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LINGUE, SCRITTURE E SOCIETÀ NELL'ITALIA LONGOBARDA

Un percorso di sociolinguistica storica

a cura di Elisa D'Argenio, Roberto Delle Donne, Rosanna Sornicola



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The Dialectological Situation of the Latin Language in Late Italy Before and in the Langobard Period as Evidenced in Inscriptions: The Phonological Aspect

*Béla Adamik**

Abstract: This study, based on one of the pioneering studies of József Herman (published in 2000) and using the capabilities and tools of the Computerized Historical Linguistic Database of Latin Inscriptions of the Imperial Age, attempts to describe and analyse the linguistic and dialectological characteristics of Latin in late imperial and early medieval (4-7th century) Italy as evidenced in inscriptions. Limited to the field of phonology, a consonantal and a vocalic phenomenon (the story of the word-final *-s* as well as the *e-i* and *o-u* mergers) is the subject of this study which aims to find out whether the late Latin territorial distribution of these changes predicts or anticipates the characteristic territorial differences within the Italian dialects and between the Italian and Sardinian dialects? The study shows that the question posed can be answered in an essentially positive way and that the time of geographically determined occurrence (or non-occurrence) of both discussed phenomena can be given with relative certainty.

Keywords: Vulgar Latin; Italy; Phonology; Inscriptions; Dialectology.

1. Introduction

If I wanted to provide a historical overview of research on the topic indicated in the title of my paper, this review would be surprisingly short, essentially consisting of a single item. As surprising as it may be, no work has been done so far that processed the whole of Italy (including the islands) from a Latin di-

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alectological point of view based on inscriptional material. Regarding Italy as a whole, not even a descriptive study has been written similar to those created at the beginning of the 20th century, which, now obsolete, in their time provided very useful information about the linguistic characteristics of the inscriptional material of other areas of the Roman Empire. These included Carnoy's monograph on the language of Latin inscriptions in Spain, Pirson's on that in Gaul, and Skok's on that in Dalmatia¹. Regarding the territory of Italy (including the islands), in fact only linguistic-grammatical descriptions and analyses concerning the inscriptional material of Venetia et Histria (Regio X) and Sardinia were made (with more traditional methodologies) by Zamboni and Lupinu in the second half of the 20th century². For now, let us disregard Sardinia, since while there have been more recent studies with more modern methodologies, especially by Tamponi, this is secondary to the research history of the Italian peninsula³. For this lack of literature or silence regarding Italy there must be a historical reason which I cannot address here due to length constraints. However, I can still point out that the failure to produce such descriptions of traditional methodology for the rest of Italy (and the Empire) is not at all surprising, given the ineffectiveness of previous studies of this kind in researching territorial variations and changes of the Latin language. Nevertheless, there is still one study that tried to determine and describe the territorial differences of the development of Latin in Italy based on the Christian-era inscriptional corpus with regard to the whole of Italy, or at least its representative territories, and this study was written by József Herman⁴. In his study, Herman successfully applied the methodology he developed to examine the distribution of error types reflecting different linguistic changes on Christian inscriptions in five selected regions of Italy, on a corpus of about 1,300 inscriptions. Herman demonstrated that from a dialectological point of view these regions of late Italy did not behave uniformly at all; instead, they can be divided into two contrasting groups according to their characteristic distribution of types of "faults". In one group (namely Liguria and Transpadana), there is a clearly innovative vocalism with an explicitly conservative consonant system, and,

¹ Carnoy (1906); Pirson (1901); Skok (1915).

² Zamboni (1965-1966; 1967-1968) as well as Lupinu (2000).

³ Tamponi (2019; 2022).

⁴ Herman (2000a). Mention may also be made of Lupinu (1999), who tried to analyse the phonology of Sardinia's Christian Latin inscriptions in a broader linguistic-geographical context, using Herman's ([2000] 1965) data sets, which also contains Italian data (broken down by northern Italy, southern Italy, and Rome).

conversely, in the other group (namely Sardinia, Etruria, and Bruttium) an explicitly conservative or less innovative vocalism with a largely or significantly innovative consonant system. These results of Herman⁵, while revealing only shifts in the larger phonological subsystems, still established that with the right methodology and, let's be clear, with the right database, the Italian inscriptional material can yield results, at least for certain linguistic subsystems, for those interested in the territorial development of the Latin language.

2. *Material, methodology and purpose of the present study*

In the roughly 20 years since the publication of Herman's pioneering study, much has happened that can make it easier to do a dialectological study I mentioned in the title of my presentation. The biggest breakthrough was undoubtedly the 2006 creation of the Computerized Historical Linguistic Database of the Latin Inscriptions of the Imperial Age⁶, which today (thanks to continuous work) has almost the entire inscriptional material of the Roman Empire processed in relation to the development of Vulgar Latin. The database, which records all kinds of deviance from the classical standard language, currently has more than 125,000 (exactly 125,616) digital data forms recorded from more than 59,000 (59,248) inscriptions⁷. Not counting Rome, the database contains more than 24,000 (24,316) data forms from Italy, recorded from more than 11,000 (11,483) inscriptions. From the city of Rome, so far another 33,000 (33,185) data forms have been recorded from more than 14,000 (14,317) inscriptions. In total, we have more than 57,000 (57,501) data forms from Italy, recorded from more than 25,000 (25,798) inscriptions. These numbers will only continue to increase in the future, since, although processing the Italian inscriptional material is nearing completion, processing the material from the city of Rome is still only half done. As a result, a researcher today can work with a material much larger and, more importantly, much more manageable and easier-to-analyse than what Herman had access to more than 20 years ago.

This database was developed using Herman's method of examining the frequency and distribution of different data types and accordingly, the search

⁵ Which I presented in more detail in Adamik (2012). However, Herman's classification of the second group applies mainly to Sardinia, less so to Bruttium and not at all to Etruria, cf. Papini (2022: 354f).

⁶ See <http://lldb.elte.hu/>, referred to as the Database or LLDB hereafter.

⁷ The data forms referred to in this survey represent the status of the Database on 28 February 2022.

engines of the database allow – among many other things – for an exhaustive analysis of the relative frequency of the different types of errors, and the exploration and visualization of the internal, structural distribution patterns of the examined data files⁸.

In light of all this, now I would like to make an attempt at describing the linguistic, dialectological characteristics of Italy based on the inscriptional material of the Christian era, considering Herman's pioneering study as a starting point, but using the achievements of today's digital age, namely the features and tools of the Computerized Historical Linguistic Database of the Latin Inscriptions of the Imperial Age⁹. This study is carried out in the field of phonology because, on the one hand, Herman also examined this linguistic subsystem and, on the other hand, more than two-thirds of the errors recorded in the database come from this linguistic subsystem (which Herman also considered, apparently)¹⁰. At the same time, the Romance linguistic-geographical aspect also suggests that we examine the phonological subsystem, as the most important linguistic-geographical dividing lines between the Italian and Sardinian dialects (developed from local Late Latin language variants during the Middle Ages, roughly over the 9th-10th centuries¹¹) are mostly identified in the field of phonology¹².

Accordingly, after briefly outlining the characteristics of the territorial, chronological and other general dialectological distribution of the examined corpus data, I will examine two specific phonological phenomena, one consonantal and one vocalic, in order to find out whether the Latin territorial distribution of these phonological changes predicts the territorial differences observed between the Italian and Sardinian dialects, namely whether or not these particular changes have occurred in the Italian and Sardinian dialect areas. These phenomena are the loss of the word-final *-s* for the consonant system and the *e-i* and *o-u* mergers for the vowel system. The chosen consonant change is fundamental in the linguistic-geographical distinction of the northern Italian and central-southern Italian dialects along the so-called La Spezia – Rimini (or Massa – Senigallia) line: in Italian dialects, word-final *-s*

⁸ For details, see Adamik (2016).

⁹ For details, see Adamik (2009; 2016).

¹⁰ Exactly 67% (84,685) are labelled as "Phonologica" [= "Consonantismus" 35% (44,507) + "Vocalismus" 32% (40,178)], 20% (24,500) as "Morphosyntactica" [= "Nominalia" 13% (16,013) + "Verbalia" 1% (1,005) + "Syntactica et lexica" 6% (7,482)] and 13% (16,459) as "Errores non grammatici".

