On the Vulgar Latin merger of /b/ and /w/ and its correlation with the loss of intervocalic /w/: Dialectological evidence from inscriptions

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1.   The demonstrability of the merger of /b/ and /w/ according to Adams[1]

According to the most recent summary of Adams (2013, p. 189-190): "Attempts have been made to establish that the merger of *b* and *u* occurred earlier in some regions than others. A full discussion of the question, with bibliography, is found in Adams (2007, p. 626-66), and the details will not be repeated here. In inscriptions B for V seems to be more common in e.g. Africa and parts of Italy, including Rome, than in Gaul and Spain, and particularly Britain, where it is hardly attested. But it is not acceptable without good reason to argue from the absence of a phonetic misspelling from a written text that the underlying phonetic feature was also absent from the speech of the writer. A good speller will conceal by his mastery of the traditional written language phonetic features of his speech. The variations in the incidence of misspellings in the inscriptions of one area compared with another may simply reflect variations in the literacy skills of those composing and engraving the inscriptions. Misspellings may be rare in Gallic and Spanish inscriptions, but it must be remembered that in those areas too mergers did occur by the time of the Romance languages. The lower incidence of misspellings would at best reveal that change was resisted longer there, but even that conclusion may be unsafe, because nothing is known about the drafters of the inscriptions and of their educational level. The available statistics are also incomplete."

This concise summary raises doubts particularly about the adequacy and conclusiveness of both positive and negative inscriptional data for this merger and therefore about all conclusions based on them. Nonetheless, first of all I wish to solve the problem how the *absence* of a linguistic change from inscriptional corpora, in this case that of the merger of /b/ and /w/, can be evidenced. The *presence* of a linguistic phenomenon can be evidenced by relevant misspellings: in the case of the merger or /b/ and /w/, by confusions of B and V in writing. Second, as for evidencing the actual absence of a phenomenon from a written corpus, two separate yet interconnected methods can be used, both suggested by J. Herman. With the first method, the absence of a linguistic phenomenon from a corpus will be evidenced by establishing a so-called "profile" of a region and period based on the mistakes found in a given corpus, i.e. by surveying which mistakes are typical of a specific group of inscriptional texts (cf. Adamik, 2012). The distributional pattern will necessarily show clusters of different mistakes, which will be characteristic of the given data set. From these, we may infer the *presence* and prevalence of certain types of misspellings together with the underlying linguistic changes, and also the *absence* and scarcity of others. The second method is limited to the contrastive analysis of lexical items potentially relevant to the phenomenon under consideration and therefore is suitable rather for controlling and corroborating the evidence gained with the help of the first one; therefore it will be presented after the demonstration of the first one.

2.   The method based on establishing the mistake profiles

In order to apply the first method, the first step was to select those areas from where we have a comparatively large data set recorded in the *LLDB* Database.[2] Accordingly, we considered 18 provinces with at least 700 or more recorded data forms of any kind. After this, we created two "profiles" for each province based on the consonantal mistakes, one for the early (before 300 AD) and one for the late (after 300 AD) period.[3] As our intention was to consider only data which cannot have an interpretation other than phonologic, all items which had a morphosyntactic relevance or could be interpreted as purely orthographic mistakes were excluded from the consonantal data set.[4] When the profiles were ready, the relative frequencies of B/V confusions were determined in proportion to all other consonantal mistakes for both periods of each province, which you may see

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2   *LLDB* Database = Computerized Historical Linguistic Database of Latin Inscriptions of the Imperial Age.

3   In order to do so, we have excluded data forms pertaining to inscriptions imported to each region (thus not created locally), and data forms with a datation not suitable for our purposes, i.e. with missing dates or with dates not fitting the current division (e.g. those dated to 201-400 AD). In the case of Venetia-Histria, where the data were dated to 27 BC – 312 AD, the data were included in the profile of the early period (1-300 AD).

4   In this investigation we excluded data forms with a morphosyntactic alternative code (labelled as 'Nominalia' 'Verbalia', or 'Syntactica, etc'. in the Database), and considered only those with phonetic main codes. We also excluded data forms with an alternative code labelled as 'Vocalismus' or as a purely orthographic phenomena (i.e. the codes x > SX / CS / XS / XSS / XX, c > K, k > C and g > C). Finally, we also excluded data forms which might be regarded as correct and were therefore labelled as '*fortasse recte*' in the Database.

displayed in Table 1.[5] As it is apparent form the table, the data show a wild fluctuation over regions and periods, depending mainly on extra-linguistic factors such as the history of the epigraphic culture of the related provinces, etc.[6] Because of this, in order to make relevant comparisons, the data sets for each province and period were weighted, and three categories were established according to the size of data sets in each. While the sum of the figures for B/V confusions and other consonantal mistakes is displayed in two sub-columns for each province, the smallest data sets with less than 40 items are put in brackets, medium size data sets with less than 100 items are italicized, and data sets with more than 100 items can be seen in regular font style. This weighting is justified by the empirical and statistical rule that the more data we have for establishing and displaying the relative frequencies of any given criterion, the more reliable and faithful the connection concluded and displayed based on them will be. Consequently, the boxes with regular style figures (from data sets with over 100 items) are the most reliable as for reflecting the linguistic reality, while the italicized figures (from data sets with less than 100 items) may be involved as well, but only tentatively, with reservations. Finally, as figures in brackets (from data sets with less than 40 – actually, less than 20 items) may or may not display the linguistic reality properly, these are excluded from the charts used later on in the survey.

