



Lost in syllabification. Special cases of *geminatio consonantium* and *syllabarum diuisio* through the fringes of the Latin-Greek writing koine

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ABSTRACT

The present paper deals with a marginal divergent spelling consisting in the *geminatio* of a consonant *littera* in pre- or post-consonantal position. The phenomenon is found in both Latin and Greek non-literary texts. The analysis is conducted on two levels, one grapho-phonological and one historical. In fact, the phenomenon results to be particularly relevant as for the relation between spelling and syllabic representation of heterosyllabic clusters and as for the dimension of contact between Latin and Greek scripts. First, a synchronic cut of Latin non-literary texts is examined to evaluate the occurrence of this *geminatio* and its ratio of distribution along the different types of clusters. It can be stated that the *geminatio* at hand represents a metagraphic signal of syllab(ific)ation indeterminacy, as is further corroborated by the examination of metalinguistic sources. Secondly, the historical perspective is then addressed. This spelling can be interpreted as a feature, albeit marginal and stemming from ephemeral slips, of writing koine, as is further evidenced by the examination of two sample clusters of texts.

KEYWORDS

Latin phonology, Latin syllable, Latin grammarians, *geminatio consonantium*, consonant gemination, inscriptions, papyri

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1. A DIFFERENT TYPE OF DIVERGENT SPELLING

The present analysis delves into a specific form of divergent spelling which is found in Latin non-literary texts (i.e., inscriptions, papyri, and other direct sources), namely the *geminatio* of a consonant *littera* in ante- or post-consonantal position, e.g., <ALVM|MNO> (CIL VI 18222), and <MERENT·TI> (CIL VI 34252).

To adequately introduce the phenomenon and the perspective we wish to propose, which intends to play on the overlap between the linguistic and the historical datum, let us immediately set out two basic points that will be explored in more detail in the following sections: the phenomenon is quantitatively poorly attested within the documentation available; the phenomenon is attested not only in Latin non-literary texts, but also in Greek ones, e.g., <Ἀγαμέμ|νων> (IG XIV 1286) and <Ἀμυ|ντάνην> (Strubbe, Cat. Pessinus 62).

Indeed, the major key to interpreting such spellings lies in their marginality. The first level of marginality which is presented to the analyst is on a quantitative plane, for the phenomenon at issue is sparsely attested, leading to an apparent irrationality in its occurrence. Accordingly, the research literature has generally merely recorded the phenomenon under labels such as ‘other cases of gemination’ and so forth.¹ However, if one widens the gaze and extends the search to the Eastern part of the Roman Empire, it will be noticed that the phenomenon is also documented in texts in Greek language and/or script, where the phenomenon has not been adequately investigated as well.² So, along with the quantitative marginality, there is also a marginality we might broadly label sociolinguistic: to wit, the quantitative figure reflects a spelling deviation that takes place, we anticipate, in textual niches that are peripheral on various levels, characterized by high degrees of interference between Latin and Greek languages and scripts.

However, the spelling under consideration, despite its sporadicity throughout the documentation, is of particular interest for two reasons, as we shall attempt to argue. 1) On the one hand, it deserves to be analyzed with reference to the relationship between spelling and the syllabic representation of heterosyllabic clusters. As can readily be guessed, the geminated *littera* affects the segment associated with the syllable coda or onset. 2) On the other hand, it is worth exploring the historical dynamics, i.e., the situations of linguistic contact and graphemic interference, that led to the emergence of such spellings.

As for the first point, it is noticeable that this *geminatio* accounts for a phenomenon of divergent spelling which is different from other commonly more studied and quantitatively more represented Vulgar Latin spellings, such as vowel alternations or varied phenomena of insertion or deletion, all of which presuppose, with due caveats concerning the treatment of spelling phenomena as reflecting an actual phonological referent, an analysis on the segmental and linear plane. In contrast, the *geminatio consonantium* implies a graphemic reflection on

¹See, e.g., LINDSAY (1894) 113; LEUMANN (1977) 218–219.

²See, e.g., HERMANN (1923) 110; THREATTE (1980) 527; LEJEUNE (1972) 285–286; DEVINE–STEPHENS (1994) 38–39.



syllable structure, thus in its very name alluding to the linking of two *litterae* over what current theoretical phonology calls skeletal projections.³ In the distributional contexts in which the Latin phonological system admits phonologically long consonants, the *geminatio consonantium* was imbued in the norm.⁴ However, the *geminatio consonantium* in pre- or post-consonantal position represents a spelling strategy that does not seem to reflect an actual phonological gemination, and therefore cannot be immediately understood as an alignment of the graphic sign linearity with the skeletal level. This notwithstanding, this divergent spelling may account for an interesting metagraphic signal of the relationship between syllabation and syllabification by one side and the nature of Latin clusters by the other.⁵ The analysis of grammarians' sources, as we shall see in §3, is then essential for reading the phenomenology at hand in relation to the ancients' metalinguistic reflection on syllable division.

As for the second point, two research questions arise, which we shall attempt to answer in §§4 and 5: that is, whether the phenomenon embodies a feature of Latin-Greek writing koine and according to which trigger it comes to be shaped; how do the generalizations, even of theoretical kind, that can be drawn from a general impression on quantitative data relate to the historical specificity of the contexts in which this spelling surfaces.

Due to space constraints, this study takes on an exploratory nature regarding the issue at hand and does not aim to provide a comprehensive analysis of the phenomenon. The paper will present only Latin data referred to the synchronic cut first–third century CE, whereas Greek language/script data will be showcased selectively to highlight key aspects.