¹¹ See Herman (2000b: 115).

¹² See Savoia (1997).

was preserved north of this line (as in Sardinia), but lost south of this line¹³. At the same time, the occurrence of *e-i* and *o-u* mergers should separate Italian dialects from the Sardinian and a small southern Italian dialect area in Lucania, where these mergers occurred only partially or not at all¹⁴. Of course, these phenomena can only be discussed briefly, in part limited by length constraints, in part by the fact that the study is based on inscriptional material, excluding other media.

3. *Characteristics of the Latin data set: territorial and chronological features*

For the purpose of this study, I considered the whole of Italy, meaning all 11 Augustean regions, as well as the islands of Sardinia, Corsica and Sicily and the city of Rome. However, I will not discuss the 11 regions of Italy separately, but organized into three areas, taking into account Italian dialectological and linguistic-geographical aspects: 1) Northern Italy (Venetia et Histria / Regio X, Transpadana / Regio XI, Liguria / Regio IX and Aemilia / Regio VIII), 2) Central Italy (Etruria / Regio VII, Umbria / Regio VI, Picenum / Regio V and Latium, meaning the northern half of Latium et Campania / Regio I¹⁵) and 3) Southern Italy (Samnium / Regio IV, Bruttium et Lucania / Regio III, Apulia et Calabria / Regio II and Campania, meaning the southern half of Latium et Campania / Regio I¹⁶). This division largely corresponds to the Italian lin-

¹³ As for the Massa – Senigallia line see Renzi / Salvi (1985) “Tav. VII: Il dominio italo-romanzo”; for the story of word-final *-s* in general, see Herman (2000b: 40-42). The word-final *-s* was lost in the northern dialects of Italian only in the Middle Ages, leaving its traces in various dialects until now, cf. Zamboni (1967-68: 118, note 144). To this day, word-final *-s* has remained mostly in Friulian and Ladin, see Vanelli (1997: 281): «Friulian displays some Gallo-Romance phonological phenomena, which are not found in other contemporary N. Italian dialects, but are present in *Ladin*: ... conservation of *-s* as a plural morpheme: [mu:rs] ‘walls’, and as the marker of the 2sg. and 2pl. verb forms: [‘cantis] ‘you sing’ (sg.), [can’tajs] (pl.)» and Vanelli (1997: 282): «Oblique clitics (acc. and dat.) 1pl. and 2pl. [nus] ‘us’ and [us] ‘you’ are not reflexive»; and concerning Ladin see Salvi (1997: 289): «final [s] preserved as a plural marker on the noun and as a 2sg. (and in some varieties, 2pl.) verb ending (but not in 1pl. – see below). It usually falls if it has no morphological role: PLUS > Mar. [ply], Bad. [plø], Gard., Liv. [plu], Fass. [pju] ‘more’ and Salvi (1997: 291): «Characteristic suffixes for all conjugations, pres. / imperf., ind. / subjn. (with some exceptions) are 1sg. *-[e]* (Mar. *-[i]*); 2sg. *-[es]* (<AS); ... ind. [can’tun] ‘we sing’, [can’tajs] ‘you sing’».

¹⁴ In general, see Herman (2000b: 30-35), concerning the southern Italian dialects see Ledgeway (2016b: 248-249), and as for Sardinian see Mensching / Remberger (2016: 272-274).

¹⁵ Technically, this meant adding the following cities (relevant to the current search) to the provinces of Central Italy: Albanum, Anagnina, Aricia, Bovillae, Lavinium, Nemus Dianae, Ostia Antica, Portus in Latio (ad Ostiam), Tarracina, Tibur, Velitrae.

¹⁶ Technically, this meant adding the following cities (relevant to the current search) to the provinces of Southern Italy: Abellinum, Capua, Neapolis in Latio, Nola, Nuceria, Puteoli, Salernum, Stabiae and Surrentum.

guistic geographical division also used in “The Oxford Guide to the Romance Languages” published in 2016¹⁷.

Regarding chronology, I have taken into account data from the Christian era from the 4th century onwards, until about the 7th century¹⁸, when the inscriptional material became extremely scarce, essentially ceasing to exist in most areas.

Regarding linguistics, I only considered data that could be interpreted on a purely phonological basis, excluding data that had morpho-syntactic or other non-phonological interpretations¹⁹ as well as the purely orthographic errors as non-linguistic ones²⁰. As a result, for my phonological examination, I was able to consider 2,855 data forms from the investigated area, recorded from 1,336

¹⁷ See Benincà / Parry / Pescarini (2016: 186) Map 13.1 “Dialects of northern Italy” and Ledgeway, Adam (2016a: 207) Map 14.1 “Standard Italian, Tuscan, and Corsican”, along with Loporcaro / Paciaroni (2016: 229) Map 15.1 “Dialects of central Italy” as well as Ledgeway (2016b: 247) Map 16.1 “Dialects of southern Italy”.

¹⁸ In fact, I was looking for data forms that could be dated between the 4th and 8th centuries, technically looking for the A.D. 301-800 period in the “Date” module of the database’s extended search engine (http://lldb.elte.hu/admin/search_2.php) using the “Period A” submodule. This way those data forms are displayed where the arithmetic mean of the indicated period falls within the period specified in the search query. E.g. with a search query for A.D. 401-500, data forms with a date 391-450 (mean: 420.5) or 471-510 (mean: 490.5) will be displayed, as well as data forms with a period narrower than the search query, such as 431-450 (mean: 440.5), and where a single year is indicated, such as 431. At the same time, data forms with dates such as 371-410 (mean: 390.5) or 491-530 (mean: 510.5) will be excluded.

¹⁹ In this investigation I considered only those data forms with phonetic main codes (chosen from the list labelled “Vocalismus” in the Database) that do not have a nominal or verbal morphosyntactic alternative code (chosen from the lists labelled “Nominalia” or “Verbalia” in the Database), such as – giving examples from Italy – (-s > ø) PLV M for *plus minus* (LLDB-91445) as well as (é: > I) FICIT for *fecit* (LLDB- 74692), (í > E) MENVS for *minus* (LLDB-18927), (ó: > V) DOLVREM for *dolorem* (LLDB-25680), (ú > O) OXOR for *uxor* (LLDB-31984), (ó > V) SVM[NO for *somno* (LLDB-94105), (é > I) MVNIRIBVS for *muneribus* (LLDB-17897), ((i: > E) PEREGRENO for *peregrino* (LLDB- 12163), (ú: > O) INMONES for *immunis* (LLDB-12585), (e: > I) FILICITAS for *Felicitas* (LLDB-21033), (í > E) FVET for *fuit* (LLDB- 31985), (o: > V) NEPVVS for *nepos* (LLDB- 41257), (u > O) SAECOLO for *saeculo* (LLDB- 61660), (o > V) PECTVRE for *pectore* (LLDB-17935), (e > I) APIRIRE for *aperire* (LLDB-62945), (i: > E) DEMID for *dimidia* (LLDB-23615), (u: > O) MOSIVO for *musivo* (LLDB-25818) etc. This procedure is necessary because forms like ANNI for *annis* (LLDB-74088, -s > ø / nom. pro abl.) as well as ANNVS for *annos* (e.g. LLDB-12275) coded by o: > V / decl. IV pro II, MENSIS for *menses* (e.g. LLDB-108844) coded by e: > I / acc. pl. -IS pro -es) and DOCIT for *docet* (LLDB-88474) coded by e > I / -IT pro -et (in 3. pers. praes. impf. verborum), QUIESCET for *quiescit* (LLDB-17830) coded by i > E / -ET pro -it (in 3. pers. praes. impf. verborum) etc. can be interpreted not only as incidences of phonological changes but also as incidences of confusions between either cases, declensions or conjugations – and these are not separable. Accordingly, we also excluded data forms with an alternative code chosen from the list labelled “Syntcatca etc.” in the Database, e.g. possible archaisms such as AEVOM for *aevum* (e.g. LLDB-111378) coded by u > O / archaismos or possible recompositions such as PORREGERE for *porrigere* (LLDB-71835) coded by í > E / recompositio etc.

