lost' (n` 1)
    fizestes/prendestes/perdestes/soubestes 'you (pl.) did'/ 'you (pl.)
            arrested'/ 'you (pl.) lost'/ 'you (pl.) knew' (n' 167)
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                    fe/mercê 'faith'/ 'mercy' (n': 394)
                    quê/felé 'what'/ 'faith'/ 'is' (n': 566)
            peça/esqueça/empeça 'ask'/ 'forget'/ 'prevent' (n': 597)
            mereço/empeço/peço 'I deserve'/ 'I prevent'/ 'I ask' (n': 566)
                arreda/leda 'move away'/ 'happy' (n': 57, 82)
            Raboreda/moeda/azeda/queda/vereda 'Reboreda'/
                        'coin'/ 'sour'/ 'fall (subst.)'/ 'path' (n': 71)
            seda/moeda/queda 'silk'/ 'coin'/ 'fall (subst.)' (n': 618)
                leda/queda 'happy'/ 'fall (subst.)' (n': 668)
                    leda/moeda 'happy'/ 'coin' (n': 869)
                    moedas/azedas 'coins'/ 'sour (pl.)' (n': 57)
                            entrega/chega 'deliver'/ 'arrive' (n': 57)
                            negra/regra 'black'/ 'rule' (n' 142)
                    enveja/sobeja 'envy'/ 'surplus' (n': 394)
                    deseja/enveja 'wish'/ 'envy' (n': 574)
                    inveja/veja 'envy'/ 'see' (n': 618)
            dela/sofrê-la 'from her'/ 'suffer her'( (n':22)
                querela/dizê-la 'quarrel'/ 'tell it' (n': 119)
                    perdê-la/ela 'lose her'/ 'she' ( }\mp@subsup{\textrm{n}}{}{\circ}:2,251
        naquela/vê-la/nela 'in that'/ 'see her'/ 'in her' ( }\mp@subsup{\textrm{n}}{}{\mathbf{o}}:360
        ela/conhec\hat{e}-la/vvê-la 'she'/ 'know her'/ 'see her'(n': 582)
        ela/mazela/conhecê-la 'she'/ 'illness'/ 'know her' (n': 725)
        dizê-las/querelas 'tell them'/ 'quarrels' (n': 345)
            delas/estrelas 'from them'/ 'stars'( (n':361)
            elas/conhecê-las 'they'/ 'know her' (n': 519)
        estrelas/elas/querelas 'stars'/ 'they'/ 'quarrels' (n': 832)
            pele/querele/ele 'skin'/ 'complain'/ 'he' (n': 611)
            velhas/ovelhas 'old ones'/ 'sheep' (n': 623)
            Arelho/conselho/coelho/vermelho/velho 'Arelho'/
                'advice'/ 'rabbit'/ 'red'/ 'old' (n': 802)
                    velho/artelho 'old'/ 'ankle' (n': 838)
                elo/perdê-lo 'link'/ 'lose him'(n': 35)
            capelo/selo/amarelo 'hood'/ 'seal'/ 'yellow' (n': 480)
            espero/desespero/quero 'I hope'/ 'I despair'/ 'I want' (n': 728)
            desconcerto/descuberto 'bewilderment'/ 'uncovered'/ (n': 264)
certo/perto/concerto/incerto 'right'/ 'close'/ 'concert'/ 'uncertain' (n': 333)
            portugues/reves 'portuguese'/ 'setback' (n': 169)
                Princesa/pesa 'princess'/ 'weight' (n': 216)
                    pesa/mesa/defesa/acesa 'weight'/ 'table'/ 'defense'/ 'lit' (n': 280)
            pesa/empresa 'weight'/ 'undertaking' (n': 613)
    defesa/pesa/despesa 'defense'/ 'weight'/ 'expense' (n': 626)
        Quaresma/mesma 'Lent'/ 'same' (n': 805)
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    pressa/avessa 'rush'/ 'reverse' (n': 1)
    processo/avesso 'process'/ 'reverse'(n': 1)
Valdevesso/atravesso/avesso 'Valdevesso'/ 'cross'/ 'reverse' (n': 618)
    fresta/besta 'crevice'/ 'beast' (n': 611)
    festa/besta 'party'/ 'stupid' (n': 611)
    poetas/netas/planetas/profetas 'poets'/ 'granddaughters'/
    'planets'/ 'prophets'(n' 367)
reto/prometo/carreto 'straight'/ 'promise'/ 'carry' (n': 535)
    deve/teve 'must'/ 'had' (n': 20, 86, 561, 611)
        fez/Fez 'made'/ 'Fez' (n': 618)
        vez/Fez 'turn'/ 'Fez' (n': 836)
Alteza/tristeza/largueza/reza 'Highness'/ 'sadness'/ 'breadth'/ 'prayer' (n': 367)
vileza/lindeza/preza/fortaleza 'vileness'/ 'beauty'/ 'cherish'/ 'fortress' (n': 445)
        natureza/nobreza/graveza/despreza/rudeza 'nature'/ 'nobleness'/
            'seriousness'/ 'disdain'/ 'rudeness' (n': 475)
                preza/Alteza 'cherish'/ 'Highness' (n': 598)
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toca/boca 'lair'/ 'mouth' ( $\mathrm{n}^{\mathrm{o}}$ : 453)
modo/todo 'mode'/ 'all' (n': 588)
modos/todos 'modes'/ 'all' (n': 615)
logo/rogo/fogo 'soon'/ 'pray'/ 'fire' ( $\mathrm{n}^{\text {o }}$ : 87)
logo/jogo/fogo 'soon'/ 'pray'/ 'fire' ( $\mathrm{n}^{\circ}$ : 183)
autor/maior/amador 'author'/ 'bigger'/ 'lover' ( $\mathrm{n}^{\mathrm{o}}: 1$ )
derredor/honor/emperador 'around'/ 'honor'/ 'Emperor' ( $\mathrm{n}^{\mathrm{o}}: 1$ )
melhor/maior/Senhor 'better'/ 'bigger'/ 'Lord' ( $\mathrm{n}^{\mathrm{o}}$ : 86)
dor/pior 'pain'/ 'worse' ( $\mathrm{n}^{\mathrm{o}}$ : 103)
servidor/milhor 'servant'/ 'better' ( n : 169)
cor/derredor/valor 'color'/ 'around'/ 'value' ( $\mathrm{n}^{\mathrm{o}}$ : 457)
favor/pior 'favor'/ 'worse' ( $\mathrm{n}^{\mathrm{o}}$ : 535)
redor/Senhor 'around'/ 'Lord' ( $\mathrm{n}^{\mathrm{o}}$ : 711)
derredor/temor/Senhor 'around'/ 'fear'/ 'Lord' ( n : 861)
maiores/valores/vencedores 'bigger ones'/ 'values'/ 'winners' ( $\mathrm{n}^{\circ}: 1$ )
melhores/amores 'bigger ones'/ 'loves' ( $\mathrm{n}^{\mathrm{o}}: 31$ )
maiores/amores 'bigger ones'/ 'loves' ( $\mathrm{n}^{\mathrm{o}}$ : 119)
esforçalforça 'strive'/ 'strength' ( $\mathrm{n}^{\mathrm{o}}: 753$ )
socorre/torre 'help'/ 'tower' ( $\mathrm{n}^{\mathrm{o}}$ : 437)
mortos/tortos/portos/abortos 'dead (pl.)'/ 'crooked
(pl.)'/ 'harbors'/ 'abortions' ( $\mathrm{n}^{\mathrm{o}}: 439$ )
renovo/novo 'I renew'/ 'new' ( $\mathrm{n}^{\mathrm{o}}: 1$ )

## The rhymes of the 16th century from Os Lusíadas

In order to investigate whether classical or modern Portuguese poetry adopted rhymes similar to those recorded in Resende's work, Fonte (2014) mapped and analysed all the rhymes in Os Lusíadas containing mid vowels in the stressed syllable. This section is dedicated to the presentation of the results obtained by Fonte (2014) from the aforementioned research.