2. SOME GENERAL DATA

Considering the exploratory nature of our study and the need for a general overview of the phenomenon under examination, we will proceed by programmatically making an abstraction to data presentation. Given the diverse linguistic variables (e.g., cluster type, whether the geminated *littera* interests C_1 or C_2) and extra-linguistic variables (e.g., geographic provenance, periodization, writing material, and text type), we have chosen to initially focus on internal data. This allows us to assess the phenomenon primarily from a grapho-phonological perspective. Further discussions on extra-linguistic variables and historical considerations will be touched on in the following sections. It is important to highlight that the *geminatio* affecting

³A similar discussion can be made, albeit with reference to sociolinguistically marked situations, without therefore exiting into an actual encoding in the norm, for the *geminatio uocalium* and for the spelling <xs> of the cluster /kt/: in both cases, the graphemic plane, following historically different paths, is responding to the skeletal level. See [MANCINI \(2019a, b\)](#).

⁴Such spelling innovation, as is known, implies, like other innovations recorded in the Latin world during the Republican age, the comparison with the Greek culture. See [MANCINI \(2019a\)](#) and references therein.

⁵Henceforth, we adopt the distinction between the terms 'syllabation', which refers to the orthographic division into syllables, and 'syllabification', which refers instead to the identification of phonological entities with a hierarchical structure organized around a sonority peak. Cf. [MAROTTA-VANELLI \(2021\)](#) 158.



the *muta cum liquida* cluster (e.g., <FRATTRE> *CIL* VIII 111, <AGGRO> *CIL* III 2448) will not be addressed here.⁶ This exclusion stems from two considerations. Leaving aside the argument that the *muta cum liquida* cluster is the only cluster, compared to the others showing the *geminatio* under investigation, that experiences a tautosyllabic scansion,⁷ it should be noted that the *geminatio* in the *muta cum liquida* cluster affects only the *littera* linked to C_1 : it therefore presents a different pattern than the cases of *geminatio* we are investigating, in which the *geminatio* can affect either the *littera* linked to C_1 or C_2 . Moreover, Latin phonology admits the possibility of a long stop before liquids, as a result of total assimilation in prefixation (e.g., *attrahere*, *acclamare*), and this suggests that the epigraphic *geminatio* of the type <FRATTRE> may refer to a genuine phonological gemination.

Table 1 showcases data on the *geminatio consonantium* in ante- or post-consonantal position referred to the synchronic cut first–third centuries CE. Although this selection does not yield an in-depth investigation of the historical evolution of the phenomenon, nevertheless focusing on the synchronic cut that presents the highest epigraphic density and the highest number of occurrences of the phenomenon enables some generalizations to be drawn. Data were extracted from EDCS⁸ and papyri.info.⁹ Given the low number of attestations, we shall just present the absolute figures, thus avoiding the use of percentages that might be dispersive in a preliminary account.

The table should be read as follows. Data are arranged according to the clusters displaying the phenomenon, which are further distinguished based on the obstruents vs. sonorants classes and the manner of articulation. This preliminary presentation is functional to evaluate the possible correlation of the phenomenon with segmental features and the Sonority Sequencing Principle. The data concerning the *littera geminata* are then reported, i.e., whether it is associated to C_1 (*geminatio*+ C_2) or C_2 (C_1 +*geminatio*): such data are reported for each level of categorization of the clusters. The numbers within the cells refer to tokens (on the left) and types (on the right), respectively. Total figures refer to the total number of cases of *geminatio*+ C_2 and C_1 +*geminatio*, distinguished between tokens and types as well. For expository clarity, we have excluded from the presentation clusters, albeit possible, in which the phenomenon is not recorded, or in which is of uncertain reading.¹⁰ All tokens analyzed concern the word-medial position, with the exception of the tokens showing the *geminatio* <NNT>/<NTT>, which is also found, for obvious morphological reasons, in word-final position (e.g., <SVNNT> in *CIL* XVI 26).

⁶However, this point is further explored in the study mentioned in n. 6.

⁷The tautosyllabic treatment is found especially in classical poetry, where the heterosyllabic scansion is less frequent, cf. SEN (2015), CSER (2020) and references therein. However, as is known, the heterosyllabic treatment is evidenced in non-Classical Latin by phenomena of insertion (e.g., <FRATERI>, O. Did. 417), phenomena of stress shift such as *te.nē.brae* > *te.nēb.rae* (Isid. Or. 31 recommends the pronunciation *tenēbrae*), and, under the Contact Law hypothesis, by the gemination of C_1 . On this topic, cf. LOPORCARO (2005, 2011b).

⁸<http://www.manfredclaus.de>.

⁹<https://papyri.info>.

¹⁰We have excluded some clusters of uncertain reading with /l/ in coda-position. We have also omitted cases in which /s/ is followed by a continuant, which is limited to the onomastic types of Greek origin *Smyrna* and *Smaragdus*.