²⁰ The following codes were excluded as purely orthographic phenomena: g > C, qu > CV, H > ø, aspiratio vitiosa, ch > C, ph > P, th > T, PH ~ F, c > K, k > C, x > SX / CS / XS / XSS / XX, i (= /j/) > II, áe > E, é > AE, ê: > AE, ae > E, e > AE, e: > AE, ae / áe > AI, i: > II, e: > EE, a: > AA, o: > OO, u: > VV. Similarly, I also excluded data forms that may optionally be regarded as correct, and are therefore labelled “*fortasse recte*” in the Database. All the data displayed in the charts represent the status of the LLDB Database on 31.05.2021.

inscriptions. In addition, I also considered material from the City of Rome: 8,429 data forms, recorded from 4,448 inscriptions. A territorial disproportion may already be noticed here, as three-quarters of the total of 11,284 Italian phonological data forms (i.e. 75% = 8,429) come from the city of Rome. In addition, we can also see disproportions in the chronological distribution of the data within each selected area, see Fig. 1:

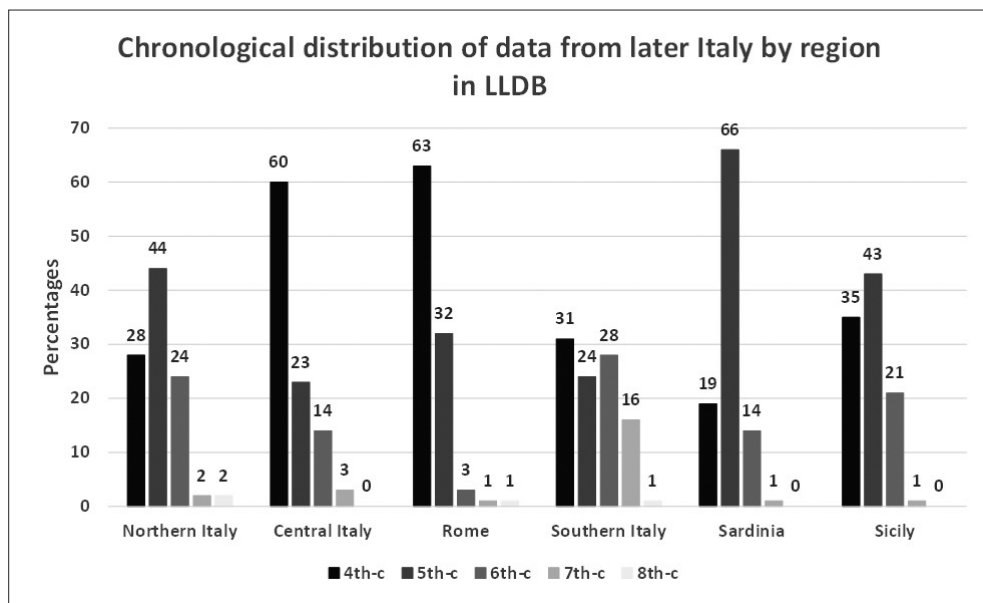


Fig. 1. Chronological distribution of data from later Italy by region in the LLDB.

In some regions, most of the data come from the 4th century (e.g. Rome and Central Italy), while in others from the 5th century (such as Northern Italy, Sardinia and Sicily). However, by the 6th century the amount of data decreased significantly in most areas, especially in Rome (but not in Southern Italy), and by the 7th century the decline was even more radical (again only with the exception of Southern Italy). By the 8th century, meaningful data dwindled to essentially nothing²¹.

²¹ Northern Italy (100% = 1,459): 4th c. 28% = 413, 5th c. 44% = 627, 6th c. 24% = 356, 7th c. 2% = 31, 8th c. 2% = 32; Central Italy (100% = 541): 4th c. 60% = 320, 5th c. 23% = 126, 6th c. 14% = 78, 7th c. 3% = 17; Rome (100% = 8,429): 4th c. 63% = 5,307, 5th c. 32% = 2,725, 6th c. 3% = 280, 7th c. 1% = 71, 8th c. 1% = 46; Southern Italy (100% = 518): 4th c. 31% = 161, 5th c. 24% = 123, 6th c. 28% = 145, 7th c. 16% = 83, 8th c. 1% = 6; Sardinia (100% = 266): 4th c. 19% = 51, 5th c. 66% = 176, 6th c. 14% = 37, 7th c. 1% = 2; Sicily (100% = 68): 4th c. 35% = 24, 5th c. 43% = 29, 6th c. 21% = 14, 7th

4. Distribution patterns of the studied phonological phenomena and their dialectological significance

4.1. The story of word-final -s

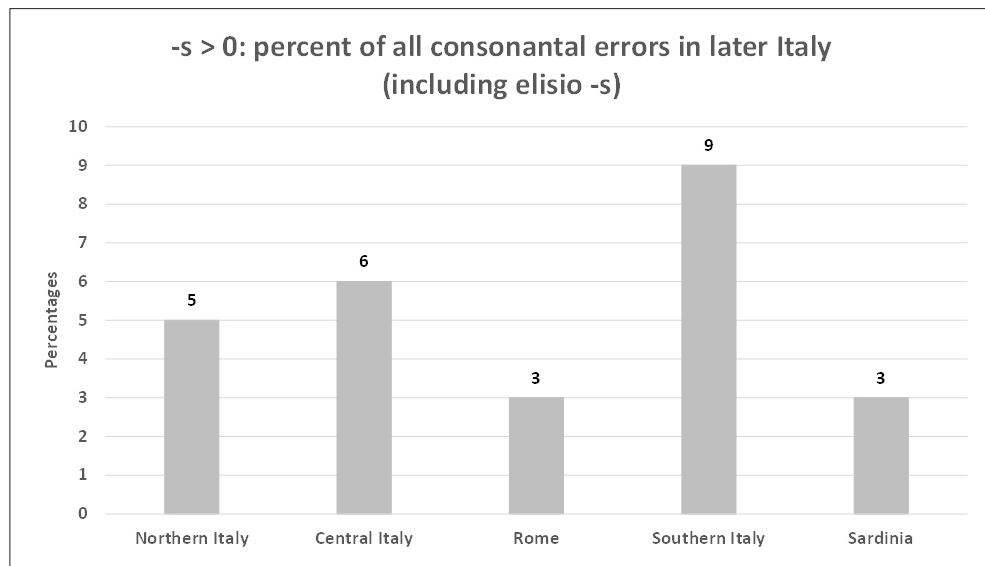


Fig. 2. -s > 0: percent of all consonantal errors in later Italy.

Let us start with the story of the word-final -s that is so important for the Italian and general Romance linguistic geographical division. If we look at Fig. 2, which gives the proportions of the loss of -s (including those which are based on metrical analysis)²² in relation to all consonantal errors without a

c. 1% = 1. Only 3 relevant data forms come from Corsica (from the 5th century), so they are only included in the summarized data for Italy, and the island is no longer taken into account on its own.

²² Accordingly, not only cases where the word-final -s were not written (coded as -s > 0 in LLDB) were considered here (such as LLDB-91445: -s > 0, PLV M = *plus minus*, AE 1997, 730, 1 = Epigraphica 1997, 389, 1, Transpadana / Regio XI, Mediolanum, 401-500 A.D.), but also those (coded as elisio -s) where it can be assumed on a metrical basis that the word-final -s was not pronounced (such as LLDB-89794: elisio -s, SEXAGINTA PLVS MINVS = *sexaginta plus minus*, ICUR 6, 17192, 9 = ICUR 1, 947, 9, Roma, 391-425 A.D., in the clausula of a hexameter, i.e. *sexāginta plū mīnus* for *sexāginta plūs mīnus*). The very rare cases in which the metrically not realized -s was not even indicated in writing (coded as -s > 0 elisa) were also taken into account (such as LLDB-92994: -s > 0 elisa, HIC TV]MVLATV IACIT = *hic tumulatus iacet*, CIL 11, 3759, 1 = CLE 535, 1, Etruria / Regio VII, Careiae, without dating, at the beginning of a hexameter, i.e. *hic tumulātu' iacet* or LLDB-89812: -s > 0 elisa / dat./abl. pro nom., CVM PACE FIDELI QUIESCES = *cum pace fidelis quiescis*, ICUR 7, 19744, 2 = ILCV 4798, 2, Roma, 401-500 A.D. in the clausula of a hexameter, i.e. *cum pace fidelī' quiescis*; however, both examples from Italy were omitted from the analysis below, the former because it is undated and the latter because it can be explained morphosyntactically too).

chronological division, we can see that some partial correspondence can be discovered with the later Romance and Italian dialectological distribution.