To survey the rhymes of Os Lusiadas, Fonte (2014) started from the rhyme dictionary of Camões' epic work, prepared by J. Souza (1948). The eventual doubts that arose during the process were remedied by consulting the author's verses directly, in one of the editions of 1572, in a scanned version available on the web.

When analysing the rhyme possibilities in Os Lusíadas, Fonte (2014) found an equivalence between the rhyme scheme adopted by Camões and the one identified for the CG. According to the author, in Os Lusiadas, as in Resende's collection, several cases of rhyme occur between words that, in current Portuguese, have different vowel phonemes in the stressed syllable. Most of these cases of rhyme involve, even, exactly the same terms registered in the rhymes of the Cancioneiro de Resende presented in the previous section, as shown in examples (05) and (06) below, corresponding to the endings with anterior and posterior mid (stressed) vowels, respectively:
disser/dizer/saber 'say'/ 'to say'/ 'to know' (III-5) tivêra/recebêra 'had'/ 'received' (II-69) viera/fera/acontecèra 'came'/ 'beast'/ 'happened' (III-88)
fizerão/tiverão/obedecerão 'you (pl.) did'/ 'you (pl.) had'/ 'you (pl.) obeyed' (I-3)
fizerão/viverão/merecerão 'you (pl.) did'/ 'you (pl.) lived'/ ‘you (pl.) deserved' (II-103)
erão/receberão/vierão 'you (pl.) were'/ 'you (pl.) received'/ 'you (pl.) came' (V-62)
erão/conhecerão/gerão 'you (pl.) were'/ 'you (pl.) knew'/ 'you (pl.) generate' (VI-17)
poderão/vierão/crescerão ‘you (pl.) could’/ ‘you (pl.) came'/ 'you (pl.) grew' (VI-79) tivesse/sometesse/desse 'had'/ 'submitted'/ 'gave' (I-75) desse/interesse/quisesse 'gave'/ 'interest'/ 'wanted' (VII-84) vivesse/viesse/interesse 'lived'/ 'came'/ 'interest' (VIII-67) recebesse/detivesse/podesse 'received’/ 'detained’/ 'could’ (VIII-95) podessem/revolvessem 'could'/ 'revolved' (VI-79) viessem/trouxessem/convertessem 'came'/ 'brought'/ 'converted' (VII-33) tiverdes/quiserdes/moverdes 'you (pl.) had (fut.)'/ 'you (pl.) want (fut.)'/ 'you (pl.) move (fut.)' (IV-18) perdes/verdes/quiserdes 'you lose'/ 'green'/ 'you want (fut.)' (IX-59)
poderem/correrem 'you (pl.) can'/ 'you (pl.) run' (II-84)
receberes/poderes/quiseres 'you receive (fut.)'/ 'you can (fut.)'/ 'you want (fut.)' (VI-15)
pareceres/poderes/quiseres 'you appear (fut.)'/ 'you can (fut.)'/ 'you want (fut.)' (VIII-60) celeste/este 'heavenly'/ 'this' (III-73)
celeste/deste/defendeste 'heavenly'/ 'this'/ 'you defended' (VI-81)
deste/naceste/fizeste 'this'/ 'was born'/ 'did' (X-44) fè/crè/dè 'faith'/ 'creed'/ 'give' (I-63)
cabeça/começa/floreça 'head'/ 'start'/ 'bloom' (III-20)
faleça/começa/peça 'pass away’/ 'start'/ 'ask' (VIII-78)
começão/adereção/conheção 'you (pl.) start'/ 'you (pl.) address'/ 'you (pl.) know' (V-25)
peças/favoreças 'you ask'/ 'you favor' (X-118)
leda/seda/arremeda 'mock'/ 'silk'/ 'mock' (II-93) seda/veda/leda 'silk'/ 'seal'/ 'happy' (II-96) queda/leda 'fall'/ 'happy' (IX-67)
cega/nega/achega 'blind'/ 'deny'/ 'add' (II-98)
chega/nega/rega 'arrive'/ 'deny'/ 'water' (V-7)
chegão/navegão ‘you (pl.) arrive'/ 'you (pl.) navigate' (I-32)
navegão/chegão/regão 'you (pl.) navigate'/ ‘you (pl.) arrive'/ 'you (pl.) water' (IV-62)
sosego/Mondego/cego ‘quiet'/ 'Mondego'/ 'blind' (III-80)
cego/Mondego/navego 'blind'/ 'Mondego'/ 'navigate' (VII-78) veja/Beja/deseja 'see'/ 'Beja'/ 'wish' (III-76)
pelleja/deseja/enveja 'fight'/ 'wish'/ 'envy' (V-93) enveja/seja/veja 'envy'/ 'be'/ 'see' (X-113)
bella/nella/estrella 'beauty'/ 'in her'/ 'star' (I-33)
Palmella/estrella/della 'Palmella'/ 'star'/ 'from here' (III-65)
Castella/socorrella ${ }^{5}$ 'Castella'/ 'help her' (III-99)
donzella/vencella/della 'maid'/ 'win her'/ 'from her' (III-127)
Castella/estrella/nella 'Castella'/ 'star'/ 'in her' (VI-47)
Estrella/Castella/bella 'Star'/ 'Castella'/ 'beauty' (VIII-29)
della/estrella/donzella 'from her'/ 'star'/ 'maid' (IX-81)
dellas/vellas/estrellas 'from them'/ 'see them'/ 'stars' (V-23)
bellas/estrellas 'beauties'/ 'stars' (VI-87)
Caravellas/cometellas 'Caravellas'/ 'commit them' (X-18)