Table 1. Cases of *geminatio*+C₂ and C₁+*geminatio* as evidenced in Latin non-literary texts (first-third c. CE)

Type of Cluster	obstruent + obstruent										sonorant + obstruent								sonorant + sonorant		TOTAL			
	stop + stop		stop + /s/				/s/ + stop		sonorant + stop				sonorant + /s/											
	kt		pt		ks		ps		sC		/n/ + stop		/r/ + stop		/rs/		/ns/		/mn/					
	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types	Tokens	Types		
<i>geminatio</i> +C ₂	20	10	23	1	1	1	2	2	130	111	25	18	6	6	1	1	4	2	11	7	223	169		
C ₁ + <i>geminatio</i>	9	6	1	1	3	3	4	4	39	26	44	17	17	10	25	12	45	13	3	2	190	94		
	Tokens		Types		Tokens		Types		Tokens		Types		Tokens		Types		Tokens		Types					
<i>geminatio</i> +C ₂	43		11		3		3		130		111		31		24		5		3		11 7			
C ₁ + <i>geminatio</i>	10		7		7		7		39		26		61		27		70		25		3 2			
	Tokens				Types								Tokens				Types				Tokens		Types	
<i>geminatio</i> +C ₂	176				125								36				27				11		7	
C ₁ + <i>geminatio</i>	56				40								131				52				3		2	

Overall, the phenomenon affects 413 tokens. This figure, altogether, is not insignificant. Indeed, considering together the clusters that exhibit this phenomenon enables shaping a seemingly illogical and scattered mass of data. The *geminatio* under consideration, if considering together both typologies, affects to a greater extent the obstruents + obstruents clusters (232 out of 413), mostly represented by the sC group (169 out of 232); then the sonorant + obstruent clusters (167 out of 413), represented to a similar extent by the subgroups sonorant + stop (92 out of 167) and sonorant + /s/ (75 out of 167); finally, we find the sonorant + sonorant cluster, which, however, is only represented by the /mn/ cluster (14 out of 413).

Let us now look at the distribution of the two types of *geminatio*. In general, we can observe that the *geminatio*+C₂ type appears to be more frequent, both in terms of tokens and types (223 vs. 190 and 169 vs. 94, respectively). Nevertheless, the situation changes if we turn to a closer inspection of the behavior of each single cluster.

On the one hand, the first type of *geminatio* is more frequent, both in terms of tokens and types, in the obstruent + obstruent and sonorant + sonorant clusters. Among the obstruent + obstruent clusters, the cluster which is most affected by this spelling is *s impurum* (e.g., <TELES|SPORO> in *CIL* VI 18222). However, the clusters stop + /s/ display the second type of *geminatio* to a greater extent (e.g., <VIXSSIT> in *CIL* V 1683 and <BEPSSANIO> in *CIL* VI 29002),



even though we are dealing with absolute data utmost scarce. On the other hand, the second type of *geminatio* is more frequently attested within the sonorant + obstruent cluster. More precisely, within the nasal + stop (mostly /t/) (e.g., <SCANTTILLAE> in *CIL* II 3370) or nasal + /s/ (e.g., <CONSSERVA> in *AE* 2012, 399) and vibrant + stop (mostly /t/) (e.g., <VIRTTVT> in *CIL* XIII 7425) or vibrant + /s/ clusters (e.g., <CVRSSO|RI> in *CIL* VI 10165). In general, the class of coronals, whether C_1 or C_2 , is the most affected by the *geminatio* of the *littera* they are linked.

Let us now attempt to shape the description just given into a coherent pattern. However, some aspects will be better understood only when considering the evidence from grammarians and the documentation in Greek script. Meanwhile, we can state at a first analysis that the *littera* associated with the segment in coda ($C_1C_1|C_2$) or onset ($C_1C_2|C_2$) position of a coda-onset cluster is geminated, according to the following (tendential) scheme:

- The first type of *geminatio* mostly affects clusters which present similar levels of sonority (/kt/, /pt/, /mn/); it affects, moreover, the *s impurum* cluster.
- The second type of *geminatio* mostly affects the clusters /nt/, /rt/, /rs/, /ns/ on the one hand and /ks/, /ps/ on the other. As for the clusters /nt/, /rt/, /ns/, /rs/, they cannot be found in any way in syllable onset, for obvious sonority constraints. We leave aside, meanwhile, the cases of /ks/ and /ps/.

This pattern of *geminatio*es may be read as a metagraphic signal of syllab(ific)ation indeterminacy. This hypothesis becomes all the more conceivable if we take into consideration the co-occurrence of the two types of *geminatio* with syllable division by line break or *interpunctum* which is found in our data. The highest rate of co-occurrence is indeed recorded within the clusters /mn/ (33%) (e.g., <ALVM|MNO> in *CIL* VI 18222), /rt/ (22%) (e.g., <FORT|TVNATA> in *CIL* XI 6716,54), /sC/ (18%) (e.g., <TELES|SPORO> in *CIL* VI 18222), /nt/ (13%) (e.g., <MERENT|TI> in *CIL* VI 34252), /kt/ (12%) and /pt/ (10%) (e.g., <VIC|CTOR> in *CIL* VIII 27626 and <SEP|PTIMIA> in *CIL* XIII 10022,237). The point of syllab(ific)ation indeterminacy is thus tendentially sensitive to the *littera* which is either associated with coda or onset position, depending on the sonority relations of each cluster. Accordingly, based on the relations with syllable division, we may state that, as for the /mn/, /sC/, /kt/ clusters, there is a tendency to keep them joined in onset position, being clusters that, virtually, can be found in word-initial position: this assumption is particularly valid for the sC cluster, which, moreover, is a sequence that results to be particularly cohesive, but applies also to /mn/, /kt/ and /pt/ (cf. §§3 and 4 for further considerations). On the other hand, as for the /ks/, /ps/, /rt/, /rs/, /nt/, /ns/ clusters, there is a tendency to keep them joined in coda position, being clusters that, virtually, can be found in word-final position. However, to further validate this hint, it will be necessary to read this datum in light of the artigraphic sources and place it in the proper meta-linguistic context (§3).