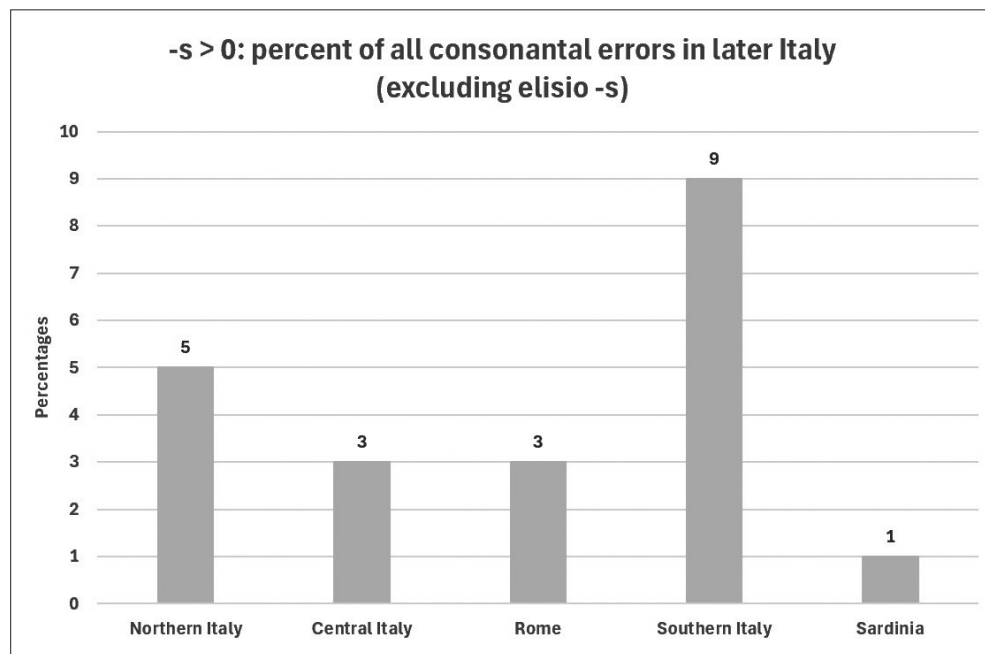


Fig. 3. -s > 0: percent of all consonantal errors in later Italy (excluding elisio -s).

The word-final *-s* appears preserved in the dialects of Northern Italy as well as in Sardinian, while in the dialects of Central and Southern Italy it was lost²³. It is a welcome sight that Southern Italy has the highest dropping rate of the word-final *-s*, i.e. 9% (= 29; 100% = 333) and Sardinia the lowest one, i.e. 3% (= 6; 100% = 203), which is well in line with the subsequent fate of word-final *-s* in these areas. However, it is extremely disturbing that Rome shows the same low percentage, i.e. 3% (= 154; 100% = 5,273) as Sardinia, and that Northern Italy by 5% (= 34; 100% = 695) and Central Italy by 6% (= 17; 100% = 290) show no significant difference in the phenomenon²⁴. However, if we exclude from the study the cases of the zero realization of the word-final *-s* coded in the database as “elisio *-s*”, which are based on metrical analysis and may not have a phonetic background (meaning cases where the word-final *-s*

²³ See footnote 13 above for more details.

²⁴ Sicily with extremely low number of data forms (6% = 3; 100% = 49) was excluded from this study section and Fig. 2.

is written, but the metrical analysis shows that it did not form a position, so it was not necessarily pronounced)²⁵, we apparently get a picture corresponding a bit better to the later linguistic-geographical conditions, see Fig. 3.

As a positive development, the difference and contrast between *-s* losing Southern Italy and *-s* retaining Sardinia increased, as the percentage of Sardinia decreased from 3% to 1% by excluding 3 pieces of “*elisio -s*”. It is also a welcome development that Rome and surrounding Central Italy got the same proportion (3%), thanks to the exclusion of 9 pieces of “*elisio -s*” from the material of the latter²⁶. However, it is very confusing that, concerning the dropping rate of the word-final *-s*, the *-s* retaining Northern Italy²⁷ (5%) is perceptibly ahead of *-s* losing Rome and central Italy (both 3%), although this should be the other way around in the light of later developments. However, confounding factors can be eliminated with a more articulated chronological approach.

If we look at the territorial proportions of dropping of word-final *-s* divided into centuries in Fig. 4, we can already get a clearer picture of the linguistic-geographically determined history of this change.

²⁵ The fact that in the Database (disregarding the geographical and chronological breakdown) the proportion of “*s > 0 elisa*” within the data of elision of *-s* is only 5% (4 pieces of data), while the proportion of “*elisio -s*” is 95% (77 pieces of data), however, within the data of elision of *-m* the proportion of “*m > 0 elisa*” is 55% (46 pieces of data), while the proportion of “*elisio -m*” is 45% (38 pieces of data), suggests that while the elision of *-m* probably had a purely phonetic background, the elision of *-s* had more of a metrical basis (I am grateful to Nóra Paulus for drawing my attention to this circumstance). As written above in note 22, the codes “*s > 0 elisa*” and “*m > 0 elisa*” encode cases where a non-metric realized sound is not marked in writing. A further argument can be made in favor of excluding the elision of *-s*, namely that its appearance can even be explained by an archaic poetic technique, since this phenomenon was considered normative in the poetic language until the time of Catullus and Lucretius, see Adamik (2014: 156).

²⁶ Rome’s percentage did not change by excluding 7 items of “*elisio -s*”.

²⁷ Northern Italy’s percentage did not change by excluding 1 item of “*elisio -s*”.

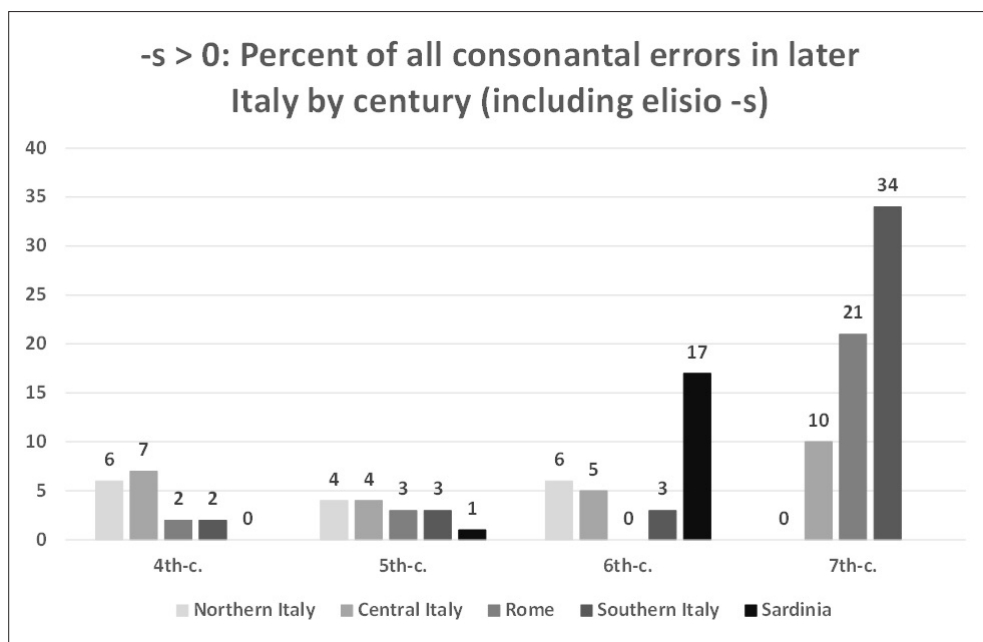


Fig. 4. -s > 0: Percent of all consonantal errors in later Italy by century.