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                    aquelle/elle/pelle 'that one'/ 'he'/ 'skin' (V-28)
                    aquelle/Hele/impelle 'that'/ 'Hele'/ 'push' (VI-63)
                    velha/aparelha/ovelha 'old'/ 'rig'/ 'sheep' (III-131)
            aparelha/velha/aconselha 'rig'/ 'old'/ 'advise' (IX-50)
            velho/conselho/aparelho 'old'/ 'advice'/ 'device' (I-82)
            velho/aparelho/vermelho 'old'/ 'device'/ 'red' (III-75)
                    velho/espelho 'old'/ 'mirror' (VIII-13)
                    zelo/amarelo 'zeal'/ 'yellow' (X-62)
            regelos/Vasconcelos 'rule them'/ 'Vasconcelos' (IV-24)
    bellos/cabellos/amarellos 'beautiful ones'/ 'hair'/ 'yellow ones' (IX-56)
                    perde/verde 'lose'/ 'green' (III-52, V-7)
            enxerga/verga/erga 'see'/ 'bend'/ 'lift' (X-78)
        eterno/governo/Inverno 'eternal'/ 'government'/ 'winter' (I-28)
            eterno/governo/moderno 'eternal'/ 'government'/ 'modern' (VI-52)
            ferro/erro/desterro 'iron'/ 'mistake'/ 'exile' (III-128, X-53)
                temerte/converte 'fear you'/ 'convert' (VI-89)
    desconcerto/aperto/perto 'bewilderment'/ 'grip'/ 'close' (III-138)
    Portuguesa/defesa/pesa 'Portuguese'/ 'defense'/ 'weight' (I-90)
        Teresa/pesa/defesa 'Teresa'/ 'weight'/ 'defense' (III-34)
    Portuguesa/empresa/pesa 'Portuguese'/ 'undertake'/ 'weight' (III-41)
        Inglesa/acesa/pesa 'English'/ 'lit'/ 'weight' (VI-44)
            presa/pesa 'arrest'/ 'weight' (IX-80)
Princesas/desprezas/estranhezas 'Princesses'/ 'despise'/ 'strangenesses' (III-122)
    Meneses/Portugueses/reveses 'Meneses'/ 'Portuguese'/ 'setbacks' (X-104)
            bestas/florestas/sestas 'cross-bows'/ 'forests'/ 'naps' (IX-67)
            Planeta/Meta/secreta 'Planet'/ 'Goal'/ 'secret' (II-1)
        inquieta/Mahometa/Planeta 'restless'/ 'Mahometa'/ 'Planet' (III-19)
            meta/secreta/preta 'goal'/ 'secret'/ 'black' (V-27)
                penetras/letras 'you penetrate'/ 'letters' (III-13)
                treva/leva/atreva 'darkness'/ 'take'/ 'dare' (V-30)
            leva/escreva/treva 'take'/ 'write'/ 'darkness' (IX-15)
                    teve/atreve/leve 'had'/ 'dare'/ 'light' (III-22)
                    teve/deve/breve 'had'/ 'must'/ 'short' (III-26)
                    leve/teve/neve 'light'/ 'had'/ 'snow' (VI-43)
                    teve/leve/breve 'had'/ 'light'/ 'short' (VI-52)
            atreve/deve/teve 'dare'/ 'must'/ 'had' (VIII-32)
            nobreza/preza/pureza 'nobility'/ 'cherish'/ 'purity' (II-75)
            Veneza/preza 'Venice'/ 'cherish' (II-97)
    despreza/fortaleza/destreza 'disdain'/ 'fortress'/ 'dexterity' (III-112)
    certeza/pureza/preza 'certainty'/ 'purity'/ 'cherish'(X-121)
Princesas/desprezas/estranhezas 'Princesses'/ 'despise'/ 'strangeness'(III-122)
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            toda/roda/noda 'all'/ 'wheel'/ 'stain' (III-17)
            todas/vodas/rodas 'everyone'/ 'weddings'/ 'wheels' (X-74)
                    todo/modo 'all'/ 'mode' (II-58)
        modos/todos 'modes'/ 'everyone' (VI-12, VI-15, 50)
            fogo/jogo/logo 'fire'/ 'game'/ 'soon' (IV-39)
            logo/Diogo/rogo 'soon'/ 'Diogo'/ 'pray' (VIII-94)
                valor/milhor 'value'/ 'better' (III-18)
                amor/maior 'love'/ 'bigger' (III-31)
                    senhores/milhores 'lords'/ 'better ones' (II-46)
    temores/mayores/antecessores 'fears'/ 'bigger ones'/ 'predecessors'(VI-95)
            menores/corrutores 'smaller ones'/ 'corruptors'(VIII-40)
mercadores/milhores/trabalhadores 'merchants'/ 'better ones'/ 'workers' (IX-10)
            sabores/milhores/amores 'flavors'/ 'better ones'/ 'loves' (IX-58)
        moradores/cores/milhores 'residents'/ 'colors'/ 'better ones' (X-97)
            senhores/mayores 'lords'/ 'bigger ones' (X-114)
            Aurora/vencedora/chora 'Aurora'/ 'winner'/ 'cry' (I-14)
            senhora/vencedora/adora 'miss'/ 'winner'/ 'adore' (II-51)
                fora/fora/senhora 'had been'/ 'out'/ 'miss' (III-95)
            fora/mora/vencedora 'had been'/ 'live'/ 'winner' (VII-1)
                    agora/adora/fora 'now'/ 'adore'/ 'had been' (VII-32)
            fora/Aurora/Flora 'had been'/ 'Aurora'/ 'Flora' (IX-61)
            caçadora/fora/mora 'huntress'/ 'out'/ 'live' (IX-73)
            horas/roubadoras/moradoras 'hours'/ 'robbers'/ 'residents' (I-78)
            pastoras/senhoras/horas 'shepherds (fem.)'/ 'misses'/ 'hours' (IX-35)
            desacordo/bordo/acordo 'disagreement'/ 'ship board'/ 'agreement' (VI-72)
            choro/sonoro/coro 'cry'/ 'sonorous'/ 'choir' (V-60)
                    morre/corre/torre 'die'/ 'run'/ 'tower' (IV-5)
                    sorte/morte/corte 'luck'/ 'death'/ 'cut' (IV-86)
            vos/avôs/pos 'you'/ 'grandparents'/ 'put' (IV-17)
            esposa/fermosa/preciosa 'wife'/ 'beautiful'/ 'precious' (VI-21)
            temerosas/esposas/bellicosas 'fearful'/ 'wives'/ 'pugnacious' (IV-26)
                fosse/posse 'would be'/ 'ownership' (III-25)
            posso/vosso/grosso 'can'/ 'your'/ 'thick' (I-15)
            posso/Colosso/grosso 'can'/ 'Colosso'/ 'thick' (V-40)
                posta/Lagosta 'put'/ 'Lobster' (VI-17)
                    postos/sottopostos/desgostos 'put'/ 'underside'/ 'heartbreaks'(V-58)
            mova/prova/nova 'move'/ 'proof'/ 'new' (X-112)
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## The rhymes of the 17th century from the sonnets of Gregório de Matos

The poet Gregório de Matos is considered, as already exposed in this article, one of the founders of poetry in Brazil and the greatest icon of the Baroque in Brazilian literature. Best known for his satirical poetry, this Portuguese-Brazilian poet composed verses on the most varied themes and left a vast work as his legacy.

In the present study, a part of this work by Gregório de Matos was taken as a (linguistic) source of the 17th century Portuguese, in the Brazilian varieties of that time. With the purpose of obtaining information about the pronunciation of stressed mid vowels in the Brazilian Portuguese from the past, we mapped all the rhymes in the sonnets of the poet Gregório de Matos, containing mid vowels in the stressed syllables.

The option to work, in this study, only with the author's sonnets is explained by the formal rigour of this type of poem, which does not admit, for example, the use of white verses, that is, non-rhymed.

The mapping of the rhymes was made directly from the verses of the sonnets (since there is no rhyme dictionary in the author's poetic work), from the critical edition of Topa (1999). As there are many speculations about the authorship of the poems attributed to Gregório de Matos, the referred edition separates, based on careful research by the editor, the authentic sonnets of the poet from those with doubtful authorship. In addition, Topa's edition (1999) proposes a division among the sonnets of authentic authorship based on the themes the poet dealt with: sacred and moral, encomiums, funerals, love, satyric, and burlesque.