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5   The data forms referred to in this survey represent the status of the Database on 31.08.2015. They may be retrieved with the Extended Search module of the *LLDB* Database (http://lldb.elte.hu/admin/search_2.php) using the settings and restrictions outlined in the footnotes above.

6   E.g. if in a given period of an area there are either not enough inscriptions to work with, as in the case of the later periods of several Roman provinces (e.g. Pannonia or Britannia); or if there are enough inscriptions, but not enough misspellings were recorded, as in later Aquitania; or if the related corpora are not yet surveyed and thus relevant data is not yet entered in the Database, like in the case of later Hispania Citerior and Baetica.

1. Lusitania

Early Period 100% = 258	
2% = 4	98% = 254
1,5% = 3	3% = 7
0,5% = 1	
0% = 0	
Later Period 100% = 105	
10% = 11	90% = 94
8% = 9	0% = 0
1% = 1	
1% = 1	

2. Baetica

Early Period 100% = 307	
0% = 1	100% = 306
0% = 0	3% = 9
0% = 1	
0% = 0	
Later Period 100% = 72	
7% = 5	93% = 67
5,5% = 4	0% = 0
1,5% = 1	
0% = 0	

3. Hispania Citerior

Early Period 100% = 280	
1% = 3	99% = 277
0,33% = 1	6% = 18
0,33% = 1	
0,33% = 1	
Later Period 100% = 64	
17% = 11	83% = 53
9% = 6	0% = 0
8% = 5	
0% = 0	

4. Narbonensis

Early Period 100% = 119	
1% = 1	99% = 118
1% = 1	13% = 15
0% = 0	
0% = 0	
Later Period 100% = 186	
8% = 14	92% = 172
8% = 14	2% = 3
0% = 0	
0% = 0	

5. Lugudunensis

Early Period 100% = 145	
2% = 3	98% = 142
1% = 2	12% = 18
0% = 0	
1% = 1	
Later Period 100% = 101	
20% = 20	80% = 81
18% = 18	1% = 1
0% = 0	
2% = 0	

6. Aquitania

Early Period 100% = 97	
2% = 2	98% = 95
1% = 1	7% = 7
1% = 1	
0% = 0	
Later Period 100% = 42	
12% = 5	88% = 37
10% = 4	2% = 1
2% = 1	
0% = 0	

7. Belgica

Early Period 100% = 58	
0% = 0	100% = 58
0% = 0	12% = 7
0% = 0	
0% = 0	
Later Period 100% = 73	
0% = 0	100% = 73
0% = 0	1% = 1
0% = 0	
0% = 0	

8. Britannia

Early Period 100% = 59	
0% = 0	100% = 59
0% = 0	5% = 3
0% = 0	
0% = 0	
Later Period (100% = 19)	
(0% = 0)	(100% = 19)
(0% = 0)	(5% = 1)
0% = 0	
0% = 0)	

9. Noricum

Early Period 100% = 93	
3% = 3	97% = 90
3% = 3	12% = 11
0% = 0	
0% = 0	
Later Period (100% = 12)	
(8% = 1)	(92% = 11)
(8% = 1)	(0% = 0)
0% = 0	
0% = 0	

10. Dalmatia

Early Period 100% = 730	
5% = 35	95% = 695
3% = 21	3% = 23
1% = 9	
1% = 5	
Later Period 100% = 297	
20% = 61	80% = 236
12% = 37	1% = 4
7% = 21	
1% = 3	

11. Pannonia Inferior

Early Period 100% = 313	
1% = 2	99% = 311
0% = 0	9% = 27
0,5% = 1	
0,5% = 1	
Later Period (100% = 8)	
(0% = 0)	(100% = 8)
(0% = 0)	(0% = 0)
0% = 0	
0% = 0)	

12. Pannonia Superior

Early Period 100% = 262	
2% = 4	98% = 258
2% = 4	8% = 20
0% = 0	
0% = 0	
Later Period (100% = 13)	
(7% = 1)	(93% = 12)
(7% = 1)	(0% = 0)
0% = 0	
0% = 0)	

13. Dacia

Early Period 100% = 306	
1% = 2	99% = 304
0,3% = 1	3% = 10
0,7% = 1	
0% = 0	
Later Period (100% = 10)	
(20% = 2)	(80% = 8)
(20% = 2)	(0% = 0)
0% = 0	
0% = 0)	

14. Moesia Inferior

Early Period 100% = 230	
4% = 10	96% = 220
2% = 4	1% = 2
1% = 3	
1% = 3	
Later Period 100% = 52	
4% = 2	96% = 50
0% = 0	2% = 1
4% = 2	
0% = 0	