Since no diagnostic difference can be detected between the studied areas in terms of 5th century proportions (with the exception of Sardinia, which has an extremely low, 1% rate) and 6th century proportions (with the exception of Rome, from where there is no example of the phenomenon in question, and with the exception of Sardinia, which has an extremely high, 17% rate; see below for an explanation), we can conclude that the loss of -s could only start in the 7th century²⁸. In the 6th century all three areas of the Italian peninsula show the same low percentages (between 3-6%). Only Sardinia seems to stand out (by 17% in the 6th century!), but if we exclude from the study the cases of “elisio -s” again, which are based on metrical analysis and may not have a

²⁸ Northern Italy: 4th c. 6% = 15 (100% = 232), 5th c. 4% = 11 (100% = 294), 6th c. 6% = 8 (100% = 132), 7th c. 0% = 0 (100% = 22); Central Italy: 4th c. 7% = 12 (100% = 182), 5th c. 4% = 2 (100% = 57), 6th c. 5% = 2 (100% = 41), 7th c. 10% = 1 (100% = 10); Rome: 4th c. 2% = 78 (100% = 3,398), 5th c. 3% = 56 (100% = 1,666), 6th c. 0% = 0 (100% = 141), 7th c. 21% = 6 (100% = 29); Southern Italy: 4th c. 2% = 2 (100% = 102), 5th c. 3% = 2 (100% = 64), 6th c. 3% = 3 (100% = 98), 7th c. 34% = 22 (100% = 65); Sardinia: 4th c. 0% = 0 (100% = 35), 5th c. 1% = 2 (100% = 142), 6th c. 17% = 4 (100% = 24), 7th c. 0% = 0 (100% = 2).

phonetic background, we apparently get a picture corresponding much better to the later linguistic-geographical conditions in Fig. 5²⁹.

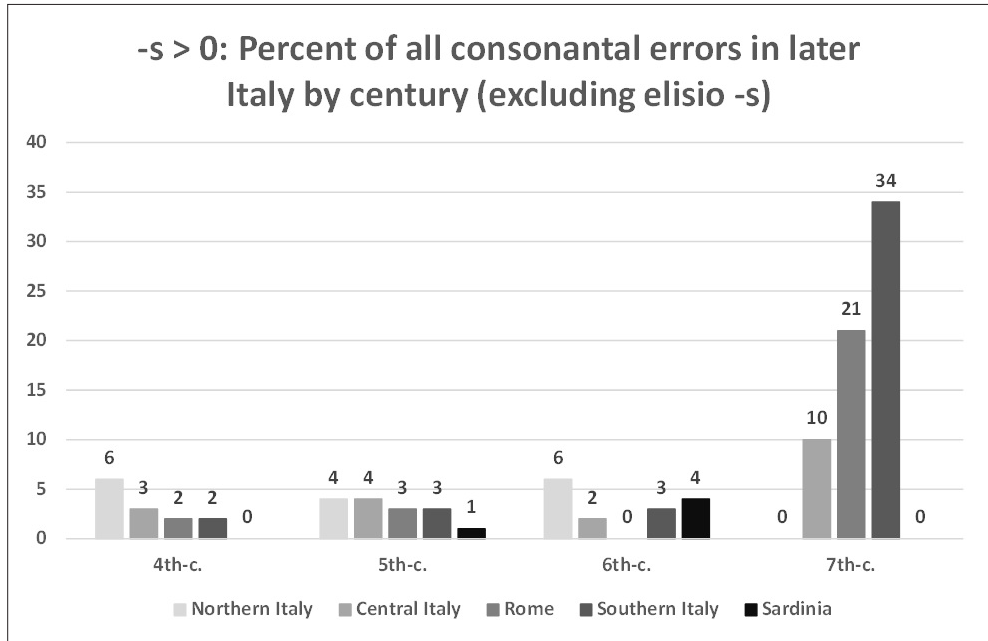


Fig. 5. -s > 0: Percent of all consonantal errors in later Italy by century excluding elisio -s.

Apparently, by the 7th century, the conditions corresponding to the later linguistic-geographical distribution had been established or were in the process of being established³⁰ – as far as the percentages based on a relatively small amount of data allow this conclusion to be drawn. In terms of dropping the word-final -s, Northern Italy with a zero rate (0%; 0 -s > 0 out of 22 consonantal errors) contrasts with Central Italy with a significant rate (10%; 1 -s > 0 out of 10 consonantal errors), Rome with a high rate (21%; 6 -s > 0 out of 29

²⁹ As a result, 7 “elisio -s” data forms were excluded from the 4th century material of Central Italy, reducing the proportion of “-s> ø” from 7% to 3%, and 1 “elisio -s” data form was excluded from its 6th century material, reducing the proportion of “-s> ø” from 5% to 2%; from the material of Rome in the 4th and 5th centuries, 4 and 3 “elisio -s” data forms were excluded respectively, but this did not change the proportion of “-s> ø”; 3 “elisio -s” data forms were excluded from Sardinia’s 6th century material, reducing the proportion of “-s> ø” from 17% to 4%.

³⁰ Contrary to the conclusion of Adamik (2017: 19): «the loss of final -s in Eastern Romance might have happened after the 7th century A.D. either in the phase of transition from Latin to Romance or even in early Romance». The results produced now were not obtainable then because the late Christian era was considered uniformly, without breaking it down into centuries.

consonantal errors) and Southern Italy that has an even higher rate (34%; 22 -s > 0 out of 65 consonantal errors). The evidence of the inscriptional sources in this case shows that the beginnings of the later characteristic dialectological divisions of the area (-s retaining north and -s losing south) cannot be dated before the 7th century, since there was no significant difference between the regional proportions of dropping the word-final -s in the 6th century: the rate was similar in all examined areas, between 2% and 6% (With the exception of Rome, from where no example of this phenomenon has yet been recorded in the Database from this century)³¹. Where we still have just enough data³² for a distributional study from the 7th century, mainly from Southern Italy (22 -s > 0 out of 65 consonantal errors)³³, but also, with some caution, from Rome (6 -s > 0 out of 29 consonantal errors)³⁴ and Northern Italy (0 -s > 0 out of 22 consonantal errors) as well as, with greater caution, from Central Italy (1 -s > 0 out of 10 consonantal errors)³⁵, we can state that the processes that eventually

³¹ This can most likely be explained by the fact that the Christian Roman material has not yet been processed fully. For example, a 6th century inscription (ICUR 10, 26316, 1, cf. <https://www.edb.uniba.it/epigraph/15098>) contains a *Gregoriu(s)*, but it has not yet been recorded in the Database.

³² This indicates a total consonantal data form number above 10, that is why Sardinia was excluded here: there are only 2 consonantal data forms from 7th century Sardinia.

³³ Of which 15 data forms are from 8 bronze fibulas made in southern Italy, most likely dating from the 7th century and carrying the same stereotypical text (for resolving abbreviations of inscriptional corpora used in the following examples taken from the LLDB Database, see http://lldb.elte.hu/admin/abbrev_bibl.php), e.g.: LLDB-43477: -s > 0, LVPV BIBA || = *Lupus vivas*, ICI 13, 55, 1, Apulia et Calabria / Regio II, Canusium, 591-700 A.D. and LLDB-43473: -s > 0 / litterae omissae, BIBA || = *vivas*, ICI 13, 55, 1, Apulia et Calabria / Regio II, Canusium, 591-700 A.D.; further items: LLDB-43476 and LLDB-43474, LLDB-43472 and LLDB-43478, LLDB-43479 and LLDB-54581, LLDB-43469 and LLDB-43475, LLDB-43480 and LLDB-43471, LLDB-43483 and LLDB-43482 as well as LLDB-43470 (BIBA || = *vivas* only). The other 7 data forms are from a single, most likely seventh-century stone inscription from Capua, Campania (CIL 10, 4539 = ILCV 3851, Latium et Campania / Regio I, Capua, 601-800 A.D.): LLDB-111655: -s > 0, PIETA HIC = *pietas hic*, LLDB-111661: -s > 0, BONV PRB = *bonus presbyter*, LLDB-111662: -s > 0, MINV ANNO = *minus annos*, LLDB-111667: -s > 0, ISCRIPSERVNT () [DENVN] | TIANTE ET = *inscripserunt () denuntiantes et*, LLDB-111668: -s > 0, ISCRIPSERVNT () CONIVRANTE VT = *inscripserunt () coniurantes ut*, LLDB-111669: -s > 0, HIC TITVLV TVMVLI = *hic titulus tumuli* and LLDB-111867: -s > 0, BVSSI () ANNO [= *vixit () annos*.