The rhymes presented and discussed in this section were taken from Gregório de Matos' authentic sonnets and cover all the (thematic) categories mentioned. As the examples listed below show, the Portuguese-Brazilian poet, like the Portuguese (or Galician Portuguese) poets considered in this work, also arranged in rhyme stressed mid vowels that, in current Portuguese, have different timbers:

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    adoecestes/vertestes/discorrestes/tivestes 'you got sick'/ 'you pour (past)'/
        you 'discuss (past)'/ 'you have (past)' (Amorosos, 147, p. 362)
                    que/se/vê/ré 'what'/ 'if'/ 'see'/ 're (musical note)'
                    (Satíricos e burlescos, 180, p. 442)
            que/dê/fé/crê 'what'/ 'give (Imperative)'/ 'faith'/ 'believe
                (Imperative)' (Satíricos e burlescos, 190, p. 462)
                    chesmininés/mês/montês/Irlandês 'ornaments'/ 'month'/
            'mountainous'/ 'Irish' (Satíricos e burlescos, 173, p. 425-426)
                    rés/revés/rês 'res (musical note)'/ 'setbacks'/ 'cattle'
                    (Satíricos e burlescos, 214, p. 515)
            Meneses/vezes/entremezes/reveses 'Meneses'/ 'turns'/ 'setbacks'/
                'setbacks' (Satíricos e burlescos, 169, p. 413-414)
            peca/peca/seca 'sin'/ 'sin'/ 'dry' (Fúnebres, 83, p. 226)
            Emprego/sossego/cego/desapego 'Employment'/ 'quiet'/
            'blind'/ 'detachment' (Amorosos, 116, p. 298-299)
    seja/inveja/veja/reja 'be'/ 'envy'/ 'see'/ 'rule' (Encomiásticos, 41, p. 135)
        invejam/cortejam/motejam/morejam 'envy'/ 'woo'/ 'mock'/
            'toil' (Satíricos e burlescos, 154, p. 379-380)
bela/cautela/anela/estrela 'beauty'/ 'caution'/ 'ring'/ 'star' (Fúnebres, 59, p. 176)
            estrela/aquela/atropela/zela 'star'/ 'that one'/ 'run
                    over'/ 'zeal' (Fúnebres,73, p. 203-204)
                    desvela/estrela 'unveil'/ 'star'(Fúnebres, 84, p. 228)
    bela/nela/estrela 'beauty'/ 'in her'/ 'star' (Fúnebres, 90, p. 240-241)
            bela/ela/vê-la/cautela 'beauty'/ 'she'/ 'see her'/
                    'caution' (Amorosos, 181, p. 444-445)
                belas/ofendê-las/estrelas 'beauties'/ 'offend them'/
                    'stars'(Amorosos, 130, p. 326-327)
                            belo/modelo 'beauty'/ 'model' (Sacros e morais, 8, p. 57-58)
                            carepa/dесера/trepa/increpa 'dandruff'/ 'sever'/ 'climb'/
                    'accuse'(Satíricos e burlescos, 148, p. 367)
            merca/perca 'buy'/ 'lose'(Satíricos e burlescos, 191, p. 465)
            mesma/Quaresma/resma/Ledesma 'same'/ 'Lent'/ 'ream'/
            `Ledesma' (Satíricos e burlescos, 176, p. 432-433)
                conheça/cessa/confessa/começa 'know'/ 'end'/
                    'confess'/ 'start' (Fúnebres, 86, p. 231-232)
decreta/Planeta/gineta 'enact'/ 'Planet'/ 'genet'(Encomiásticos, 46, p. 146)
                    barrete/topete/falsete/promete 'cap'/ 'quiff'/ 'falsetto'/
                    'promise' (Satíricos e burlescos, 199, p. 481-482)
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            acomoda/toda/roda 'accommodate'/ 'all'/ 'wheel'
                    (Satíricos e burlescos, 200, p. 485-486)
            boda/acomoda/roda 'wedding'/ 'accommodate'/ 'wheel'
                    (Satíricos e burlescos, 201, p. 487-488)
        modos/todos 'modes'/ 'everyone' (Satíricos e burlescos, 181, p. 445)
        engodos/todos/modos/apodos 'decoys'/ 'everyone'/ 'modes'/
            'nicknames' (Satíricos e burlescos, 201, p. 487-488)
            logo/fogo/desafogo/rogo 'soon'/ 'fire'/ 'relief'/ 'prayer'
                            (Satíricos e burlescos, 202, p. 489-490)
            hora/Aurora/namora/brilhadora 'hour'/ 'Aurora'/
                'date'/ 'bright'(Amorosos, 112, p. 290-291)
        forca/porca 'gallows'/ 'pig'(Satíricos e burlescos, 191, p. 465)
            andores/Menores/gritadores 'trays'/ 'smaller ones'/
            'screamers' (Satíricos e burlescos, 157, p. 386)
            adornos/contornos/cornos 'adornments'/ 'contours'/
                'horns'(Satíricos e burlescos, 185, p. 453)
            sonoro/choro/foro/decoro 'sonorous'/ 'cry'/ 'forum'/
                'decorum' (Fúnebres, 74, p. 206)
corroboro/sonoro/choro 'corrobate'/ 'sonorous'/ 'cry'(Amorosos, 97, p. 258)
            morro/socorro/recorro/torro 'die'/ 'help'/ 'resort'/
                    'toast'(Amorosos, 98, p. 259-260)
            pôs/cadoz/nós 'put'/ 'loach'/ 'we' (Amorosos, 121, p. 309)
pôs/foz/voz 'put'/ 'mouth'/ 'voice' (Satíricos e burlescos, 180, p. 442-443)
            arroz/Socós/sós/catrapós 'rice'/ 'Socós'/ 'alone'/ 'gallop'
                    (Satíricos e burlescos, 214, p. 514-515)
    descose/doze/cose 'unsew'/ 'dozen'/ 'sew'(Encomiásticos, 44, p. 142)
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Variation and change in the history of stressed mid vowels in Portuguese

The data presented in the previous sections (2, 3, and 4) show the several cases of rhyme, in poetry remaining from the 15 th, 16 th and 17 th centuries, between stressed vowels that, in current Portuguese, have different timbers.

In this section, arguments will be presented to defend the hypothesis that these rhymes were perfect at the time they were created because there was, it seems, variation in the pronunciation of stressed mid vowels in past Portuguese.

The first argument to be considered concerns the fact that the conception of change brings with it the idea of variation: if "all change implies variability and heterogeneity" (Weinreich; Labov; Herzog, 2006, p. 126), it must be recognized that the vocalic timbre changes raised at the beginning of this paper (from the CSM rhymes), before they were concretized, certainly went through a period of variation.

Another point to be considered is that, although not all possibilities of rhyme can be explained from the origin of the stressed vowel (e.g., between velho 'old man' and coelho 'rabbit', from Latin vetulus and cuniculus, or between modo 'mode' and todo 'all', from Latin modus and totus), in classical Latin, a great part of the cases can be justified by etymology (and the hypothesis of change). The following tables show examples of nouns and verbs, present in the rhymes analysed, whose stressed vowels, in current Portuguese, do not have a timbre corresponding to the one they would have inherited from Latin:

Table 3 - Putative changes involving the anterior mid vowel of non-verbal forms of Portuguese

| Latin | Portuguese of the Past | Current Portuguese | English |
| :---: | :---: | :---: | :---: |
| monēta | mo[e]da | $m o[\varepsilon] d a$ | coin |
| invídia | inv[e]ja | inv[ع]ja | envy |
| ulla | [e]la | [c]la | she |
| eccum illla | aqu[e]la | aqu[ع]la | that one |
| domnicŭlla | donz[e]la | donz[e]la | maid |
| querēlla | quer[e]la | quer[8]la | surplus |
| ı̌psa | [e]ssa | [ $\varepsilon$ ]ssa | this one |
| promĭssa | prom[e]ssa | prom[8]ssa | promise |
| procēssus | proc[e]sso | proc[E]sso | process |
| poèta | po[e]ta | po[8]ta | poet |
| prophēta | prof[e]ta | prof[c]ta | prophet |
| mèta | $m[e] t a$ | $m[\varepsilon] t a$ | goal |
| secrēto | secr[e]to(a) | secr[ $¢$ ]to(a) | secret |

Source: authors' elaboration.

