

THE REGIONAL DIVERSIFICATION OF LATIN: THREE METHODS APPLIED TO EPIGRAPHICAL DATA FROM THE MEDITERRANEAN CENTRAL SHORE OF HISPANIA AND *TARRACO*

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ABSTRACT

This article aims to show the importance of going back to the methodological debate as a necessary step before studying the regional diversification of Latin. To do so, linguistic data from inscriptional evidence of two territories in Hispania have been submitted to the three statistical methods that have been put forward so far. The huge differences in the results set it clear that it is fundamental to identify which one is the most reliable method.

KEY WORDS: roman epigraphy; local Latin; regional diversification; methodology; linguistic evolution; Latin in Hispania.

LA DIVERSIFICACIÓN REGIONAL DEL LATÍN: TRES MÉTODOS APLICADOS A LOS DATOS EPIGRÁFICOS DE LA COSTA CENTRAL DE HISPANIA Y DE *TARRACO*

RESUMEN

Este artículo pretende mostrar la importancia de retomar el debate metodológico como paso previo al estudio de la diversificación regional del latín. Para ello, toma los datos lingüísticos procedentes de las inscripciones de dos territorios de *Hispania* y les aplica los tres métodos estadísticos propuestos hasta la fecha. Los dispares resultados dejan clara la necesidad de establecer cuál es el método más fiable.

PALABRAS CLAVE: epigrafía romana; latín local; diversificación regional; metodología; evolución lingüística; latín de Hispania.

I. PREFACE

The analysis of the regional diversification of Latin has had, in the last decades, mainly a theoretic approach. Even if many essays about this topic were written in the past,¹ the questioning of the method to find local features of Latin during the 60s and the 70s brought scholars back to the necessary primary phase of such study, that is to set down how the topic must be approached. Most of the essays that have been published in the last decades have avoided the methodological debate and have been focusing only on the general features of Latin in a given region and have only pointed out some random examples (Wartburg 1950; Křepinský 1958; Löfstedt 1959; Tovar 1964; Väänänen 1966;

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¹ Schuschardt (1866-1868), Hoffman (1878), Gröber (1884-1892), Sittl (1882), Meyer-Lübke (1888 and 1901), Kroll (1897), Mohl (1899), Diehl (1899), Pirson (1901), Carnoy (1906), Jeanneret (1918), Muller (1921 and 1929), Süss (1927), Meillet (1928).

Schmitt 1974; ANRW ii.29.2; Zamboni 1965-1966, 1967-1968; Mayer 1994; Lupinu 2000). This kind of essays provide a global view of the topic, but considering the fact that Latin has proved itself to be rather uniform all throughout the Roman territories, the topic needs to be dealt with in depth through studies that bring up –just as some scholars did in the late 60s (Herman 1965, 1985, 2000; Gaeng 1968; Barbarino 1978; Omeltchenko 1977)– the real, detailed and ponderable data. Such kind of approach has been carried out in recent times only by Adamik,² who is also leader to the Linguistic Latin Database project in the University of Budapest,³ aiming to record and digitalize all linguistic data from epigraphic sources so that these can be processed massively in order to extract a linguistic profile of each region that is based on all data found in that territory and compare each profile to any other across the empire.

My aim in this paper is to do a very small contribution to this process. No complete profile will be drawn up in this paper. I am absolutely certain that an important step to take before extracting any linguistic profile is to set the method to be used in the process. This is why I have picked two rather small territories to process some of its linguistic data through the three statistic methods that have been put forward so far. The sole expected result of the paper is to show the significant divergences in the data resulting from each method to make evident the importance of closing the methodological debate before moving to the next phase of the process, that is drawing up and comparing linguistic profiles. No conclusive fact can be adduced to prove one method true: the debate can only be carried out with theoretic arguments that prove themselves to be irrefutable, for obviously there is no possible way to compare the results drawn from each of these methods to the actual local variant of Latin of the corresponding territory –unless someone applies the methods to a current linguistic situation, which I leave in braver hands.