We mention here another possible explanation for the behavior of some clusters most involved by the second type of *geminatio*. In fact, another possible hypothesis that deserves further investigation, and which is only mentioned here, is that the *geminatio* of the second type may signal, with particular reference to the /ns/ sequence, a phonological process. That is, it would not be a mere orthographic *geminatio*. Indeed, in cases of spellings such as <NSS> (e.g., <CONSSERVA> in *AE* 2012, 399), which are paralleled, for the same types, by the <SS> spelling, with omission of <N> (<MESSES> in *CIL* V 6127), it would not be ruled out that,



as a result the nasal drop before fricatives, a compensatory lengthening may occur which does not involve, as usual, the preceding vowel, but the following consonant.¹¹ Accordingly, following the same pattern, the *geminations* of the second type involving the clusters /ks/ and /ps/ (more frequently than the first type), but also /kt/ (less frequently than the first type, but however with a not insignificant occurrence), and, accordingly, for the sake of symmetry, /pt/, may signal the assimilation of C_1 to C_2 , with the *geminatio* (and gemination) of C_2 but, at the same time, the preservation of the grapheme linked to C_1 . If we were to admit the assumption of an ‘augmented’ assimilation, so to speak, the /kt/, /pt/, /ks/, /ps/ clusters would display a fascinating pattern of spellings, arranged along a cline which would go, in order of frequency,¹² from:

1. $\langle C_1 C_2 \rangle$ FACTVM, SCRIPTVM, VIXSI, SCRIPSI
2. simply $\langle C_2 \rangle$ FATVM, SCRITVM, VISI, SCRISI
3. $\langle C_2 C_2 \rangle$ FATTVM, SCRITTVM, VISSI, SCRISII
4. $\langle C_1 C_2 C_2 \rangle$ FACTTVM, SCRIPTTVM, VIXSSI, SCRIPSSI
5. $\langle C_1 C_1 C_2 \rangle$ FACCTVM, SCRIPPTVM, VIXSSI, SCRIPPSI

At the two frequency poles there would be, on the one hand, etymological-underlying spellings, with isomorphism between the graphemic and the skeletal plane (1), and, on the other hand, those in which C_1 is linked to both onset and coda positions, thus ambiguously hinting at either coda-onset or complex onset clusters (5); in the middle, spellings that would signal total assimilation, either with full correspondence between the graphemic and skeletal planes (3), or with phonologically more opaque strategies (2 and 4), characterized by the oscillation between the graphemic elimination or preservation of C_1 , respectively.

3. CRITERIA OF SYLLABARUM DIUISIO: THE METALINGUISTIC EVIDENCE

The (grapho-)phonological analysis presented so far to assess these spellings and the distribution of the two patterns of *geminatio* may be further confirmed if we shift to the plane of ancient reflection on syllable division.

As is known, the conception of *syllabarum diuisio* in the ancient world presents idiosyncrasies compared to *linguistic* syllabification.¹³ Ancient treatises present a rich overview of prescriptions on syllabation or *syllabarum diuisio*, well known to tradition.¹⁴ What is particularly interesting is that the heterosyllabic clusters which most experience the first type of *geminatio* are treated as, we may say, *tautographic* clusters. In fact, it is recommended that, in syllable division, they should not be separated. Accordingly, epigraphic data show, alongside a

¹¹Phonologically, the recourse to the category of placeless nasal (Cser [2020]) would justify the possibility of a twofold outcome of compensatory lengthening. In this case, it should not be ignored that a not better specified variety of Substandard Latin proceeds in the direction of consonantal length rather than vowel length, according to a well-known drift in the diachronic evolution of Latin phonology (cf. Giannini–Marotta [1989]; Marotta [2018]).

¹²For quantitative data concerning <xs> in (1) cf. Mancini (2019a). For quantitative data concerning the spelling (2) and (3) cf. Mancini (2023).

¹³For a more in-depth examination of this aspect, see Marotta (2016) and Mancini (2023).

¹⁴A detailed review of the grammarians’ testimonies on *syllabarum diuisio* can be found in Dennison (1906), which analyzes phenomena of syllable division as evidenced in inscriptions. Detailed analyses are also provided by Marotta (2016) and Mancini (2019a, 2023).



linguistic *syllabarum diuisio*, as, for example (<AVGV[S]TVS> in *CIL* V 1784), an orthographic *syllabarum diuisio* (e.g., <FAV[STO]> in *CIL* XI 4333).

We quote a well-known passage by Servius (K IV 427. 20–35), which is particularly helpful in making some further considerations:

Quotienscumque quaerimus, quae consonantes in scribendo sibi cohaereant vel cui syllabae impuentur, utrum priori an sequenti, similitudo aliorum nominum hunc solvit errorem. Ut puta si dicamus aspice et dubitemus, utrum s et p dividendae sint consonantes et s danda priori syllabae, p sequenti, intelligimus hoc fieri non posse, sed ambas consonantes sequenti tantum modo dare nos debere, eo quod invenitur sermo qui a duabus istis consonantibus inchoetur, ut spica. Similiter amnis: debemus m et n sequenti syllabae dare in scribendo, quoniam invenitur sermo qui ab his consonantibus inchoetur, ut Mnestheus, attulit: non possumus duo t sequenti syllabae dare, quia nullus sermo invenitur, qui a duabus t consonantibus inchoetur. Et hoc in ceteris consonantibus observabimus. Plane scire debemus, conexiones quod dico consonantium non eas quae Latinis syllabis congruunt, sed etiam quae Graecis, excepta scilicet ea syllaba quae constat de b et d, quae in Latinum sermonem numquam ita transit, ut cohaereat, ut est βδέλλα, quando enim scribimus abditur, non possumus a in una syllaba ponere, et b et d in sequenti.