Table 4 - Putative changes involving the anterior mid vowel of Portuguese verb forms

| Latin | Portuguese <br> of the Past | Current <br> Portuguese | English |
| :---: | :---: | :---: | :---: |
| *cominitiare | $\operatorname{com}[e] c ̧ a$ | $\operatorname{com}[\varepsilon] c ̧ a$ | start |
| pēccare | $p[e] c a$ | $p[\varepsilon] c a$ | $\sin$ |
| navı̆gari | $n a v[e] g a$ | $n a v[\varepsilon] g a$ | navigate |
| sesĭcāre | $\operatorname{soss}[e] g a$ | $\operatorname{soss}[\varepsilon] g a$ | quiet |
| cīppŭs | dec[e]pa | $\operatorname{dec}[\varepsilon] p a$ | sever |
| pēnsare | $p[e] s a$ | $p[\varepsilon] s a$ | weight |


| Latin | Portuguese <br> of the Past | Current <br> Portuguese | English |
| :---: | :---: | :---: | :---: |
| decrētus | decr[e]ta | decr[ []$t a$ | enact |
| penētrāre | pen[e]tra | pen $[\varepsilon] t r a$ | penetrate |
| dēbere | $d[e] v e$ | $d[\varepsilon] v e$ | own |
| covērtere | conv[e]rte | conv $[\varepsilon] r t e$ | convert |

Source: authors' elaboration.

Table 5 - Putative changes involving the posterior mid vowel of non-verbal forms of Portuguese

| Latin | Portuguese of the Past | Current Portuguese | English |
| :---: | :---: | :---: | :---: |
| aurōra | aur[o]ra | aur[o]ra | aurora |
| senhōra | senh[o]ra | senh[J]ra | miss |
| Flōra | floolra | floj ra | flora |
| canōrus | can[o]ro | can[ว]ro | songbird |
| sonōrus | son[o]ro | son[o]ro | sonorous |
| maiōre | mai[o]r | mai[J]r | bigger |
| meliōre | mell[o]r | melh[ว]r | better |
| peiōre | pe[o]r | $p i[\nu] r$ | worse |
| retrō | $\operatorname{red}[0] r$ | $\operatorname{red}[\mathrm{p}] r$ | around |
| formōsa | ferm[o]sa | form[J]sa | beautiful |
| gloriōsa | glori[o]sa | glori[J]sa | glorious |
| pretiōsa | preci[o]sa | preci[ı]sa | precious |
| vōce | $v[o] z$ | $v[0] z$ | voice |
| fŏcus | f[o]go | f[o]go | fire |
| jŏcus | j[o]go | j[o]go | game |
| nŏvus | n[o]vo | $n[o] v o$ | new |

Source: authors' elaboration.

Table 6 - Putative changes involving the posterior mid vowel of Portuguese verb forms

| Latin | Portuguese <br> of the Past | Current <br> Portuguese | English |
| :---: | :---: | :---: | :---: |
| fügit | $f[o] g e$ | $f[\partial] g e$ | flee |
| cōnsuĕre | $c[o] s e$ | $c[\partial] s e$ | sew |


| Latin | Portuguese <br> of the Past | Current <br> Portuguese | English |
| :---: | :---: | :---: | :---: |
| cŭrrit | $c[o] r r e$ | $c[\partial] r r e$ | run |
| succŭrrit | $\operatorname{soc}[o] r r e$ | $\operatorname{soc}[\jmath] r r e$ | help |

Source: authors' elaboration.

If we consider the possibility that the etymological pronunciations (in the second column of each table) may have occurred, probably in variation with the phonetic pronunciations (in the third column of the tables), in the Portuguese spoken between the 15 th and 17 th centuries (including the varieties of the then Portuguese colonies, such as Brazil), we will recognize as perfect most of the rhymes listed in this article (e.g. s[e]das 'silks'/mo[e]das 'coins'/conc[e]das 'grant', inv[e]já 'envy’/v[e]ja 'see'/ des[e]ja 'wish', naqu[e]la 'in that'/v[e]-la 'see her'/n[e]la 'in her', d[e]lla 'from her'/ estr[e]lla 'star'/donz[e]lla 'maid', estr[e]las 'stars'/[e]las 'they (female)'/ quer[e]las 'quarrels', [e]ssa 'this one'/abad[e]ssa 'abbess'/cond[e]ssa 'countess'/ prom[e]ssa 'promise', proc[e]sso 'process'/av[e]sso 'reverse', po[e]tas 'poets'/ plan[e]tas 'planets'/prof[e]tas 'prophets', m[e]ta 'goal'/secr[e]ta 'secret'/ pr[e]ta 'black', cab[e]ça 'head'/com[e]ça 'start'/flor[e]ça 'bloom', p[e]ca 'sin'/ $s[e] c a$ 'dry', ch[e]ga 'arrive’/nav[e]ga 'navigate', p[e]as 'weight’/m[e]as 'table'/ d[e]fesa 'defense'/ac[e]sa 'lit', decr[e]ta 'enact'/Plan[e]ta / 'Planet'/gin[e]ta 'genet'/ pen[e]tra 'penetrate'll[e]tra 'letter', t[e]ve 'had'/d[e]ve 'own', tem[e]r-te 'fear you'/ conv[e]rte 'convert', f[o]ra 'were'/Aur[o]ra 'Aurora'/Fl[o]ra 'Flora', enganad[o]ra 'deceitful'/matad[o]ra 'killer'/senh[o]ra 'miss', son[o]ro 'sonorous'/ch[o]ro 'cry'/ f[o]ro 'forum '/dec[o]ro 'decorum', melh[o]r 'better '/mai[o]r 'bigger'/Senh[o]r 'Lord', red[o]r 'around'/Senh[o]r 'Lord', esp[o]sa 'wife'/ferm[o]as 'beautiful'/preci[o]as 'precious', grori[o]sa 'glorious'/esp[o]sa 'wife'/preci[o]as 'precious', p[o]s 'put'/v[o]z 'voice', l[0]go 'soon'/j[0]go 'game'/f[0]go 'fire', ren[ग]vo 'renew'/n[ग]vo 'new',f[o]ge 'flee'/h[o]je 'today', desc[o]se 'unsew'/d[o]ze 'dozen'/c[o]se 'sew', c[o]rre 'run'/ t[o]rre 'tower', soc[o]rre 'help'/t[o]rre 'tower'etc.).

Regarding the changes that took place between the nominal forms, it is interesting to note that, by coincidence or not, many of the words that have had their vowel timbre changed in the diachrony of Portuguese end in -o or -a , vowels that are traditionally considered triggers in metaphonic processes. ${ }^{6}$ This type of coincidence may indicate that the so-called metaphonic process, although not very productive in most varieties of Portuguese today, had a significant role in past times of the language, promoting, it seems, variation between stressed mid vowels and, in some cases (such as those shown in the boxes), change.

As far as verb forms are concerned, the data suggest that the changes were conditioned by the performance of the rules of vowel harmonisation and lowering.