I have set clear in previous works that, in my opinion, Adam's method is the most accurate (Rodríguez Belló 2015). It is somehow unfair to give this method Prof. Adam's name, for his formulation was still incomplete (Adams 2007). The method was formulated as a mathematical formula –for those are necessary when dealing with statics, which is one of the bases of these studies and profile-drawing techniques– by Adamik, who has never considered that method the best one though.⁴ Giving the method his name would probably be more accurate, but it would also be a unique case in the history of science, for Adamik formulated the method as a mathematical formula in a footnote when trying to discard it. Therefore for the purpose of this paper I shall refer to this method as the *combined method*, for such is its nature and the name seems to be neutral enough this way.

² Adamik (2008, 2014); see also papers written by some of his disciples: Kiss (2009), Ötvös (2009), Fodor (2009).

³ <http://db.elte.hu>

⁴ Adamik (2012); the formula of the method is located in *adn.* 45.

II. SELECTING THE DATA

For the purpose of this paper, I have chosen the epigraphical evidences found in two areas. On one hand, those from the city of *Tarraco*, one of the main cities of the empire, with a wide variety of social groups and with a strong influence from the capital;⁵ on the other, the area in the south of the city, all along the shore, comprehending the cities of *Dertosa*, *Saguntum*, *Valentia*, *Saetabis*, *Dianium*, *Lucentum*, *Ilici*, *Jérica*, *Liria Edetanorum* and their *agra*.⁶ The choice was based on several factors. The total amount of inscriptions from these areas seems reliable. The edition of their *corpora inscriptionum* is considerably recent, for most of them have been published –and thus updated– in the late 90’s or in the 2000’s. Besides, they are very trustable editions, carried out by the CIL editors in some cases and by Prof. Corell in most of the *corpora*, who had studied for long the inscriptions of the Valencian Community and was indeed a very reliable scholar. I am most familiar to the territories in *Hispania Citerior*, to their social and historical circumstances, and thus I sought two suitable territories within this province. No big capitals are included in the southern area, which might bring an important contrast with the city of *Tarraco*. The area encompassed by the cities in the shore beneath *Tarraco* should be rather uniform, for there are no important geographical elements that could have been drawing them apart. In fact, this is the area of the Mediterranean phasade under *Tarraco* and above *Carthago Nova*, including only the territories at the east of the mountain range running paralel along the shore.

I have considered only inscriptions dated within the centuries 1st to 3rd AD: this is the period with a largest amount of inscriptions found; by selecting this period, the amount of data at disposal is the widest possible. But on the other hand, the period seems short enough so that no big linguistic evolutions may have taken place.⁷ In order to select the specific features to submit to the different methods, I chose those with the largest amount of tokens in the selected regions. Such features are: loss of final *-m*, loss of nasal consonant in the group *ns* and monophthongization of *ae* into *e* (in both stressed and unstressed syllables.). As for the former, it is always doubtful whether the displayed feature is of a phonetical nature –mere loss of final *-m*– or a grammatical nature –use of another case, mainly ablative, instead of the expected accusative. By comparison to other case shifts, in this period the former option is still more likely. Anyhow, this ambiguity should not be interfering in the achievement of this paper’s aims. Obviously, undated and unintelligible inscriptions have not been considered, nor text restored by editors.

⁵ CIL II² 14,2 and CIL II² 14,3.

⁶ CIL II² 14,1 and Corell (2002-2012).

⁷ Gaeng (1968: 28ff), Beltrán Lloris (2004: 91-102), Adamik (2014). See my reasoning on the topic in Rodríguez Belló (NYP).

Some considerations have been made in the process of counting the tokens that were relevant for the methods. Final *-m* before conjunction *-que* have been included, but not those that were there as a result of a failure (as AE 1991, 01106: *ex votu/m*; CIL II² 14,1279: *carui lucem*), for the correspondant right forms (*ex voto*, *carui luce*) would have not been included. Fractures were sometimes found right on the spot relevant for our purposes, but in some inscriptions the remainings were conclusive enough. Thus cases as CIL II² 14,172 (*Septuma[e]*) or CIL II² 14,1243 (*men(ses)*) have been included. On the other hand, when *co(n)s(ul-)* was found, it was not included, for it is known to be just an abbreviation with no linguistic relevance.