15. Moesia Superior

Early Period 100% = 166	
11% = 18	89% = 148
8% = 13	4% = 6
2% = 4	
1% = 1	
Later Period (100% = 12)	
(8% = 1)	(92% = 11)
(0% = 0)	(0% = 0)
8% = 1	
0% = 0	

16. Germania Superior

Early Period 100% = 261	
6% = 16	94% = 245
5,5% =15	5 % = 12
0% = 0	
0,5% = 1	
Later Period 100% = 61	
13% = 8	87% = 53
10% = 6	0% = 0
0% = 0	
3% = 2	

17. Venetia et Histria

Early Period 100% = 144	
7% = 10	87% = 134
4% = 6	6% = 9
1% = 1	
2% = 3	
Later Period 100% = 275	
17% = 47	83% = 228
9,5% = 26	1% = 4
5,5% = 15	
2% = 6	

18. Apulia et Calabria

Early Period 100% = 59	
34% = 20	66% = 39
15% = 9	0% = 0
7% = 4	
12% = 7	
Later Period 100% = 104	
51% = 53	49% = 51
24% = 25	2% = 2
21% = 22	
6% = 6	

Weighting: (0-39); *40-99*; 100-730

Legend: Figures for the Early Period (1st-3rd c.)	
Figures for B/V in all	Other consonantal changes
Figures for -B-/-V-	Figures for loss of intervocalic V (V/0)
Figures for B-/V-	
Figures for CB/CV	
Figures for the Later Period (4th-5th/6th/7th/8th c.)	
Figures for B/V in all	Other consonantal changes
Figures for -B-/-V-	Figures for loss of intervocalic V (V/0)
Figures for B-/V-	
Figures for CB/CV	

Table 1: Rates of B/V confusion according to the *LLDB*

If we compare the frequencies of the B/V confusion and other consonantal mistakes, we can deduct whether the merger of /b/ and /w/ was present in a given province and period. Where the figures and percentages for B/V confusions are very low but those for other consonantal mistakes are quite high, there, based on such a characteristic distributional pattern, we are entitled to infer the absence and infrequency of the merger of /b/ and /w/.

It is clear from the data displayed in Table 1 that this merger was really absent or sporadic in the following early provinces (in increasing order): No. 7 Belgica (0% = 0), No. 8 Britannia (0% = 0), No. 2 Baetica (0% = 1), No. 4 Narbonensis (1% = 1), No. 11 Pannonia Inferior (1% = 2), No. 13 Dacia (1% = 2), No. 6 Aquitania (2% = 2), No. 5 Lugudunensis (2% = 2), No. 1 Lusitania (2% = 4), No. 12 Pannonia Superior (2% = 4), and No. 9 Noricum (3% = 3). It was more perceptible and frequent in No. 14 Moesia Inferior (4% = 10), No. 10 Dalmatia (5% = 35), No. 16 Germania Superior (6% = 16), No. 17 Venetia-Histria (7% = 10), and No. 15 Moesia Superior (11% = 18). In early Apulia-Calabria (No. 18), the 59 items of the italicized

total number may just allow us to infer the prevalence of the merger due to its high rate of 34%, a position the province later on kept and even developed, as it is obvious from the related sections of Table 1 and Chart 1.

As for the later period, it can be stated that, except for No. 7 Belgica (0% = 0) and No. 14 Moesia Inferior (4% = 2), the merger became significantly more frequent in each investigated area with enough data available: (in increasing order) No. 2. Baetica (7% = 5), No. 4. Narbonensis (8% = 14), No. 1 Lusitania (10% = 11), No. 6 Aquitania (12% = 5), No. 16 Germania Superior (13% = 8), No. 3 Hispania Citerior (17% = 11), No. 17 Venetia-Histria (17% = 47), No. 5 Lugudunensis (20% = 20), No. 10 Dalmatia (20% = 61); again, it was the most frequent in No. 18 Apulia-Calabria (51% = 53).