This passage refers only to the /sC/ and /mn/ clusters, but the same reflection can be applied for the clusters /pt/ and /kt/, which, as mentioned earlier, other grammatical sources refer to as well.¹⁵ As can be seen, the criterion for these clusters not to be separated in syllable division follows a morpho-lexical principle, which is similar to what is still in force today in Italian orthography: where words exist that begin with that cluster, then the sequence of *litterae* should not be separated. This principle, of course, cannot be based on Latin phonotactics, with the exception of the *s impurum* cluster, which is indeed found in word-initial position in the Latin language (note that Servius uses the Latin word *spica* as an example of word-initial /sC/); as for the cluster /mn/, on the other hand, it cannot be found in word-initial position, unless one considers Greek phonotactics (note that Servius uses the Greek onomastic loan *Mnestheus* as an example of word-initial /mn/). The same can be applied to /kt/, /pt/ (but also /ks/ and /ps/), which in Latin are found in word-initial position only in Greek borrowings.¹⁶ Servius seems to be aware that the Latin orthographic norm is shaped around Greek phonotactics and mentions a sole exception to this principle, represented by the cluster /bd/.

Another aspect makes this passage particularly interesting: the use, on one hand of the verb *scribere* to refer to syllabation according to orthographic prescriptions, and, on the other hand, the use of the verb *dicere* to refer to linguistic syllabification. Ultimately, it would seem that in ancient linguistic reflection there is an awareness of the existence of two different planes of syllabification, one attributable to the phonetic-phonological level (*dicere*) and another to the graphic level (*scribere*), which is prescribed by grammarians and follows a morpho-lexical principle.

If we put together this metalinguistic reflection with our empirical data, we may add a further consideration about the *geminatio* (of the first type), which is found in the clusters

¹⁵Cf. Bede K VII, p. 263 K: *Aegyptum cum in scriptura diuidere uis, p sequenti syllabae iungis; aspectum c sequenti syllaba, affectum similiter et afflictum ceteraque huiusce modi.*

¹⁶Cf. e.g., <CTESIA> (*CIL* VIII 18667), <PTOLEMAE> (*CIL* XV 6637,3), <PSY[CHES]> (*CIL* IX 4302), <XANTI> (*CIL* XIII 10009,317).



/sC/, /mn/, /kt/, /pt/. It points to an overlap between the two principles of syllabic division, the linguistic and the graphic. The fact that it occurs particularly in co-occurrence with syllable division ($\langle C_1|C_1C_2 \rangle$) makes this overlap more explicit. In essence, the *littera* associated with C_1 is both positioned as a coda, according to a linguistic principle, and, graphically, remains cohesive with the *littera* associated with C_2 . Specularly, the same reasoning may stand true for the clusters stop + obstruent and sonorant + obstruent, in which the *geminatio* of the second type is most documented, which mainly affects clusters that may also be found in word-final position.¹⁷

4. HISTORICAL DIMENSION

As mentioned in §1, the *geminatio* under consideration is also found in sources in Greek language and/or script. In this regard, we shall briefly recapitulate the path related to the spellings with *geminatio* (mainly of the first type) affecting the *s impurum* cluster.¹⁸ The phenomenon is more widely attested in Greek sources compared to Latin ones (189 tokens in Latin sources vs. 2001 tokens in Greek sources) and is also documented from an earlier period. Indeed, if the *geminatio* of the type $\langle ssC \rangle$ is attested in Greek epigraphy as early as the sixth century BCE ($\langle \kappa\alpha\sigma\sigma\tau\omicron\rho\iota[\delta]\alpha[\zeta] \rangle$, I. Thesp 575), the first attestation of the phenomenon in sources in Latin script dates back to the second century BCE ($\langle ESSTO \rangle$, CIL I 583).¹⁹ Since, as is well known, the *geminatio consonantium* as a general orthographic strategy originates in the Latin tradition under the influence of Greek orthography, it would seem easy to conclude that the same principle applies to this more marginal type of *geminatio*, with the difference that, in this case, the spelling was not assimilated into the norm. In essence, this spelling as evidenced by Latin data seems to stem mostly from situations of contact and graphemic interference.

However, our further examination of non-literary texts reveals that this pattern repeats for other clusters different from /sC/. In fact, both types of *geminatio*, i.e., the ante-consonantal and the post-consonantal ones, are attested in Greek sources long before than in Latin. Obviously, with appropriate differences in phonotactics and writing peculiarities: in Greek script, for instance, we cannot find this phenomenon in the /ks/, /ps/ cluster, which were written via a single *littera*, or in the /ns/ and /rs/ cluster, which were not admitted in Greek phonotactics.

The earliest Greek instances date back to the sixth c. BCE as well: see e.g., $\langle \tau\acute{\epsilon}\theta\alpha\pi\pi\tau\alpha\iota \rangle$ (IG XII 9 285), $\langle \eta\mu\acute{\iota}\epsilon\kappa\kappa\tau\omicron\nu \rangle$ (IG XII 6 2:965), $\langle \text{Μέμμνον} \rangle$ (SEG XIV 28). On the contrary, the earliest instances in the Latin documentation date back to the first c. CE: see e.g., $\langle ACCTARIO \rangle$ (CIL VI 33822), $\langle APPTAE \rangle$ (CIL VI 12239), $\langle ALVM|MNO \rangle$ (CIL VI 29056). Quantitatively, the phenomenon is more widespread in Greek texts: during the first–third c. CE period, on which

¹⁷Cf. Priscian I 43: [...] in fine uero dictionis contra inuenimus primam liquidam (NB for Latin grammarians the class of *liquidae* includes also nasals, cf. MAROTTA [2016]), sequentem mutam, postremam s, urbs, stirps. Sin autem in dua desinit consonants diction, necesse est priorem liquidam esse et sequentem uel c uel x, ut sopra ostendimus, uel c uel t antecedente n, ut hinc, dicunt, amant, hunc, uel loco ψ Graecae bs uel ps scribes pro ratione genetiui, ut Arabs Arabis [...].