III. THE METHODS SO FAR

A fast review of the three methods drawn up so far seems advisable. Within the scholars that have tried to list the features of regional Latin based on the epigraphical evidences, some of them have chosen a general approach based on an overview, while some others have checked one by one the inscriptions found in the territory and have listed the features displayed. Although general views are very useful at some points and as a primary approach, the use of counting methods –methods based on the tokens of a given misspelling– seems way more accurate. These methods are the only ones that can provide a linguistic profile, which is very advisable considering that all scholars who have studied regional diversification of Latin in overviews have reached the same conclusion: Latin seems not to have variants, and no vulgar feature is significantly found more in one region than in another (Meillet 1928: 229, Zamboni 1965-1966: 464, Herman 1965: 55).

Among the counting methods, the absolute methods have been rejected, for they merely list the amount of occasions every single feature was found. Actually, the existence of some features was based on its mere appearance, and the sole attestation in several inscriptions was considered proof enough of its existence all throughout the studied territory. Scholars realized the amount of tokens needs to be compared to another datum to show the real value of the linguistic information these tokens provide. The current statistical methods differ on what this other datum should be.

Gaeng used a statistical method that was later used by Omeltchenko and Barbarino as well. Gaeng's method compares the amount of misspellings of a single kind and the amount of occurrences of the context that is liable to bear the misspelling (Gaeng 1968). By considering the extension of the context, the final datum reflects the intensity of the feature. In fact, the importance of the feature shall not be the same if it is shown in 20 tokens, the context appearing 100 times in the corpus, than if it is shown in 20 tokens, the context appearing 1.000 times. If e_n represents a specific misspelling and E_n its liable context, the formula of this method would thus be:

$$\varepsilon_n = \frac{e_n}{E_n} \%$$

Herman, however, argued that such calculation measures the acculturation of the writing population. The use of epigraphical evidences being based on misspellings, Herman claimed that by measuring the amount of tokens compared to the total amount of occurrences of the context, one would simply measure the capacity of the writer to observe orthography and grammar (Herman 1965, 1985: 24ff and 2000). As it is known, writing uses a conservative, classic language, mainly in Latin, and thus acculturated writers would change the register when writing, and the language they used would not reflect the language they would use when speaking. According to Herman's opinion, only misspellings would be reliable, for only when there is a mistake can we be sure that a feature of local speaking is being displayed: we need to focus on misspellings, on positive evidence only –Herman claims. Therefore, Herman puts forward an alternative statistical method that aims to measure the intensity of a single feature revealed by misspellings by comparing the amount of tokens of a given feature and the total amount of misspellings of any kind found in the corpus. This way, the most unshakable and frequent features of the local Latin shall be revealed. If we find out what misspellings are found more often, we will locate the main characteristics of the local speaking. If N represents the total amount of errors in a corpus, the formula of Herman's method would be:

$$\eta_n = \frac{e_n}{N} \%$$

The third method, to which I referred in the preface of this paper as combined method, agreed with Herman on the failure of Gaeng's method, but also rejected the new formula. The reason is that in Herman's method the features affecting contexts that are more habitual in language will be overrepresented, while those affecting contexts that are rather rare in the language will be misrepresented. Indeed, the former ones will be more likely to be displayed, and thus the total amount can easily be higher. But it does not necessarily mean that these features are more characteristic of the local language. As a matter of fact, if a given misspelling appears 20 times in a corpus where the total amount of misspellings is 100, this feature will be considered more relevant than another appearing 5 times only, according to Herman's method. But of course anyone will clearly see that something is wrong if told that the context that is liable to bear the first mistake appears 500 times in the corpus, while the one bearing the second one appears 5 times: the latter misspelling is shown in every single occasion it gets, while the other one appears rarely.