As it is obvious from Table 1, not only the characteristic distributions of the data are systemic, but they also display characteristic and uniform shifts in time (displayed in Chart 1). It cannot be at random that – apart from two areas (No. 7 and 14) with stagnating rates for both periods – the B/V confusion unambiguously and significantly increased in almost all (10) provinces with a statistically relevant amount of data for both periods investigated, while there is no province where it decreased.
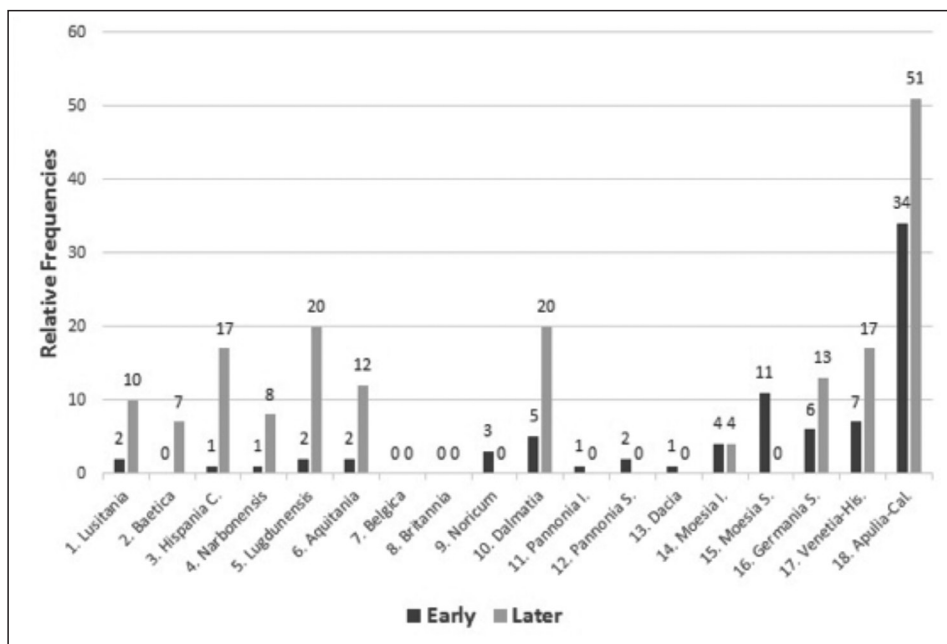

Chart 1: Relative frequencies of B/V confusions

From the profiles of mistakes with these characteristic distributional patterns and changes, it is (or at least, should be) clear that actual linguistic processes indeed underlay the mistakes. Though it may be generally true that, as Adams (2013, p. 190) claims, "a good speller will conceal by his mastery of the traditional written language phonetic features of his speech", in this context, in accordance with Herman's method, we consider only the mistakes themselves, and, necessarily, inscriptions which already contain misspellings, whether only one, a handful,

or in plenty. This means these inscriptions were composed by *bad* spellers, which makes any mention of *good* spellers concealing linguistic changes irrelevant.

If someone finds this kind of evidence of creating mistake profiles for each region and period not entirely convincing, they may ascertain the reliability of inscriptional misspellings concerning the reflection of linguistic reality by combining the above method with the contrastive method to be detailed below.

3. The methodbased on the contrastive analysis of potentially relevant lexical items

The second method, which is based on a suggestion of Herman (1990=1984, p. 58), and which I have elaborated on through the examination of syncope (cf. Adamik, 2016), is limited to the contrastive analysis of lexical items potentially relevant to the phenomenon under consideration and is therefore especially suitable for controlling and corroborating the evidence gained with the help of the first one. According to this second method, if there are several items of misspelled variants of certain words (indicating one linguistic change), e.g. the data set is full of items like OBIET for *obiit*, VIVS for *vivus*, VIXET for *vixit* or BENI for *bene*, etc., while there are no or only isolated examples of another change (in our case, the B/V confusion, which in turn indicates the merger of /b/ and /w/), such as OVIIT, VIBVS, BIXIT or VENE, etc., the absence of the latter must be accepted.

Pannonia Inferior 2nd-3rd c.	Contrasts	Other Roman Provinces 2nd-3rd c.
LLDB-23153: productio vocalium sine accentu in arsi, SVPERSTITE OBII = *superstite obii*;	(voc.)-b-(voc.) > V	LLDB-2603: OVITI = *obiti* (Dalm.)
LLDB-22767: -t > 0, DONAVI | = *donavit*; LLDB-22832: n (+ cons.) > 0, CVRAVERVT | = *curaverunt*; LLDB-5545: ae > E, VIVE = *vivae*; LLDB-22607: o / ó > E, POE|TEVI = *Poetovione*; LLDB-519: i > E / nom. sg. -ES pro -is, CIVES = *civis*;	(voc.)-v-(voc.) > B	LLDB-30394: DONA|BIT = *donavit* (Dalm.); LLDB-19877: CVRABERVNT = *curaverunt* (Pann. Sup.); LLDB-6434: VIBE = *vivae* (Moes. Sup.); LLDB-6514: PETOBIONEN|SIS = *Poetovionensis* (Moes. Sup.); LLDB-9228: CIBES = *civis* (Dalm.)
LLDB-5602: syncope praetonica / apocope, BENMERNTI = *benemerenti / bene merenti*	b- > V	LLDB-14442: VEN | MERENTI = *bene merenti* (Dalm.);
(LLDB-23131: QVI BI|XIT = *qui vixit*) LLDB-1866: i: > E, VEXIT = *vixit*; LLDB-13512: ae > E, VALERINE = *Valerinae*; LLDB-6109: ns > S, VALES = *Valens*;	v- > B	LLDB-31348: BIXIT = *vixit* (Umbria); LLDB-1375: BALERIAE = *Valeriae* (Dalm.); LLDB-11031: BALEN| = *Valens* (Moes. Inf.)
LLDB-19324: H > 0, SILVA|NO ERBA|RIO = *Silvano Herbario*;	(cons.)-b-(voc.) > V	LLDB-13040: -rb- > RV, EVERVERATAM = *everberatam* (Venetia et Histria);
(LLDB-6224: -rv- > RB, CVM PARBVLOS FILIOS = *cum parvulis filiis*) LLDB-26205: variatio praefix. (co- pro con-), COSERVOS = *conservos*; LLDB-22825: acc. pro dat., SILVANAS = *Silvanis / Silvanabus*	(cons.)-v-(voc.) > B	LLDB-15570: -rv- > RB, PARBVLI = *parvuli* (Germ. Sup.); LLDB-29190: -rv- > RB, CONSERBVS = *conservus*, LLDB-29198: -lv- > LB, SILBANVS = *Silvanus* (Apulia et Calabria)