[^7]According to Mateus $(1975,2003)$, in the first person singular of the present indicative and in the rhizotonic forms of the present subjunctive, there is harmonization between the stressed mid vowel and the thematic vowel of verbs in the three conjugations (-ar, -er, -ir). According to the author, the thematic vowel, before being suppressed, leaves its fluctuating pitch trace, which connects to the underspecified vowel (which occurs before the placement of the accent). Thus, in the first conjugation, the mid vowel remains open (l[ह]vo 'take', l[ह]ve 'light', m[0]ro 'live', m[0]re 'live (imperative)'), by influence of the $a$-theme vowel; in the second conjugation, the mid vowel is closed (d[e]vo 'own', d[e]va 'own (imperative)', m[o]vo 'move', m[olva 'move (imperative)'), by influence of the $e$-theme vowel; and in the third conjugation, the stressed vowel becomes high (f[i]ro 'harm', f[i]ra 'harm (imperative)', d[u]rmo 'sleep', d[u]rma 'sleep (imperative) '), by influence of the i-theme vowel. There are, however, some exceptions to this rule: ch[e]go 'arrive', qu[ $\varepsilon]$ ro 'want', $p[\varepsilon] c ̧ o ~ ' a s k ' ~ a n d ~ i m p[\varepsilon] c ̧ o ~$ 'prevent', for example.

Regarding the lowering of the mid vowel in the rhizotonic forms of the present indicative and imperative, Mateus $(1975,2003)$ explains that, in cases where the thematic vowel is not suppressed, after the placement of the accent, the mid vowel receives the feature $[+10 w]$ (e.g., $l[\varepsilon]$ vas 'you take', $m[\rho]$ ras 'you live', $d[\varepsilon]$ ves 'you must', $m[\supset]$ ves 'you move', $f[\varepsilon]$ res 'you hurt', $d[\supset]$ rmes 'you sleep'). It is worth noting that such a rule only applies to vowels that do not have the [+high] feature $(i, u)$. There are, however, exceptions involving the subsequent vowel: f[o]ge (verb 'to flee') and $s[0] b e$ (verb 'to rise'), for example. ${ }^{7}$

The data from this paper suggests that the application of these rules for vocalic harmonisation and lowering is relatively recent in the history of the Portuguese language, to the extent that, at least until the 17th century, there were apparently pronunciations in which the stressed mid vowel tone of the root matched the quantity inherited from classical Latin (e.g., nav[e]ga 'navigate', pen[e]tra 'penetrate', d[e]ve 'must' etc.). It is possible, on the other hand, that these rules were already beginning to operate, especially from the 15 th century on, thus generating variations between etymological and phonetic forms. The change, however, was not yet effected, most likely in the 17th century.

The analysis of the rhymes reproduced in this paper also allows us to suspect that variation was not always conditioned by assimilatory processes: it is very likely that, after an initial period characterised by the prevalence of linguistic conditioning, variation was diffused into the lexicon, becoming free (e.g., merc $[e] \sim \operatorname{merc}[\varepsilon]$ 'mercy', $f[e] \sim f[\varepsilon]$ 'faith').

In addition to the arguments presented so far, there are also current pronunciations (etymological and non-ethnological) of other Romance languages (e.g., Galician, Spanish, Italian, French) that support the possibility that the stressed vowel of some

[^8]words in past Portuguese was pronounced with a different timbre than the one we know today. In current Galician, for example, the following occur: mo[e]da 'coin', $l[e] d a(o) \sim l[\varepsilon] d a(a)$ 'happy', env[e]xa 'envy', [e]la $\sim[\varepsilon] l a ~ ' s h e ', ~ a q u[e] l a \sim a q u[\varepsilon] l a$ 'that one’, quer[e]la ~quer[ $\varepsilon$ ]la 'quarrel', cap[c]lo ~ cap[e]lo ‘hood', [e]sa 'this one', prom[e]sa 'promise', def[e]nsa $\sim \operatorname{def}[\varepsilon] n s a$ 'defense', $\operatorname{av[\varepsilon ]sa(o)~} \operatorname{av[e]sa(o)~}$ 'reverse', proc[8]so ~ proc[e]so 'process', po[e]ta 'poet', prof[e]ta 'prophet', m[e]ta 'goal', secr[e]to 'secret', sos[ع]go ‘quiet', c[ $\varepsilon$ ]lo 'zeal', p[z]rda 'loss', gob[ع]rno 'government', ap[z]rto 'grip', conc[ $\varepsilon] r t o ~ ' c o n c e r t ', ~ d e s e s p[\varepsilon] r o ~ ' d e s p a i r ', ~[\varepsilon] r r o ~$ 'mistake', dest[ $\varepsilon$ ]rro 'exile', m[ह]smo(a) 'same', ag[o]ra 'now', Aur[ว]ra~Aur[o]ra 'Aurora', h[o]ra ~h[o]ra 'hour', señ[o]ra 'lady' A[o]ra 'flora', son[o]ro ~son[o]ro 'sonorous', mai[o]r ‘bigger', men[o]r 'smaller', mell[o]r 'better', pe[o]r 'worse', red[o]r 'around', ferm[o]sa 'beautiful', glori[o]sa 'glorious', preci[o]sa 'precious', f[o]go $\sim f[o] g o$ 'fire', $x[\supset] g o \sim x[o] g o ~ ' g a m e ', f[\supset] r c a ~ ' g a l l o w s ', ~ a c[o] r d o \sim a c[\supset] r d o$
 non-verbal forms, and ch[ $\varepsilon] g a \sim \operatorname{ch}[e] g a$ 'arrive', com[ $\varepsilon] z a \sim \operatorname{com}[e] z a$ 'begin', esqu[ह]za $\sim$ esqu[e]za 'forget', decr[ [] ta $\sim$ decr[e]ta 'enact', nav[e]ga ~nav[ह]ga 'navigate’, enx[e]rga ~enx[z]rga 'see', dec[e]pa 'sever', tr[e]pa 'climb', p[e]sa 'weight', pr[e]za 'cherish', pen[e]tra 'penetrate', $d[e] b e(i m p e r a t i v e) ~ ' m u s t ', p[e] r d e$ (imperative) 'lose', conv[e]rte (imperative) 'convert', [o]lla 'look', c[o]se (imperative) 'sew', c[o]rre (imperative) 'run', m[o]rre (imperative) 'die' and soc[o]rre (imperative) 'help', among the verbal forms. ${ }^{8}$ In current Italian, the pronunciation of the stressed mid vowel in conc[ $\varepsilon] r$ rto 'concert', $f[o] c e$ "foz" 'mouth', $v[o] c e$ "voz" 'voice', ac[o]rdo 'agreement', col[p]sso 'colossus', among the verb forms, is noteworthy nominal forms, and $t[o] c o$ and $t[o] c a(s)$ 'play', among the verbal forms. In French, the stressed mid vowel is open: $v[\varepsilon] r t$ 'green', princ[ $\varepsilon]$ sse 'princess', alt $[\varepsilon]$ sse 'highness', nobl[ $[\varepsilon]$ sse 'nobility', rich $[\varepsilon] s s e$ 'wealth', among other names with the ending -esse. In Spanish, the verbal form mueva 'move' and the nominal forms anillo 'ring', Amarillo 'yellow', pierda 'loss', acuerdo 'agreement', grueso 'thick' and nuevo 'new' are noteworthy for their differences from current Portuguese. ${ }^{9}$