This brought Adams to formulate the last method (Adams 2007: 630ff, Adamik 2012: *adn.* 45). This method actually combines Prof. Gaeng's and Prof. Herman's. The first method's issue was that it measures the writing population's acculturation. This is not a problem when comparing the intensity of several misspellings within a given corpus, for acculturation should not be more stressed in some misspellings than in some others, and thus the deviation should more or less be the same for all features. Of course, if data from different corpora were compared, the deviation could not be the same and thus, as Herman warned, the results could be reflecting only the higher difference of acculturation between two populations. To avoid so, the combined method neutralizes the data from every corpus, so that they can be compared. This neutralization is done by applying Herman's method's logics, that is, by focusing on the misspellings, on positive evidence. After calculating the intensity of each feature by comparing the amount of tokens it has and the occurrences of the liable context, Adams compares the results among them and calculates the rate of each of them. The second calculation, however, does not consider the amount of tokens, but the percentage resulting from the first calculation, so that the frequency of the liable context does not interfere. The results show the most relevant features, but the calculation is not based on the higher amount of tokens –which would favor the features displayed in more habitual contexts–, but on the higher intensity of each misspelling, calculated by checking how often it is displayed in the liable context. If Σ is the sum of all ϵ_n calculated, the combined method's formula would be:

$$\sigma_n = \frac{\epsilon_n}{\Sigma} \%$$

IV. PROCESSING THE DATA

As suggested in the preface, the aim of this paper is to show how very different results each of this method brings up, and thus to prove the need of setting what method is the most accurate and reliable before drawing any linguistic profile.

In the selected corpus for the period from 1st century AD to the 3rd century, the data are as follow:

	-m > ø		ns > s		ae > e	
	Shore	Tarraco	Shore	Tarraco	Shore	Tarraco
Occurrence (<i>E</i>)	158	248	49	136	639	761
Misspellings (<i>e</i>)	6	8	8	8	19	30

As said, Gaeng calculates the intensity of the misspelling and compares the results among the different misspellings but also between different corpora. The results through Gaeng's method would be as follow:

	Gaeng's method		
	-m > ø	ns > s	ae > e
Shore	3'8%	16'3%	3%
Tarraco	3'2%	5'9%	4%

The first conclusion drawn from these results is that the local language, at least when it comes to these three features, is not very particular, but rather close to the official language. Only the feature ns > s seems significant. This is the feature with a widest presence in both corpora. Regarding the other two considered in this study, their presence is pretty much the same. Although the presence of misspelling -m > ø seems to be higher than ae > e in the shore, while the proportion is right the other way in Tarraco, the narrow difference does not seem relevant and no conclusion should be drawn from such difference. Finally, if comparing both corpora, there are no huge differences between the results, except again for the feature ns > s. For this one, the presence of the misspelling in the shore is more than twice its presence in *Tarraco*.

But, as Herman noticed, these data may be only reflecting the acculturation level of these regions. The only reliable data would thus be the proportion between different misspellings within a corpus, that is the preponderance of misspelling ns > s, particularly significant in the shore, and the equal presence of misspellings -m > ø and ae > e.

Thus, let us check the results provided if the data extracted from the territory are submitted to Herman's method, which by the way is the method in which is based the data-gathering process in Adamik's database in the University of Budapest. These are:

	Herman's method		
	-m > ø	ns > s	ae > e
Shore	18'2%	24'2%	57'6%
Tarraco	17'4%	17'4%	65'2%

Let us first say that the numbers must not be compared to those in Gaeng's method results, for they consider different data; that is, the difference between 3'8% in Gaeng's method for misspelling -m > ø and 18'2% in Herman's is completely irrelevant and meaningless. Actually, the percentages displayed in the former table had nothing to do one to each other, but in this new table the percentages of each region come to 100.