Table 2: Illustrative counterparts for a contrastive analysis

Turning to Table 2, we can see this contrastive method exemplified by the case of early Pannonia Inferior contrasted with other early provinces. The first column contains the contrastive data recorded from early Pannonia Inferior. There are only two isolated instances (underlined and put in parentheses) for the B/V confusion (BIXIT for *vixit,* and PARBVLOS for *parvulis*), while there is a series of otherwise misspelled words, all retaining intervocalic or post-consonantal /b/ or /w/ phonemes, showing no merger. Although there are more than 100 relevant words, only Pannonian items with the most illustrative value are displayed here (in the first column of Table 2), which have their counterparts with the B/V confusion in other provinces (displayed in the last column of Table 2), like VIVE vs. VIBE from Moesia Superior (both for *vivae*), CIVES vs. CIBES from Dalmatia (both for *civis*), VALES vs. BALEN from Moesia Inferior (both for *Valens*), COSERVOS (for *conservos*) vs. CONSERBVS from Apulia-

Calabria (for *conservus*), etc. If there are so many otherwise misspelled forms containing correctly written B and V letters, the situation cannot be explained by the assumption that good spellers concealed linguistic features, but it undoubtedly corroborates the actual absence of the merger of /b/ and /w/ phonemes in the area.

4. The correlation of the loss of intervocalic /w/ and the merger of /b/ and /w/

While setting up the contrastive material for early Pannonia Inferior in our Database, another interesting phenomenon surfaced, which may give even more support to the absence of this merger from this province. While examining the contrastive material of early Pannonia Inferior, it became conspicuous how the relatively high rate of the loss of the intervocalic V, i.e. /w/ (27 items = 9%) coupled with the nearly total absence of the intervocalic fusion of B and V (2 items = 1%; merely a single item, QVI BI|XIT for *qui vixit* can be mentioned here, coded by v- > B, and alternatively by (voc.)-V-(voc.) > B according to external sandhi rules, cf. *LLDB*-23131). What is more, when comparing the situation of the above factors in Pannonia Inferior (1% B/V vs. 9% V/0) with that in Apulia-Calabria, we found a totally opposing pattern, i.e. a relatively abundant confusion of the intervocalic B and V, and no loss of the intervocalic V (34% B/V vs. 0% V/0), as it is discernible in Table 1. I refer here merely to such illustrative counterparts displayed in Table 3 as VIA and VIBA (both for *viva*), AVNCVLVS and ABVNC (both for *avunculus*), FLAVS (for *Flavus*) and FLABIA (for *Flavia*), etc.

(voc.)-V-(voc.) > 0: Early Pannonia Inferior	(voc.)-v-(voc.) > B / (voc.)-b-(voc.) > V: Early Apulia-Calabria
LLDB-22845: VIVS = *vivus* (17), LLDB-22374: VIA = *viva* (1), LLDB-536: VIAE = *vivae* (1), LLDB-13462: AVN|CVLVS = *avunculus* (3), LLDB-591: DANVIVS = *Danuvius* (1), LLDB-19276: FAORIBVS = *favoribus* (1), LLDB-19322: FL|AVS = *Flavus* (2), LLDB-22234: IVENIS = *iuvenis* (1); **in all 27**	LLDB-31159: VIBA = *viva* (1), LLDB-26444: BIBI = *vivi* (1), LLDB-28645: ABVNC = *avunculi* (2), LLDB-25266: FLABIA = *Flavia* (1), LLDB-26802: IOBI = *Iovi* (2); LLDB-26441: INCOMPARAVILI = *incomparabili* (1), LLDB-29108: DAVIT = *dabit* (1); v- > B / (voc.)-v-(voc.) > B: LLDB-26444, LABO|RI BIBI = *labori vivi* (1), LLDB-26471: QVI BIXIT = *qui vixit* (1), LLDB-28524: SVO BADE = *suo vade* (1); **in all 9 + 3 = 12**