¹⁸This topic is addressed in BARCHI (2021) and BARCHI (in press).

¹⁹The form $\langle \text{PAINSSCOS} \rangle$ (= Πανίσκος) in CIL XIV 4098, from Praeneste, dating back to the fourth c. BCE, is of uncertain reading.



is based Table 1, this spelling occurs in Latin documentation 423 times, whereas in Greek texts is found 669 times. A plausible guesswork would suggest that this spelling characterized an orthographic habit proper of people used to writing in Greek script. Then, it is conceivable that this habit marginally spread also in Latin script. Actually, if we consider inscriptions and papyri dating back to the first three centuries of the Vulgar Era, we may note that the *geminatio* under discussion is found in textual niches which stem from contact situations. As can be seen below, this spelling often affects the same onomastic material (1), or is found in Latin texts written in Greek script (or at least with some portions in Greek script) (2):

1. OCCTAVIA (NSA-1919-294), Ὀκκτάϊον, Ὀκκταΐου (IK Iznik 1206), VICT|TORIA (ILAlg-02-01, 02588), VICCTORINVS (x 2) (CIL XI 05488), Βικ[τ]τωρ (p.col 8 216), CAL|ISSTE (CIL II 2896), CALLIS|STRATE (NSA-1933-476), Καλλίστρατος (NEPKh II 111).
2. ACCTVM (SB III 6304): in a document written in Latin language in both Latin and Greek script (cf. §5); Υικτθωριαμ (ZPE-149-26): a gold leaf written in Latin language in both Latin and Greek script); the *tabellae defixionum* show many instances of Latin words in Greek or Latin script with this feature: e.g., ομ|μνι (Aud. Defix. Tab. 231), OMNNI (x 2), MERCCVRI (x 4), VRSSOS (x 3), VINCCATVR (x2), VINCENT|V (Aud. Defix. Tab. 253)

In short, it would seem that this would add a piece to the elements of graphemic and linguistic mixture that characterized what we know of ancient Latin-Greek communities.²⁰ However, this first impression, which is further investigated in §5, cannot tell the whole story. We cannot try to explain each single attestation, apart from those presented above by sample, under the contact key. More generally, we may talk of a kind of convergence between two complementary aspects. On the one hand, there is a spelling slip which finds its internal explanation in syllab(ific)ation uncertainty and is crosslinguistic:²¹ it insists on structurally problematical aspects of *syllabarum diuisio*, as the high number of ancient grammatical testimonies on this topic would seem to suggest. On the other hand, this spelling tends to surface historically precisely in textual peripheries and in context where orthographic norm is frayed by centrifugal forces stemming from interference. On a macroscopic level, it would seem appropriate to speak of a phenomenon, albeit marginal, of writing koine, that is however built upon ephemeral situations.

5. EMPIRICAL INSIGHTS: SAMPLES OF TWO LATIN-GREEK INTERFERED TEXTS

At this point, it is convenient to zoom in on the historical detail, by delving into the analysis of two clusters of texts, from the area of the Roman Egypt, of which it is not even necessary to recall the structural historical interpenetration between the Latin and Greek languages and scripts. Both testimonies are well known in the literature and also treated in relation to phenomena of Latin-Greek interference. However, they have never been examined specifically in

²⁰On this topic, see e.g., LEIWO (1995), ADAMS (2003), LORENZETTI (2014a, b).

²¹I think, for example, to very similar *geminaciones* which are found in private letters written in the so called *italiano popolare* (cf. D'ACHILLE [2022]).



relation to the phenomenology at hand. These are a sales document written in Latin language, with some parts in Greek script, and two Latin inscriptions found at the base of one of the Memnon's colossuses. The analysis of the texts mentioned, as we shall see, makes the picture outlined so far more complex, for the general datum fragments into particular points.

5.1. The uenditio of a puella

The following text, which has known several editions,²² is a chirograph from the second c. CE on a wood tablet that contains the deed of sale of a *puella*. The tabula represents the *scriptura exterior* of a triptych, which should have been detached from the latter to be consigned to the acquirer as payment receipt and ownership deed. We report it at length according to Kramer's edition.²³

Γαίω Κουρτίω Ίούστῳ Πουπλίῳ
 Ίουλίῳ Ναυτῶνε
 κωνσούλιβους σέξστουμ Νῶνας
 Ὀκτώβρης
 5 Αἰσχίνης Αἰσχίνου Φλαουιανὸς
 Μυλήσιος σκρί-
 ψι μὴ ἀκκηπίσσε ᾧ Τίτῳ Μεμμίῳ
 Μοντανῶ
 10 μίλιτε πεντήρῳ Αὐγίστι δηναρίους
 σεσκέν-
 τους βιγέντι κίνκυε πρέτιουμ πουέλλαι
 Μαρ-
 μαριαῖ βετράνε, κουάμ ἔι δούπλα
 ὄπτιμις κον-
 15 δικιώνιβους βένδιδιτ ἔτ τράδιδι ἐξ
 ἐντερρο-
 γατιῶνε φάκτα ταβελλάρουν
 σιγνατάρουμ.
 Ἄκτουμ κάστρις κλάσσης πραιτώριαι
 Ῥαβεν-
 νάτους.
idem cosulubus aeadem diem
Domitius The-
ophilus scrisi me in veditionem puellae
marmar-
riae supra scriptae pro Aescine
Aescine phi-
lium Flavianum secumdum auctorem
ec-
stitise. (seal)
acutum.