Moreover, within the Portuguese language itself, in the different current varieties, there are data that ratify the hypothesis that there has been variation in the pronunciation of stressed mid vowels in the past. According to the Portal da Língua Portuguesa, for example, pronunciations such as: $v[e] l h o ~ ' o l d ', ~ a z[\varepsilon] d a ~ ' s o u r ', l[\varepsilon] d a ~ ' m o c k ', ~ s[\varepsilon] d a$ 'silk', ver[ $[\varepsilon] d a$ 'path', def[ $\varepsilon]$ sa 'defense', desp[ $\varepsilon]$ sa 'expense', empr[ $\varepsilon]$ sa 'undertaking', $m[\varepsilon]$ sa 'table', princ[ $\varepsilon]$ sa 'princess', alt[ $\varepsilon] z a$ 'highness', trist $[\varepsilon] z a ~ ' s a d n e s s '$, plan[ $\varepsilon] t a$ 'planet', [ $\varepsilon] l e$ (non-standard variety) 'he', $b[\supset] c a$ 'mouth', $t[\supset] d a$ 'all', $\nu[\supset] d a s$ "bodas"

[^9]＇wedding＇，past［〕］ra＇shepherd＇，matad［ว］ra＇killer＇，pesquisad［〕］ra＇researcher＇ etc．In the standard variety of Lisbon，according to Mateus and d＇Andrade（2000）， $[\mathfrak{e}]$ always replaces stressed［e］and，sometimes，$[\varepsilon]$ ，in front of a palatal consonant in the following syllable（e．g．，telha［＇te $\kappa \mathfrak{r}]$＇roof tile＇，abelha［е＇beК飞］＇bee＇，velha［＇veК飞］ ＇old＇，fecho［＇fefu］＇clasp＇，cereja［si＇ $\mathbf{r e z e}$ ］＇cherry＇，senha［＇sene］＇password＇，venho ［＇veju］］＇come＇．This means，while，in Brazil，there is a clear distinction between the endings of words like velho＇old＇and vermelho＇red＇，for example，because they have phonologically distinct mid vowels（ $v / \varepsilon / l h o$＇old＇and verm／e／lho＇red＇）in Portugal this difference is sometimes not so clear evident，due to the influence of the palatal consonant $(/ K /)$ of the following syllable．Finally，it is worth adding that，although variation between stressed mid vowels is not very frequent in current varieties of Brazilian Portuguese， fluctuation can be observed in examples such as：sap［ $\varepsilon] \sim \operatorname{sap}[e]$＇thatch＇，bl［ $\varepsilon] f e \sim$
 ＇fight＇，$c[\varepsilon]$ dro $\sim c[e] d r o \quad$＇cedar＇，esm［ $\varepsilon] r o \sim$ esm［e］ro＇care＇，top［ $[\varepsilon] t e \sim$ top $[e] t e$ ＇forelock＇，bof［ $\varepsilon]$ te $\sim$ bof［e］te＇slap＇，T［ $\varepsilon$ ］jo $\sim T[e] j o ~ ' T e j o ', ~ p[\nu] c ̧ a ~ \sim p[o] c ̧ a ~ ' p u d d l e ', ~$ $d[\supset] l o \sim d[o] l o$＇deceit＇${ }^{\text {etc．}}{ }^{10}$

It is also important to note that，in current Portuguese，there are few examples of minimal pairs involving the phonemes $/ \mathrm{e} /$ and $/ \varepsilon /$ ，on the one hand，and $/ \mathrm{o} / \mathrm{and} / \rho /$ ，on the other（cf．Wetzels，2011）．If we interpret the rhymes presented in this paper as an indication of phonetic variation between open and closed（stressed）mid vowels of old， we can recognize that it is likely that Portuguese，at some point in its history，was close to acquiring a phonology similar to Spanish，in which the timbre distinction between the mid vowels is not phonological．

From the arguments exposed，it is possible to conceive as perfect the rhymes of the XV，XVI and XVII centuries studied．According to the interpretation proposed in this article，at the time these rhymes were composed，there was a total coincidence between the rhyming sounds．

In summary，it can be said that the rhymes of the poetic texts discussed in this study allow us to assume that，between the 15 th and 17 th centuries，at least，the stressed mid vowel of a large part of the Portuguese words went through a process of
 $\sim$ prom［z］ssa＇promise＇，cond［e］ssa $\sim$ cond［ $\varepsilon]$ ssa＇countess＇，po［e］ta $\sim$ po［ $\varepsilon] t a ~ ' p o e t ', ~$ plan［e］ta～plan［ $\varepsilon] t a \quad$＇planet＇，nav［e］ga $\sim \operatorname{nav[\varepsilon ]ga~'navigate',~ch[e]ga~~~ch[\varepsilon ]ga~}$ ＇arrive＇，glori［o］sa $\sim$ glori［ग］sa＇glorious＇，marip［o］sa $\sim$ marip［ァ］sa＇moth＇，f［ग］go～
 （e．g．，aqu［ह］la＇that one＇，prom［ع］ssa＇promise＇，po［ع］ta＇poet＇，nav［ع］ga＇navigate＇， glori［J］sa＇glorious＇，f［o］go＇fire＇etc．）．In other cases，although they usually involve the same phonetic－phonological context，the variation has been lost over the centuries without change occurring，i．e．，only the etymological variants have survived（e．g．，

[^10]estr[e]la 'star', cond[e]ssa 'countess', plan[e]ta 'planet', ch[e]ga 'arrive', marip[o]sa 'moth', l[v]go 'soon'etc.), although there are varieties of the language that adopt the phonetic pronunciations, as is the case with Maputo Portuguese, for example.

## Final considerations

Labov's (1982, p. 20) definition of historical linguistics is well known among scholars: "the art of making the best use of bad data". Lass (1997, p. 45) also uses a similar metaphor to refer to studies devoted to early periods of a language: "listening to the unheard". These definitions perfectly represent the challenges faced by a researcher who wants to investigate, through writing data, the ancient aspects of a language.

In this paper, we reconstruct ancient pronunciations of the Portuguese language by interpreting poetic rhymes from the 13th, 15th, 16th and 17th centuries. This interpretation was supported by information about the historical origin of rhyming vowels and about the current pronunciations of Portuguese (in its different varieties) and other Romance languages. These features, if considered in isolation, could lead to erroneous conclusions.

One cannot, for example, base their research on (stressed) mid vowels, in Portuguese or in any other Romance language, only on etymological information, especially because, in many cases, there is no consensus among scholars about what the Latin vowel quantity would have been in fact. ${ }^{11}$ Since the reconstruction of quantity is usually done by observing the results generated in the different Romance languages, the lack of regularity in some of these results makes the work of scholars difficult, since there are many examples where the same Latin root gave rise to different phonemes in each Romance language (e.g., $\mathrm{m}[e]$ smo 'same' in Portuguese, mismo in Spanish, $m[\varepsilon]$ smo in Galician, amar[ع]lo 'yellow'in Portuguese, amarillo in Spanish) - or even within the same language, in cases where a single root has given rise to more than one word, as in segr[e]do 'secret'and secr[e]to (from Latin secrētus), for example, or in av[e]sso 'reverse’ and $a d v[\varepsilon] r s o$ 'adverse’(from Latin advērsus, according to Saraiva, 2006), in current Portuguese.

It is also necessary to consider the fact that not all the words that make up the Portuguese lexicon (and Romance languages, in general) come from transformations of vulgar Latin: there are words that entered the vocabulary more recently, by erudite

[^11]means (as a direct loan from Classical Latin) or by borrowing from other languages (Romance or not). In these cases, the Latin vowel number had no direct influence on the pronunciation of the stressed mid vowel (also because Latin no longer existed as a spoken language). In other words, if a lexical item has not travelled the path that led, over centuries of change, from Latin to Portuguese, it cannot be said that the timbre of its stressed vowel is, in fact, based (naturally) on the Latin pronunciation.