Table 3: Comparison of Pannonia Inferior and Apulia-Calabria

From these findings we may infer that these two changes might have been in complementary distribution in several of the 18 provinces selected for the survey. A close connection must have existed between the two phenomena in some places, displayed in Charts 2 and 3, where the rates

of the B/V confusion[7] and the loss of the intervocalic V[8] are charted side by side for the selected 18 provinces, separated chronologically in early and later periods (excluding the areas with the lowest total, with less than 40 items, as indicated above).
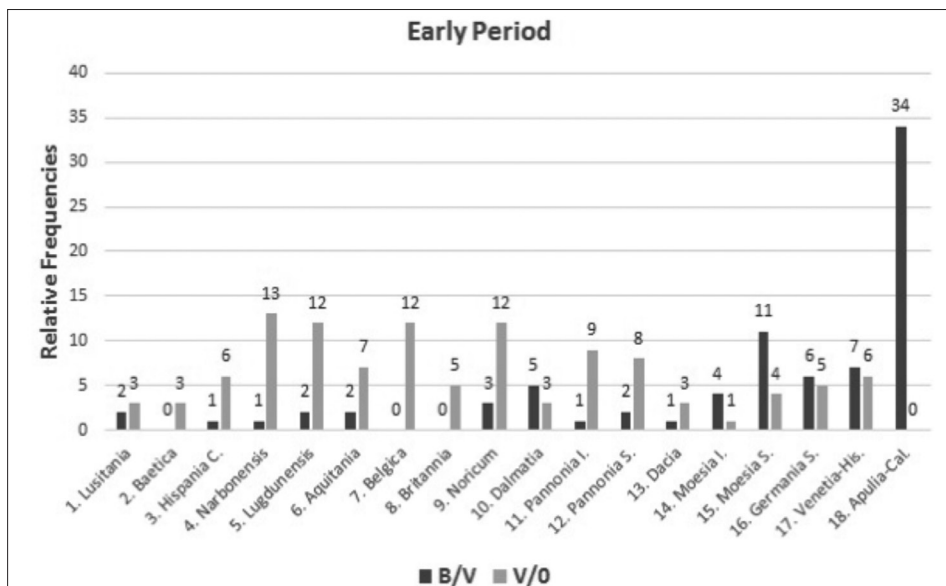

Chart 2: B/V confusion and loss of the intervocalic V in the early period

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7   Here all variations of the B/V confusion are included, not only those in intervocalic, but also those in word-initial position, and those after a consonant. I decided in favour of this not only because these latter two phenomena are consequences of the former (see Herman, 2000, p. 45-46), but also because more than half of the occurrences of a confusion in word-initial position may be explained as cases of intervocalic confusion according to the external sandhi rules, like ECCLESIA VARINA = *ecclesia Barina* (*LLDB*-28397, Apulia-Calabria, 5th-6th c.) or PETO BOS = *peto vos* (*LLDB*-9420, Dalmatia, 4th c.), cf. the data displayed in Table 1.

8   Among the instances of loss of the intervocalic /w/ I also included the cases where /w/ is followed or preceded by a /u/, e.g. *vivus* > VIVS or *iuvenis* > IVENIS, etc. Although these errors may easily be put down to assimilation to the contiguous phoneme, here they are still lumped together with the other subtypes of loss of the intervocalic V (such as *favor* > FAOR, *viva* > VIA or *Primitivo* > PRIMITIO, etc.), not only because they are treated together in the relevant literature (just as in Väänänen, 1981, p. 51), but also due to the fact that, following the same tendency, all subtypes of this loss decreased drastically or disappeared completely from inscriptions of the related areas in the later period. Since words like *vivus* and *iuvenis* were alike common in later inscriptions and their /w/ had a chance for assimilation to the contiguous phoneme /u/ also in later times, already the later general lack of this assimilation shows that the two related phonemes were not contiguous anymore (i.e. not /w/ but /β/ or /v/ was on the side of /u/ in such words). Among the cases of the loss of the intervocalic V their scarce inverse counterparts are also included, such as *LLDB*-14025: (voc.)-0-(voc.) > (voc.)-V-(voc.), SVVIS = *suis*, Pannonia Superior, 2nd c.
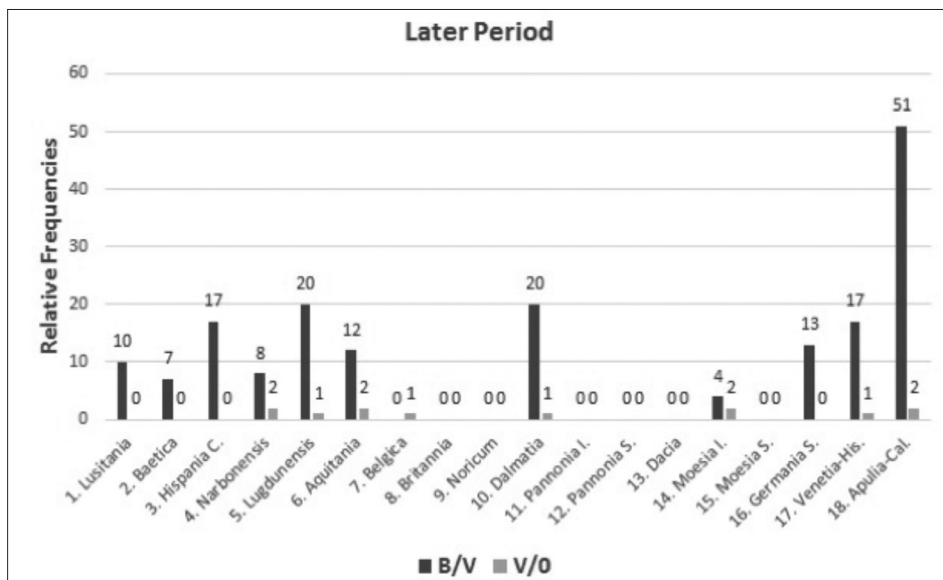
Chart 3: B/V confusion and loss of the intervocalic V in the later period