³⁴ In Rome, all examples are from a single (7-8th century) inscription group, i.e. ICUR 2, 6449 (601-800 A.D.): LLDB-58393: -s > 0 / o: > V, CONSTANTI|NV SERBV = *Constantinus servus / Constantino servo*, ICUR 2, 6449/6, 1-2; LLDB-58394: -s > 0 / o: > V, SERBV DI = *servus / servo dei*, ICUR 2, 6449/6, 2; LLDB-58407: -s > 0 / o: > V, || FORMOSV || = *Formosus / Formoso*, ICUR 2, 6449/17, 1; LLDB-58408: -s > 0 / litterae omissae, EGO FVSCIN-NV || = *ego Fuscinus*, ICUR 2, 6449/18, 1; LLDB-58419: -s > 0, CLERICVS BIBA IN DO = *clericus vivas in Deo*, ICUR 2, 6449/24, 1; LLDB-58544: -s > 0 / litterae omissae, DICO BOBI | LETAMINI = *dico vobis laetamini*, ICUR 2, 6449/37, 1-2. EDB (<https://www.edb.uniba.it/>) dates these to 690-724 without justification.

³⁵ The only example in central Italy is from a 7th-century silver fibula found in a tomb in Pisa, probably made between 650-675 A.D. (the AE does not indicate that it is an imported object, therefore it can be considered as originating in Central Italy): LLDB-126839: -s > 0, BIBAT CIPRIANV || = *vivat Cyprianus*, AE 2015, 417, II 2, Etruria / Regio VII, Pisae, 650-675 A.D.

led to the well-known linguistic geographical distribution along the so-called La Spezia – Rimini (or Massa – Senigallia) line may have started in the 7th century.

4.2. *The story of vowel mergers*

With regard to the vowel system, there is in fact only one developmental difference which resulted in a significant discrepancy between the Sardinian and Italian dialects, namely the occurrence of well-known vowel mergers in the vast majority of Italian dialects and their absence in the Sardinian dialects. However, before dealing with this, let us briefly consider only the Italian dialects with respect to the phenomenon under study.

4.2.1. *Situation in Southern Italy*

With regard to Italian dialects, only a relatively small and well-defined part of the southern Italian dialect area (Lucania, present-day Basilicata) has a system different from the so-called western-type vowel system (including *e-i* and *o-u* mergers)³⁶: in the northern part of Lucania, today's Basilicata, the Romanian-type development can be detected, where only an *e-i* merger occurred, but not an *o-u* merger, while in the southern part of Lucania, traces of the Sardinian-type development can be discovered, where these mergers did not occur at all. In this respect, the Latin material almost lets us down, because we do not have inscriptional data from this very area which could reveal the Latin antecedents of these specific local developments. The sparse late data of the province of Bruttium et Lucania (Regio III), which includes this area, suggest at most the beginnings of the development of a Romanian-type system, since the proportion of *o-u* mergers in the data of the area is much lower than the proportion of *e-i* mergers, which is expressed in the high, 6.5 indicator for the area, see Fig. 6.

³⁶ See Ledgeway (2016b: 248-249), esp. Map 16.2: "Tonic vowel systems in southern Italy" on p. 249.

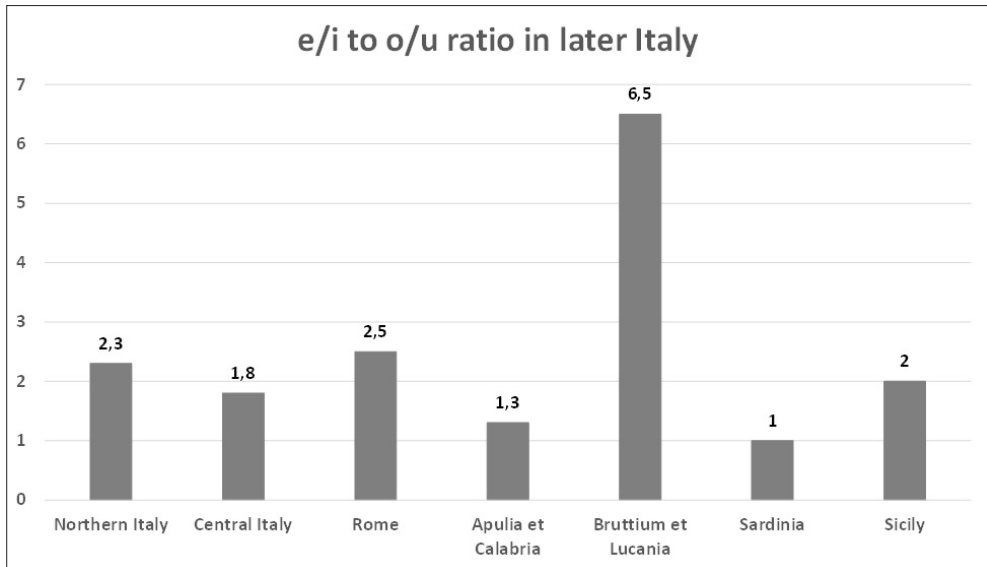


Fig. 6. *e/i* to *o/u* ratio in later Italy.

For the development of both mergers with the same intensity, this indicator would be 2, which would reflect a 2:1 ratio, as there are usually twice as many *e-i* type sounds in Latin as *o-u* types³⁷. In the case of Sicily, it is precisely this ratio of 2 that can be observed (with 8 *e/i* faults divided by the 4 *o/u* faults). Accordingly, Bruttium et Lucania (with a ratio of 6.5, with 13 occurrences of *e/i* faults divided by 2 occurrences of *o/u* faults) shows a diagnostic difference not only from Northern Italy (with a ratio of 2.3, with 342 *e/i* faults divided by the 148 *o/u* faults), Rome (with a ratio of 2.5, with 722 *e/i* faults divided by the 291 *o/u* faults) and Central Italy (with a ratio of 1.8, with 66 *e/i* faults divided by the 37 *o/u* faults), but also within Southern Italy, from Apulia et Calabria (Regio II), where the ratio of *o-u* mergers approximates the ratio of *e-i* mergers, as shown by the ratio of 1.3 (with 37 *e/i* faults divided by the 29 *o/u* faults), which seems to be very similar to the situation in Sardinia, with a ratio of 1 (with 10 *e/i* faults divided by the 10 *o/u* faults).

³⁷ As for the methodology of comparing these mergers, see Adamik (2020: 19-21); Herman ([1990] 1971: 139).

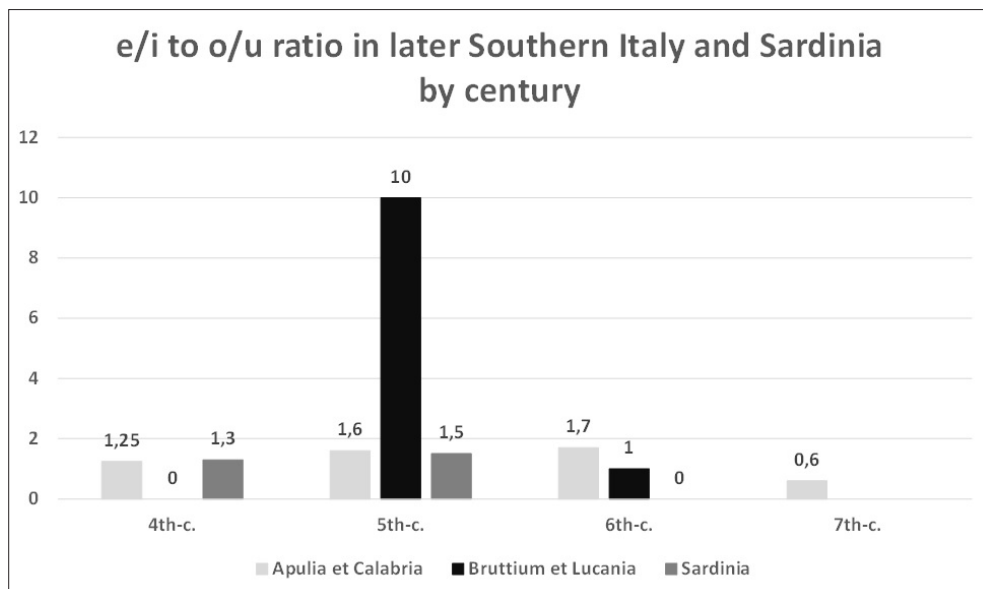


Fig. 7. *e/i* to *o/u* ratio in later Southern Italy and Sardinia by century.