Only the (isolated) recourse to current pronunciations of Portuguese or other Romance languages, without any consultation of historical data, would not be sufficient to interpret the rhymes of the past, because it would not take into account the fact that languages change over time. Nor would an interpretation of rhymes be effective based on current data from only one Romance language, because it was the set of examples that helped to reinforce the hypothesis that some languages currently preserve pronunciations that, in the past, may also have occurred in Portuguese.

Addressing any of these topics alone would therefore provide a limited picture of the facts and lead to the conclusion that the rhymes discussed in this article are, as previous studies have concluded, imperfect.

The interaction of perspectives, however, not only allowed the analysed rhymes to be considered perfect, but also highlighted the idea of variation and change, which permeates this work. After all, the (current) strangeness to those rhymes that, in the past, were possibly perfect, suggests, first of all, that something has changed, proving that the idea that languages are immune to the action of time is untenable. Moreover, if something has changed, we can say that, before changing, it went through a process of variation, since it is naive to believe that linguistic changes occur instantaneously.

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FONTE, J.; MASSINI-CAGLIARI, G. Variação e mudança na história das vogais médias tônicas da língua portuguesa: uma interpretação das rimas da poesia do passado. Alfa, São Paulo, v.67, 2023.

- RESUMO: O objetivo deste artigo é obter pistas sobre a pronúncia das vogais médias tônicas no português dos séculos XIII, XV, XVI e XVII, a partir da observação das rimas da poesia de então. Serviram de corpora para esta pesquisa as Cantigas de Santa Maria de Afonso X, o Cancioneiro Geral de Garcia de Resende, Os Lusíadas de Camões e os sonetos do poeta lusobrasileiro Gregório de Matos. A metodologia adotada neste estudo consiste, essencialmente, no mapeamento e análise de todas as rimas, nos corpora referidos, envolvendo vogais médias, na sílaba acentuada. Levando-se em consideração o fato de que a escrita antiga, como a
atual, dispunha de apenas dois grafemas para representar os quatro fonemas referentes às vogais médias tônicas da língua portuguesa, foram avaliadas e comparadas, neste trabalho, as possibilidades e impossibilidades de rima entre vogais médias representadas por grafemas idênticos. Os resultados da pesquisa sugerem que havia intensa variação fonética na pronúncia das vogais médias tônicas da lingua portuguesa, entre os séculos XV e XVII (pelo menos), e que, em alguns casos, essa variação resultou em mudança, no decorrer da história da língua.
- PALAVRAS-CHAVE: vogais médias tônicas; rimas; história do português; variação; mudança.


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[^1]:    ${ }^{1}$ The dataset coming from the Portuguese strand of 17 th-century poetry were disclosed and discussed in an article published by ALFA (Fonte; Massini-Cagliari, 2021).

[^2]:    ${ }_{2}$ To facilitate the interpretation of the data, we have highlighted in blue, in these and the other example lists presented in this article, all the words that are pronounced, in current Portuguese, with an open mid vowel in the stressed syllable.

[^3]:    ${ }^{3}$ All information about the historical origin of the words in this text is based on the dictionaries of Corominas (1961), A. G. Cunha (2010) and Saraiva (2006).

[^4]:    ${ }^{4}$ The data highlighted in bold in these and the other examples presented in this paper correspond to endings that also constitute rhymes between open and closed mid vowels (according to current parameters) in the other poetic works discussed in this study.

[^5]:    5 As Fonte (2014) worked with the first edition (1572) of Os Lusiadas, the spelling of the data corresponds exactly to what was used at the time, that is, there are no orthographic adaptations like the ones we verified for the CG, in the Dias edition (1990-1993). Therefore, the spelling adopted for the verbal forms accompanied by clitics does not correspond to the current spelling, in the data listed in (05): socorrella ('help her'), vencella ('win her'), perdella ('lose her'), regelos ('rule them') etc.

[^6]:    morrera/excedera/of'recera/tivera 'died'/ 'exceeded'/ 'offered'/ 'had' (Fúnebres, 61, p. 180) espera/dissera/escondera 'wait'/ 'said'/ 'hid' (Amorosos, 153, p. 378) conhecer[d]es/poderes/quiser[d]es 'you (pl.) know (fut.)'/ 'you (pl.) can (fut.)'/ 'you (pl.) want (fut.)' (Amorosos, 132, p. 332-333)
    haveres/deres/Prazeres 'you have'/ 'you give'/ 'Prazeres' (Fúnebres, 91, p. 243) agreste/quiseste/nasceste 'wild'/ 'you want (past)'/
    'you were born' (Sacros e morais, 21, p. 85)
    entristeceste/fizeste/mereceste 'you saddened'/ 'you did'/ 'you deserved' (Fúnebres, 64, p. 186-187) rendeste/quiseste/celeste/apeteceste 'you surrender'/ 'you want'/ 'heavenly'/ 'you desire' (Fúnebres, 82, p. 223)

[^7]:    6 Scholars classify metaphony as the assimilatory process responsible for changing the timbre of the stressed vowel under the influence of an unstressed, usually final, vowel (cf. Xavier; Mateus, 1990, p. 245).

[^8]:    7 For other proposals for phonological analysis of voiced alternation involving certain verb forms in Portuguese, see the work of Battisti and Vieira (2005).

[^9]:    ${ }^{8}$ The pronunciations of non-verbs in Galician are based on information available (online) in the Dicionario de pronunciuncia da lingua galalega. The pronunciations of inflected verb forms were obtained by consulting (also online) the Dicionario da academia galega and Prof. Dr. Xosé Luís Regueira, director of the Dicionario de pronunciuncia da lingua galega, who very kindly answered, by email, our questions about current Galician.
    ${ }^{9}$ In Spanish, the diphthongs $i e$ and $u e$ occur in the stressed syllable of words that contained, in classical Latin, anterior short mid vowels (eg: pĕtra > piedra 'stone') and posterior (eg: nŏvus > nuevo 'new'), respectively.

[^10]:    10 Most of these variations（blefe＇bluff＇，bofete＇slap＇，esmero＇care＇，retrete＇toilet＇，sapê＇thatch＇，topete＇forelock＇，poça ＇puddle＇）are recorded in the Novo Dicionário Eletrônico Aurélio（2004 edition）．

[^11]:    ${ }^{11}$ We found, during this research, that Saraiva (2006) and A. G. Cunha (2010) often diverge regarding the quantity of the stressed mid vowel in Latin (e.g. regra 'rule', pele 'skin', belo 'beautiful', festa 'party', fresta 'crevice', neta 'granddaughter', recto 'straight', morto 'dead', torto 'crooked', porto 'harbor', grosso 'thick' etc.). In general, while, for Saraiva (2006), the stressed mid vowel of (divergent) nouns comes from a long Latin mid vowel, for A. G. Cunha (2010), in Classical Latin, the stressed mid vowel of these nouns was short. If, on the one hand, A. G. Cunha's (2010) proposals are supported by the current manifestation of these vowels in most Romance languages (and it is possible that this influenced Cunha's proposals), on the other hand, Saraiva's (2006) proposals are able to justify, based on the hypothesis of change, more rhymes from the past. It is important to clarify that, in the tables presented in this section, only examples where the etymologies proposed by A. G. Cunha (2010) and Saraiva (2006) are coincident were listed.