It is conspicuous from Chart 2 that in these areas in the 1st-3rd centuries the B/V confusion is relatively infrequent in areas with a prevalence of the loss of the intervocalic V and vice versa: no B/V confusion but the loss of the intervocalic V is documented for early Britannia (No. 8) with 5% and Belgica (No. 7) with 12% (and also for No. 2 Baetica with 3%, where the single item for B/V statistically counts as zero), while no loss of the intervocalic V but B/V confusion is documented for early Apulia-Calabria (No. 18) with 34%. Chart 2 (where relevant exact data are numerically displayed in the lower box of every second sub-column of Table 1, e.g. 9% = 27 as for No. 11 Pannonia Inferior) also displays a lower rate of B/V confusion coupled with a higher rate for the loss of the intervocalic V (ordered by increasing difference) for early Lusitania (No. 1: 2% vs. 3%), Dacia (No. 13: 1% vs. 3%), Britannia (No. 8: 0% vs. 5%), Aquitania (No. 6: 2% vs. 7%), Pannonia Superior (No. 12: 2% vs. 8%), Pannonia Inferior (No. 11: 1% vs. 9%), Noricum (No. 9: 3% vs. 12%), Lugudunensis (No. 5: 2% vs. 12%), Narbonensis (No. 4: 1% vs. 13%), and Belgica (No. 7: 0% vs. 12%); while, conversely, a higher rate of B/V confusion coupled with a lower rate for the loss of the intervocalic V is documented for early Germania Superior (No. 16: 6% vs. 5%), Venetia-Histria (No. 17: 7% vs. 6%), Dalmatia (No. 10: 5% vs. 3%), Moesia Superior (No. 15: 11% vs. 4%), and Apulia-Calabria (No. 18: 34% vs. 0%).

The obviously opposing tendencies of the increase of the B/V confusion and the decrease of the loss of the intervocalic V discernible in time is also to be taken into account as an argument for this assumed correlation of the two phenomena. If we compare the results of the earlier period with those of the later one, we can see that the rate of the B/V confusion gets considerably higher, and the rate of the loss of the intervocalic V becomes strikingly lower. This drastic fall of the rate of V/0 indicates that solely the merger of *b* and *w* remained on stage, and the loss of the intervocalic V disappeared from the later areas nearly completely. While in the

early period the loss of the intervocalic V was documented to various extents in 17 provinces with a maximum of 13% (recorded for No. 4 Narbonensis), in the later period it disappears from 4 provinces completely (No. 1 Lusitania, No. 2 Baetica, No. 3 Hispania Citerior and No. 16 Germania Superior), and turns up in only 8 provinces, with very low rates of 1-2% (1% in No. 7 Belgica, No. 5. Lugudunensis, No. 10 Dalmatia and No. 17 Venetia-Histria, 2% in No. 14 Moesia Inferior, No. 6 Aquitania, No. 18 Apulia-Calabria, and No. 4 Narbonensis).

Based on the above, it seems obvious that these tendencies are interconnected. The increase of the B/V confusion and the decrease of the loss of the intervocalic V can be explained in all probability by the following phonological developments. On one hand, from the 1st century AD on, the labiovelar semivowel /w/ (written with the letter V) developed a bilabial fricative articulation [β] in syllable-initial position, and, around the same time, the bilabial voiced stop /b/ (written with the letter B) began to be fricativized to [β], at least in word-medial, intervocalic positions. This partial merger of /w/ and /b/ to [β] motivated the B/V confusions in spelling.[9] On the other hand, the loss of the intervocalic [w] (spelled V) occurs (occasionally rather than systematically) before *o* and *u*, sometimes also before *i* (in the proximity of a labial *p, f,* or *m*) in the imperial age (e.g. Appendix Probi 29: *avus* non *aus*, 176: *pavor* non *paor*, 73 *favilla* non *failla*, cf. Väänänen 1981, p. 51). If we connect the loss of the V standing for the phonetic value of the labiovelar semivowel [w], and the confusion of V and B which both had the phonetic value of the bilabial fricative [β], it becomes clear that, with the help of Herman's updated method, we can track not only the spread and increase of the merger of *b* and *w* to [β], but also the transition of the phonetic value of the consonant spelled V from a labiovelar semivowel [w] to a bilabial fricative [β] both geographically and chronologically.