However, this does not mean that a Sardinian-type vowel system developed in Apulia et Calabria. If we look at the distribution rates per century (Fig. 7), those based on relatively larger numbers (in this case more than 10 in total)³⁸ and thus more statistically evaluable show that Apulia et Calabria was closer to the average development type with indicator number 2, where the two mergers proceeded at approximately the same intensity, since the material of this province in the 6th century, in which we can take into account a total of 27 errors, shows an indicator of 1.7 (with 17 *e/i* faults divided by the 10 *o/u* faults). However, the very scarce material of Sardinia, broken down into centuries, does not allow for drawing such a conclusion because the material of the area per century never exceeds the order of 10 (only its material of the 5th century reaches the amount of 10, the distribution of which indicates an indicator of 1.5, with 6 *e/i* faults divided by the 4 *o/u* faults), which is more likely to suggest that vowel mergers have been isolated throughout the island's Latin (but we'll get back to that below). Bruttium et Lucania's 5th century material

³⁸ Data for the three areas broken down by century (in each case, the first number refers to the *e/i* faults and the second one to the *o/u* faults). Apulia et Calabria: 4th c. 5+4 = 9, 5/4 = 1.25; 5th c. 11+7 = 18, 11/7 = 1.6; 6th c. 17+10 = 27, 17/10 = 1.7; 7th c. 4+7 = 11, 4/7 = 0.6; 8th c. 0+1 = 1. Bruttium et Lucania: 4th c. 2+0 = 2; 5th c. 10+1 = 11, 10/1 = 10; 6th c. 1+1 = 2, 1/1 = 1. Sardinia: 4th c. 4+3 = 7, 4/3 = 1.3; 5th c. 6+4 = 10, 6/4 = 1.5; 6th c. 0+3 = 3.

contains the most (by the way, still measurable) data, 11 data forms, resulting in an indicator number of 10 (with 10 *e/i* faults divided by the 1 *o/u* fault). If we compare this with the 1.6 indicator obtained (with 11 *e/i* faults divided by the 7 *o/u* faults) from the analysis of the 5th century material of Apulia et Calabria, which is still measurable (with 18 data forms), the synchronous contrast and completely different development of the two adjacent areas appears clear despite relatively low data numbers. While development similar to the Romanian system on the Balkans seems to be emerging in Bruttium et Lucania, Apulia et Calabria has clearly moved towards a Western-type development.

Returning to the analysis without chronological breakdown, a warning should be given that the classification of Sardinia (with a ratio of 1, with 10 *e/i* faults divided by the 10 *o/u* faults) and Sicily (with a ratio of 2, with 8 *e/i* faults divided by the 4 *o/u* faults) is uncertain due to the low amount of data. Similarly, the pattern of rates for *e-i* and *o-u* mergers in the province of Bruttium et Lucania may therefore allow a cautious assumption (cautious because of the low amount of data, (since the ratio of 6.5 is obtained by dividing 13 occurrences of *e/i* faults by 2 occurrences of *o/u* faults) that with the decline of the *o-u* merger, a linguistic development in this area may have started in the late Christian period, leading to a system similar to the Romanian system on the Balkans where there is only an *e-i* merger, but no *o-u* merger. However, the Latin antecedents of later development in Lucania reminiscent of the Sardinian system cannot be detected, which may be largely due to the fact that we do not have data on this well-defined area.

Anyway, a significant difference between the two provinces of Southern Italy is also detectable when the aggregate ratio of *e-i* and *o-u* mergers is measured against all vocalic errors, see Fig. 8.

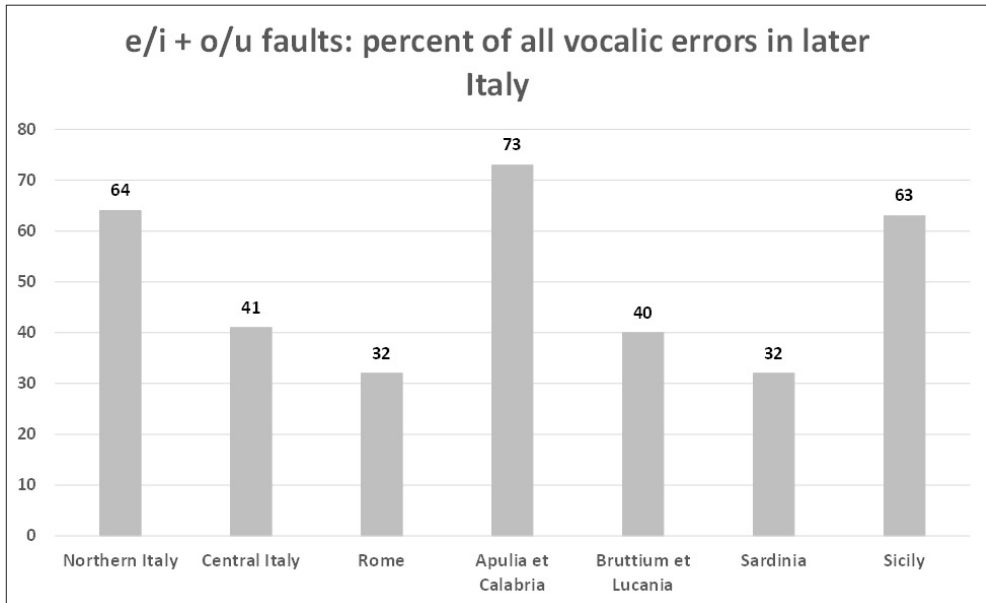


Fig. 8. *e/i + o/u* faults: percent of all vocalic errors in later Italy.

In this respect, with the above reservations about the low number of data, we can state that Bruttium et Lucania (40% = 15; 100% = 37) seems to be close to Central Italy (41% = 103; 100% = 251), Sardinia (32% = 20; 100% = 63) and Rome (32% = 1,013; 100% = 3,166), while Apulia et Calabria (73% = 66; 100% = 90) seems to be close to northern Italy (64% = 490; 100% = 764) and Sicily (63% = 12; 100% = 19). For a refinement of the conclusions from this chronologically unstructured approach, see the analysis of data broken down by centuries in the next section.

4.2.2. *The difference between the Sardinian and Italian dialects*

Turning to the most significant difference between the Sardinian and Italian dialects, namely that the well-known vowel mergers occurred in the vast majority of Italian dialects, while they did not occur at all in the Sardinian dialects, it can be stated that the antecedents of this difference can already be detected in the Latin material. Incidentally, this has already been shown in the literature for Sardinian Latin³⁹, mostly in comparison with Gallic vocalism⁴⁰,

³⁹ Most recently by Tamponi (2019; 2022).

⁴⁰ E.g. by Herman ([1985] 1990).

which in this respect shows traits to the contrary, and in comparison with African Latin vocalism⁴¹, which has very similar traits. However, a comparison with Italian territories – apart from Herman’s pioneering study comparing vowel and consonant systems in general⁴² – has not been made so far, especially not in a more detailed chronological breakdown, so I will make a brief attempt at this in the concluding part of my paper.