Herman's method results show that the evolution ae > e is clearly the prevailing feature in the shore's variant of Latin, while ns > s is the second one, slightly over -m > ø. However, there is no way to know how much this variant differs from the *standard* Latin in Rome; we can only know that it differs more in the feature ae > e than in ns > s, according to the calculations. On the other hand, in *Tarraco* the difference is even more pronounced, the feature ae > e

being way more predominant than the other two, which are rather narrow and have exactly the same importance. Again, there is now way to know how different this variant is compared to the classic Latin. We cannot compare the result of a given misspelling to its correspondent in the other area under consideration. The 57'6% of misspelling *ae > e* in the shore area does not mean that the presence of this feature was wider in *Tarraco*, where the result is 65'2%. If comparing these percentages, the only conclusion we come up with is that the importance of this feature within the features characterizing the regional variant was higher in *Tarraco* than in the shore. Finally, we cannot know if they were more or less as different from the central variant, or if one of those was way more particular than the other if compared to the standard.

The critics this method received, as mentioned, was that the results are favored by a wider presence of the liable context. Indeed, the data exposed in the first table of this paper showed that *ae* is found way more often than *ns* or *-m*. A higher result does not necessarily mean a higher presence of the liable context, for the proportion is not direct. But it definitely is a factor affecting the results, and in my opinion the so much higher results of misspelling *ae > e* are mainly due to the higher presence of *ae* in the texts attested in the inscriptions.

The combined method claimed to solve this problem, for which now it is turn to look at the results provided if this method is applied to the data of the corpora.

	Combined method		
	-m > ø	ns > s	ae > e
Shore	16'4%	70'7%	12'9%
Tarraco	24'7%	45'1%	30'2%

Again, the results displayed in this table cannot be compared to the Gaeng's method results, but they can indeed be compared to Herman's results, for both intend to reflect the preponderant features in the regional variant. Consequently, also in this table the percentages of each region come to 100.

According to these data, the feature *ns > s* would clearly be the most preponderant one in the shore. The presence of the liable context in both corpora is way lower than the others, for which the result is clearly not affected by this factor. As for the other two features considered, misspelling *-m > ø* is slightly higher than *ae > e*, although the difference does not seem significant. In *Tarraco*, the feature *ns > s* is also the most preponderant one, although the difference is way narrower. Feature *ae > e* is also significant, and so is *-m > ø*, although this is the feature that occurs with the lowest intensity in this corpus. The percentages in both corpora are quite different from those provided in Herman's method, particularly when it comes to misspellings *ns > s* and *ae > e*.

If comparing, in both regions *ns > s* is the main feature, although its preponderance is higher in the shore. On the other hand, the second misspelling

with a higher intensity in the variant when it comes to these three is not the same in both corpora. While the importance of *ae > e* in *Tarraco* is very relevant, it seems not much significant in the shore. As for *-m > ø*, while this feature is significant in *Tarraco*, its importance is lower in the shore, although in this case it still is more important than *ae > e*.

Finally, there is no way to find out how different these variants are among them or compared to the standard variant. However, the data from Gaeng's method results, which necessarily have to be considered when calculating the results in the latter method, do prove that they do not differ so much.

V. CONCLUSIONS

As seen throughout this paper, the linguistic profile described by these three methods are really different from each others. Only the results within the same corpus in Gaeng's method and the combined method agree, but in Gaeng's method the results in one corpus cannot be compared to those in the other.

Although I have clearly stated my opinion on which is the most reliable method and my speech led to the same conclusion, the aim of this paper was only to show how different results these three methods bring out. This intends to be a claim for the importance of this debate before moving further with the study of the regional diversification of Latin.

Nowadays there is no unanimity among scholars working in this research field. In my opinion, such an important study should have all the efforts running in the same direction. Besides, if each scholar carries on their research following a different method, the results they will get, as proved in this brief article, will differ a lot, for which scientific debates on the results will take place. Such debates shall at one point go back to the methodological debate, and thus it seems very advisable to hold this debate before going any further with the research.

Finally, solving this issue is needed also to design appropriate data-gathering systems. Indeed the largest database in the field currently gathers data about misspellings only, for which it has only partially helped when preparing this paper; for the data regarding the presence of each liable context in the corpus, I needed to go back to the corpora editions and count their tokens. In order to proceed with this study, the data-gathering system will need to be appropriate to the data scholars will need, and in order to set which data this is the methodological debate needs to come to a conclusion.

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