²²C.f. e.g., SB III 6304; FIRA III 134; CPL 193; AE 1922 135; KRAMER (2007) 127–136, n. 9.

²³See n. 23.



The text was found in Egypt, in the Fayûm area, from which the purchaser is likely to have been from, but it was drafted in Ravenna, in the *castra* of the *classis praetoria*. Over the years, the text has received attention on two main fronts, namely Roman law and philology/linguistics. As can be seen, this deed of sale presents a first Latin text in Greek script and a second Latin text in Latin script. Three actors participate in this act, namely the seller, who is the author of the first text, the purchaser, and the guarantor of the sale, who is the author of the second text. In the background, there is also, it must be said, the *puella*, who comes from Marmarica. The most recent commentaries present the unanimous conclusion that all the mentioned people were of Greek L₁, or at least were exposed to Greek prior to Latin.²⁴ The use of the Latin language depends in essence on the type of contract, which is based on the Latin *ius*.

Aischines is the slave trader. The patronymic and choronym certainly designate him as Greek and Greek-speaking, accustomed, however, to trading in the West with Romans. Therefore, it is likely that he had a knowledge of Spoken Latin, but was unfamiliar with Latin script, as the use of Greek script in the first part of the deed of sale would suggest. J. N. Adams dwells extensively on the characteristics of Aischines' language:²⁵ his text, largely formulaic like many acts of sales found at Pompeii, presents a part characterized by correct and artificial spellings (first of all, the final <-M> is spelled systematically; the spelling <σέξστούμ> is calqued on the Latin spelling <xs>; the dating formula is correct), which is derived from the *exemplar*; then there are elements of interference with Greek (such as ἐντερρο/γατιῶνε, with initial <ἐν->, ταβελλάρου, with final <-v> instead of <-μ> like σιγνατάρου, the genitive Αἰσχίνου); finally, there are elements that betray the phonetic transcription of a substandard variety of Latin (βιγέντι κίνκου, βετράνε).

Titus Memmius Montanus is the purchaser of the *puella*. He was to serve as a soldier in the Ravenna fleet, and, once discharged, must have returned to Egypt, probably his native country. It is therefore likely that he was more familiar with Greek, if he was able to read the first part of the contract; on the other hand, for the same reason, he must also have been able to read Latin letters. Indeed, the adoption of the *tria nomina* before the discharge signals a deliberate desire to adhere to the Roman *ciuitas*.

But let us come to the third actor, who is most relevant to the discussion underway. C. Domitius Theophilus performs the function of *secundus auctor*, that is, guarantor of the sale. The formula <ACCTVM>, which reiterates the one in the deed of sale, contains the *geminatio* under examination.²⁶ C. Domitius Theophilus, judging from his onomastics, must have been a Greek-speaking provincial as well. However, compared to Aischines, he must certainly have been more familiar with Latin. C. Domitius Theophilus' handwriting displays some reverse spellings (<AEADEM>, <DIEM>), as well as spellings that betray some affectation (<COSVLVBVS>), and morphological errors (<IDEM> instead of <IISDEM>).

There is also an apparent spelling ascribable to interference with Greek, namely <PHILIVM> in place of *filium*, which reflects the use of the Latin digraph <PH> to transliterate Greek <φ> (/f/). The spelling <EC|STITISE> in place of *exstittisse* is of particular relevance: the spelling <ECS-> in place of the etymological <EXS-> suggests a reanalysis of Latin <XS> with <CS>. This reanalysis may

²⁴Cf. ZINGALE-AMELOTTI (2002), BAZZOCCHI (2019).

²⁵Cf. ADAMS (2003) 56–63.

²⁶The transcriptions <ACETVM> which is found in the online edition reported on papyri.info is a mere mechanical error.



have been favored by the functioning of <x> as allograph of /k/ as well as by the fact that Latin <c> was employed to transliterate Greek <κ> (/k/). Moreover, it is possible that such reanalysis was also aided by the overlap between <ec>, which turns out to be isolated by line break, and Greek <εκ>. Within this framework, it should not be entirely peregrine to conjecture that the spelling <SCRISI> does not refer just as much to the Vulgar Latin spelling of Latin /ps/ with <s>,²⁷ although quite frequent, but may be ascribable to an ephemeral reproduction of the cluster /ps/ with just a single letter, namely <s>, on the model of Greek, which uses a unique grapheme (cf. σκρισι in the act in Greek script). In short, the <ACCTVM> spelling can only seal an inherently interfered deed, written by a Greek-script writer using the Latin script.

5.2. The voice of Mem(m)non

We conclude with two graffiti from the first century CE. The two inscriptions above belong to the well-known group of 107 inscriptions, both in Latin (45 in total) and Greek (61 in total, many of them in verse), plus one bilingual, found scattered along the legs and feet of the northern colossus of Memnon.²⁸

n. 6	n. 7
T SVEDIVS CLEMENS PRAEF CASTROR AVDI MEMMNONE III IDVS NOVEMBRES ANNO II T IMP N	L TANICIVS L F VOL VERVVS VIENNAE LEG III CYR AVDI MEMMNONE VII IDVVS NOVEMBR ANN III T IMP N ET VII K [IANVAR] ET XVIII K FEBR ET IV NON EASDEM ET V IDVS EAS ET XIII K MART ET VIII K MART [ET VII ID MAR] ET VII IDVS IAN BIS ANNO III T IMP AVG ET XV K MART ET VII IDVS EASDEM H II ET VIII IDVS APRILES ANN EIVSDEM H I ITEM IV NON IVNIAS ANNI EIVSDEM H IV

As is well known, the northern colossus, which was supposed to represent the divine Memnon, had become, in the first centuries of the Vulgar Era, an elite pilgrimage destination; the prefects of Egypt and the highest officials of the army, and even some emperors, were used to visiting it.²⁹ Tourists were attracted by a singular physical phenomenon that had been generated as a result of an earthquake, probably occurring in 26 BCE, that had dropped the upper part of

²⁷This interpretation is followed by all the editors. Cf. e.g., [KRAMER \(2007\)](#) *ad loc.*

²⁸The reference edition is [BERNARD–BERNARD \(1960\)](#).