However, the correlation detected above and not yet tackled in relevant literature[10] should be left here to let us return to the original question of the B/V confusion and the spread of the merger of the /b/ and /w/ phonemes and how it developed in space and time as recorded in inscriptions.

5. Conclusion

In the sections above, I demonstrated by two interdependent methods that inscriptional data are reliable as well as applicable for examining the B/V confusion. Now it only remains for us to draw some conclusions for dialectology based on the data displayed in Table 1 and Chart 1, and to compare them with some views formulated in the related literature.

First of all, it is a view widespread that B/V confusions are generally rare in Gallic and Spanish inscriptions (cf. Adams, 2007, p. 655). According to our findings, this has to be restricted and maintained only for the early period of the related areas (as assumed by Herman, 1985=1990, p. 80). In later times, however, the rate of this confusion unambiguously increased in the inscriptions, particularly if compared with the early period (excluding No. 7 Belgica with no confusion for either period): the later rates of 7% for Baetica (No. 2), 10% for Lusitania (No. 1) and 17% for Hispania Citerior (No. 3) on the one hand and of 8% for Narbonensis (No. 4), 12% for Aquitania (No. 6), and 20% for Lugudunensis (No. 6) on the other show that these

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9   Cf. Stephens, 1988, p. 421; Väänänen, 1981, p. 50f; Herman, 2000, p. 38f.
10   No mention made of it in Banfi, 1996, p. 171-172.

provinces began to catch up with the areas characterized by higher rates of confusion as (No. 16) Germania Superior with 13%, (No.17) Venetia-Histria with 17%, and (No. 10) Dalmatia with 20%, or the flagship province (No. 18) Apulia-Calabria with an extremely high rate of 51% for the confusion concerned.

The conclusion of this development is well known: eventually the merger of the intervocalic /b/ and /w/ became a pan-Romance phenomenon.[11] The spread of the merger of /b/ and /w/ can be adequately traced by the distributional analysis of the epigraphic misspellings both geographically and chronologically.

Our conclusions may be regarded provisional and partial regarding only the territorial aspect of the survey, since some huge areas relevant to the investigation of this merger, such as the city of Rome, Latium together with South-West Italy, Sicily, Sardinia, etc. and Roman Africa are not yet entered into the Database, and will become available for investigation only over the next year or so. Nevertheless, by offering a picture of the frequency of the merger of /b/ and /w/ in Latin more realistic than any other presented so far (e.g. by Barbarino, 1978) while also detecting en passant a correlation between this merger and the loss of /w/ evidencing the change from [w] to [β], we have hopefully diminished the "scepticism about our ability to detect localised phonetic developments from misspelt inscriptions" (Adams, 2007, p. 730).

References

Adamik, B., 2012, In search of the regional diversification of Latin: Some methodological considerations in employing the inscriptional evidence, in F. Biville *et al.* (eds.), *Latin vulgaire – latin tardif IX*, Lyon, p. 123-139 (http://lldb.elte.hu/documents.php).

Adamik, B., 2016, The frequency of syncope in the Latin of the Empire: A statistical and dialectological study based on the analysis of inscriptions, in P. Poccetti (ed.), *Latinitatis Rationes, Descriptive and Historical Accounts for the Latin Language*, Berlin / Boston, p. 3-21 (http://lldb.elte.hu/documents.php).

Adams, J. N., 2007, *The Regional Diversification of Latin 200 BC – AD 600*, Cambridge.

Adams, J. N., 2013, *Social Variation and the Latin Language*, Cambridge.

Banfi, E., 1996, Tendenze romanze comuni, I. Fonetica, in G. Holtus *et al.* (eds.), *Lexikon der Romanistischen Linguistik* 2, vol. 1: *Latein und Romanisch: Historisch-vergleichende Grammatik der Romanischen Sprachen,* Tübingen, p. 163-199.

Barbarino, J. L., 1978, *The Evolution of the Latin /b/–/u̯/ Merger: A Quantitative and Comparative Analysis of the B–V Alternation in Latin Inscriptions*, Chapel Hill.

Herman, J., 1984=1990, L'évolution du latin dans les provinces de l'Empire. Problèmes et perspectives*,* in J. Herman, 1990, p. 55-61.

Herman, J., 1985=1990, La différenciation territoriale du latin et la formation des langues romanes, in J. Herman, 1990, p. 62–92.

Herman, J., 1990, *Du latin aux langues romanes. Études de linguistique historique* (textes réunis par S. Kiss), Tübingen.

Herman, J., 2000, *Vulgar Latin* (translated by R. Wright), University Park, PA.

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11 Cf. Banfi, 1996, p. 185, and Herman, 2000, p. 46.

LLDB: *Computerized Historical Linguistic Database of Latin Inscriptions of the Imperial Age*, http://lldb.elte.hu/.
Stephens, L. D., 1988, The role of palatalization in the Latin sound change /w/ > /β/, *TAPhA* 118, p. 421-431.
Väänänen, V., 1981, *Introduction au latin vulgaire*, Paris (3rd edition).