If we look at the late, Christian material of the areas under study and consider the proportion of *e-i* and *o-u* mergers within the vowel system without a more detailed chronological breakdown, as on Figure 9 (just as in Fig. 8 above)⁴³, the separation of Sardinia from the rest of Italy is not visible at all:

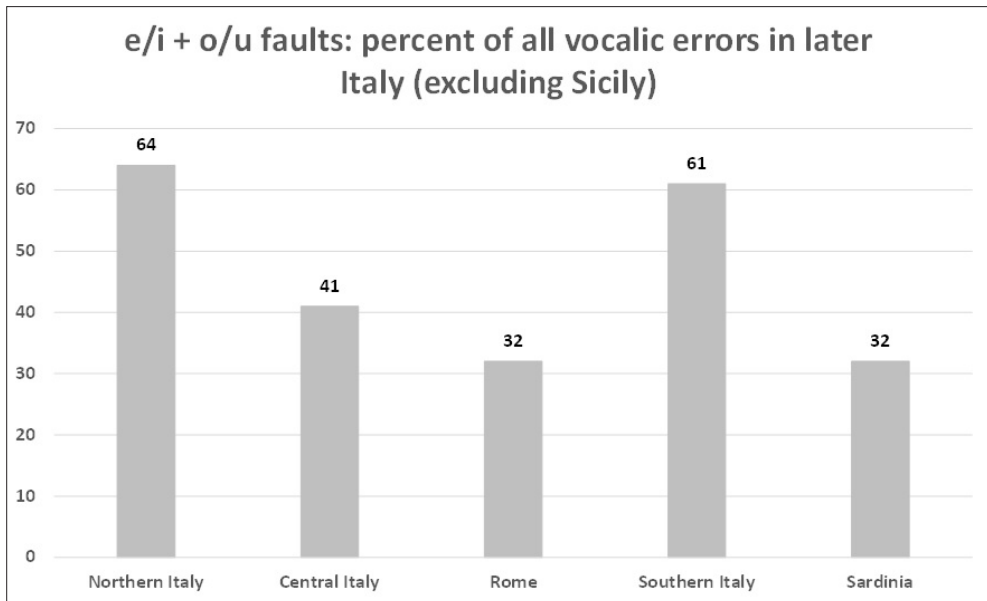


Fig. 9. *e/i + o/u* faults: percent of all vocalic errors in later Italy (excluding Sicily)⁴⁴.

⁴¹ E.g. by Adamik (2020).

⁴² Herman (2000a).

⁴³ Fig. 9 was created by modifying Figure 8, excluding Sicily with extremely few (only 19) vocalic data forms and merging the provinces of southern Italy (i.e. Apulia et Calabria, Bruttium et Lucania and Campania), as shown in Fig. 10 as well.

⁴⁴ Data for Southern Italy: 61% = 112 (72 *e/i* + 40 *o/u*), 100% = 185.

Sardinia (32%) in this configuration has the same percentage as Rome (32%); however, no far-reaching conclusions should be drawn from the nearly identical proportions of the two territorial units, as it will be revealed below⁴⁵. To clarify the actual development trends of Rome and Sardinia in terms of the phenomenon under study within the long late period, I applied the same method I used in the case of the word-final -s. I broke down the available material into centuries. As there is an appropriate amount of data available for Sardinia only for the 4th, 5th and 6th centuries, I compared data from there with the rest of Italy for these three centuries as displayed in Fig. 10.

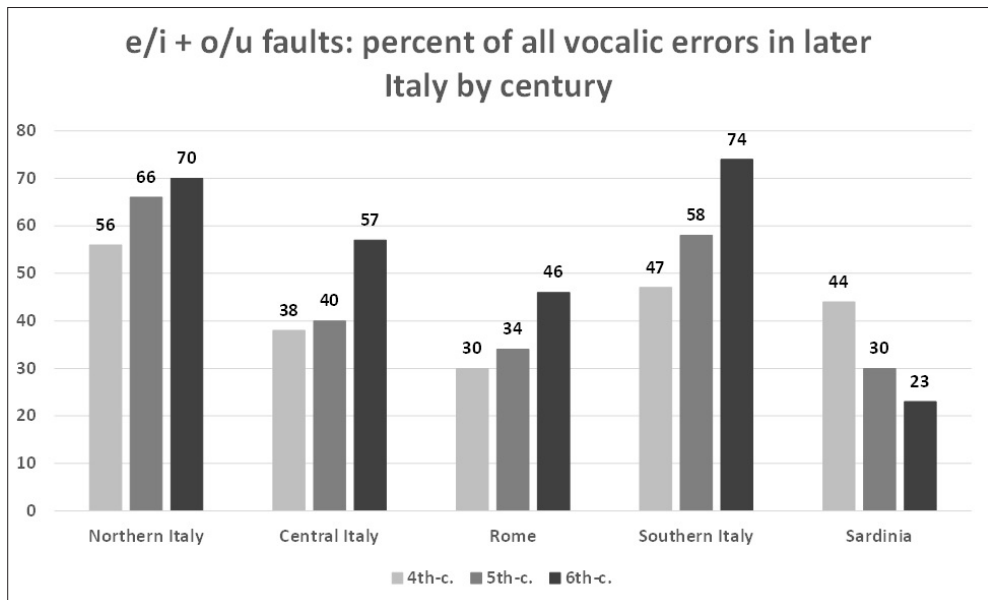


Fig. 10. *e/i + o/u* faults: percent of all vocalic errors in later Italy by century.

As the chronological division in Figure 10 shows, a development trend completely opposite to the rest of Italy can be observed in Sardinia, with a gradual separation of the island from the rest of the peninsula: the proportion

⁴⁵ No far-reaching conclusions should be drawn from the identical proportions of Sardinia (i.e. 32%) and Rome (i.e. 32%), since if we look at the same proportions over the centuries in Figure 10 below, we can observe completely opposite tendencies: Sardinia 4th c. 44%, 5th c. 30%, 6th c. 23% and Rome 4th c. 30%, 5th c. 34%, 6th c. 46%. We do not have vowel merger (and any vocalic) data from Sardinia in the 7th and 8th centuries, and very few from Rome, a total of 6 from the 7th century out of 42 vocalic data forms (5 *e/i* + 1 *o/u*) and only 4 from the 8th century out of only 9 vocalic data forms (4 *e/i*).

of vowel mergers was steadily increasing from century to century in all parts of Italy, but was steadily declining in Sardinia⁴⁶.

This might be the first clear demonstration in research on the history of Latin to show how Sardinia separated from the rest of Italy in terms of the phenomenon studied over these three centuries. In the fourth century, Sardinia did not fall behind the rest of Italy in terms of vowel mergers: Sardinia (44%) precedes Rome (30%) and Central Italy (38%). The lag of Sardinia began in the 5th century: Sardinia (30%) is already noticeably behind Rome (34%) and Central Italy (40%). Then the lag increased drastically in the 6th century: Sardinia (23%) is already completely behind Rome (46%) and Central Italy (57%). The trends are clear: the Sardinian vowel system began to manifest on the island in the 5th century (while other vowel systems began to fade into the background there), then it gained momentum in the 6th century, and obviously came into full force in the 7th century and after it, namely during the Langobard era.

5. Conclusions

In summary, it can be stated that the Computerized Historical Linguistic Database of the Latin Inscriptions of the Imperial Age proved that the inscrip-tional material is a useful source in the exploration of the late Latin linguistic-geographical situation of Italy before the birth of the Romance languages. As demonstrated in my presentation among the new results produced for each problem examined, the pre-Langobard era was decisive in the transformation of the vowel system (at least concerning the linguistic-geographically determined history of vowel mergers), while in the transformation of the consonant system (at least in terms of the history of the word-final -s), the Langobard era can be considered decisive.

⁴⁶ Data for the five areas broken down by century (in each case, the first number refers to the *e/i* faults and the second one to the *o/u* faults, the third number gives their sum, followed by the number of all vocalic errors in parentheses). Northern Italy: 4th c. 65+37=102 (181), 5th c. 172+49=221 (333), 6th c. 100+56=156 (224); Central Italy: 4th c. 36+17=53 (138), 5th c. 18+10=28 (69), 6th c. 11+10=21 (37); Rome 4th c. 400+170=570 (1,916), 5th c. 270+99=369 (1,060), 6th c. 43+21=64 (139); Southern Italy: 4th c. 19+9=28 (59), 5th-c. 25+9=34 (59), 6th c. 22+13=35 (47); Sardinia 4th c. 4+3=7 (16), 5th c. 6+4=10 (34), 6th c. 0+3=3 (13).

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LLDB = Computerized Historical Linguistic Database of the Latin Inscriptions of the Imperial Age (<http://lldb.elte.hu/>).

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