²⁹Cf. [CASSON \(1974\)](#); [ADAMS \(2003\)](#) 546–555; [CASSIA \(2017\)](#).



the colossus: at dawn, probably due to a temperature shift, the statue was reported to emit a sound. When the statue was later restored, this phenomenon was no longer recorded.³⁰ Those who visited the colossus used to leave a written record, often with the formulas *audiui/audit Memnonem* (in [Latin inscriptions](#), see e.g., n. 17) or ἤκουσα Μήμνονος (in [Greek inscriptions](#), see e.g., n. 18). The visitors, as mentioned, were elite individuals, and there were probably professional scribes in the vicinity the colossus who were hired for inscribing the monument and, also, for writing poetic verses.³¹ J. N. Adams³² also observes that this was the pilgrimage site where Latin was used more often compared to other pilgrimage sites. This was probably due to a language choice that explicitly assigned to Latin the role of super-high variety, with which prefects and high army figures wished to communicate their status. Particularly emblematic in this regard is the bilingual inscription (n. 12), which presents the factual part, i.e., the one in which the prefect introduce himself, in Latin; whereas the second part, with literary pretensions, is in Greek, the language of culture and poetry.

But let us come to the inscriptions presented above. As can be seen, in both cases we observe the spelling <MMN>. These two inscriptions, which are the only ones, among all the 107 extant in the corpus, which feature the *geminatio* under investigation, are the only ones that also exhibit the omission of final <-M> (i.e., <MEMMNONE> in place of *Memnonem*). This fact is peculiar in such a high background as was this pilgrimage site, whose inscriptional corpus show a very low rate of divergent spellings. In short, one is left with the impression that the scribe (the same?), who it is not difficult to imagine was both a Greek-script writer and (but perhaps to a lesser extent) a Latin-script writer, slips into a phonetic spelling which also features the *geminatio* at hand. Indeed, the slip into the geminate spelling is not surprising: it is worth recalling that these scribes were often employed to write poetic verses, and a reflection, in the act of writing, on syllable division is well plausible.³³

6. SUMMING UP

In this paper, we have presented a marginal phenomenon of divergent spelling occurring in Latin and Greek non-literary texts. In doing so, we have focused to a greater extent on the Latin data, but it has been highlighted that the phenomenon is also present in the Greek documentation.

The analysis we conducted focused on two aspects, the one internal and the other historical. The phonological analysis dwelt on the examination of the clusters in which the *geminatio* is most attested, by distinguishing the clusters in which the *geminatio* of the first type is more frequent as compared to the clusters in which the *geminatio* of the second type occurs more

³⁰Cf. BOWERSOCK (1984).

³¹Cf. CASSON (1974) 275: “Most [graffiti] ... are no casual scribbles but veritable inscriptions carved with care; they were probably done by professional stonecutters who were available for hire in the vicinity. Apparently only the elite were allowed to leave these elegantly engraved mementoes.”

³²ADAMS (2003) 546–555.

³³It is worth noticing that the geminated spelling makes transparent that the first syllable of Μήμνων can be employed in arsis position. Actually, in [Greek inscriptions](#) the genitive Μήμνονος always forms a dactyl (cf. e.g., n. 21, v. 1).



frequently. A pattern was highlighted consisting in the *geminatio* of the *littera* which is either associated to coda-position in the cases of /mn/, /sC/, /kt/, /pt/ or to onset-position in the cases of /nt/, /rt/, /ks/ and /ps/. In both cases, there is a tendency to keep cohesive, from a graphemic point of view, these heterosyllabic clusters. This is further confirmed by the co-occurrence with syllable division by line break or *interpunctum*. The pattern identified finds a parallel, with particular reference to the first type of *geminatio*, in ancient grammarians' reflection on the criteria of *syllabarum diuisio*, which follow a morpho-lexical principle. Ancient metalinguistic reflection, moreover, seems to identify two criteria of syllable division, one linguistic and one orthographic: from this perspective, the *geminatio* examined can be understood as an overlap between the two principles.

The historical perspective shed light on another aspect, i.e., the contact with Greek script. In fact, both types of *geminatio* are attested, more extensively and from an earlier period, in Greek documentation. Although the phenomenon is undoubtedly marginal, we can therefore speak of a phenomenon of a writing koine, since such divergent spellings, in the synchronic cut of the first–third centuries CE, emerge in texts that are strongly interfered on the linguistic and/or script levels. The analysis of two textual clusters originating from contexts of contact and graphemic interference, in which the *geminatio* in question emerges, may represent a piece of evidence that this spelling tended to be produced by scribes not entirely proficient in Latin script.

In general, we may detect a tension between the plane of the particular, represented by episodic phenomena which emerge from the most centrifugal peripheries from the orthographic center, and which stem from syllab(ific)ation uncertainty, and the plane of general, which is shown to the analyst in shaping historical data.

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