

AN UNKNOWN LAW OF ELISION IN WESTERN ROMANCE LANGUAGES

Ivan Kotliarov, Ph.D.

lrpg@mail.ru

Abstract: The goal of the present article is to study the phonological conditions of distribution of voiced and voiceless reflexes of the Latin group *k+a* in an intervocalic position in the Old French. The traditional explanation proposed by Bourciez links this distribution to the place the unstressed vowel preceding this group with regard to the place of accent. This hypothesis has many exceptions that it tries to explain by analogy. However, information from other languages (especially from Swiss Romansh idioms) show that this distribution can be easily (and logically from the phonological point of view) explained by the feature “voiced-voiceless” of the consonant preceding the unstressed vowel. This observation is formulated as a strict sound law. The action of this law is described for all Gallo-Romance and Rhaeto-Romance languages, including the restrictions imposed on this law in the Old French. We also propose a new classification of Western Romance languages based on this law.

Keywords: sound law, Old French, Western Romance languages

Résumé: Le but du présent article est d'étudier les conditions phonologiques de la distribution des réflexes sourds et sonores du groupe intervocalique latin *k+a* dans l'ancien français. L'explication traditionnelle proposée par Bourciez lie cette distribution à la place de la voyelle atone précédant le groupe *k+a* par rapport à la place de l'accent tonique. Cette hypothèse a de nombreuses exceptions qu'elle cherche à expliquer par analogie. Cependant, les données des autres langues romanes (surtout celles des idiomes romanches suisses) montrent que cette distribution s'explique facilement (et plus vraisemblablement du point de vue phonologique) par le caractère sourd ou sonore de la consonne qui précédait la voyelle atone. Cette observation est formulée comme une loi phonétique stricte. L'action de cette loi est décrite pour toutes les langues gallo-romanes et rhéto-romanes, y compris les limitations imposées sur son action dans l'ancien français. Nous proposons une nouvelle classification des langues romanes occidentales basée sur cette loi.

Mots-Clés : procès phonétique , Français Antiquité , romanique langues

1. State-of-the-art of the problem

The starting point for this paper is the well known fact that the Latin group *k+a* (spelt *ca*) may produce 2 different reflexes in Old French: the voiceless affricate [tʃ] (most often, basically corresponds to *k+a* in a word-initial position and after a consonant) and the voiced affricate

[dž]¹ – basically corresponding to *k+a* in an intervocalic position, but the situation is much more complex..

Indeed, this [tš]/[dž] distribution is pretty intricate² as samples from the table 1 show (in order to simplify the text all French words are given in Modern French spelling as there is a regular correspondence between their Old French and Modern French pronunciation – [tš]>[š], [dž]>[ž]; Old French forms that did not survive in Modern French are listed under the + sign). Etymological Vulgar Latin forms are given in parentheses (see corresponding entries in TLFi):

Table 1

k+a>tš	k+a>dž
<i>Mâcher</i> (MASTICARE)	<i>Venger</i> (VINDICARE)
<i>Ecorcher</i> (EXCORTICARE)	<i>Manger</i> (MANDUCARE)
<i>Fâcher</i> (FASTICARE)	<i>Plonger</i> (PLUMBICARE)
<i>Arracher</i> (EXRADICARE)	<i>Forger</i> (FABRICARE)
<i>Prêcher</i> (PRAEDICARE)	<i>Juger</i> (JUDICARE)
<i>Chercher</i> (CIRCARE)	<i>Figer</i> (*FETICARE)
<i>Trancher</i> (TRUNCARE)	<i>Charger</i> (CARRICARE)
<i>Coucher</i> (COLLOCARE)	<i>Bouger</i> (BULLICARE)
<i>Chevaucher</i> (CABALLICARE)	<i>Neiger</i> (*NIVICARE)
<i>Sécher</i> (SICCARE)	<i>Berger</i> (BERBICARIU)
<i>Manche</i> (MANICA)	<i>Clergé</i> (CLERICATU)
	<i>Siège</i> (SEDICA)
	<i>Piège</i> (PEDICA)
	<i>Fougère</i> (FILICARIA)
	+
	<i>Pengier</i> (PENDICARE) – Old French (<i>pencher</i> in Modern French) (TLFi: <i>pencher</i>)
	<i>Delgié</i> (DELICATU) – Old French (Joret 1874: 304)
	<i>Rugier</i> (*RODICARE) – Old French (TLFi: <i>ronger</i>)

At first sight it seems that there are no clear and unambiguous distribution rules (cf. *coucher~bouger*, *prêcher~juger*) for reflexes of intervocalic *k+a* (reflexes of *k+a* in other positions are absolutely regular – they are voiceless in all cases).

¹ This group can also yield *j* and zero sound, but these cases are very easy to explain and therefore will not be dealt with at length in this article.

² Sometimes authors of books on French historical phonetics do not even bother to try to formulate rules governing this distribution, they are simply content to state that this distribution exists (Joret 1874: 297; Katagoščina, Guryčeva, All’endorf 1976: 23).

As far as I know, only 2 attempts have been made to explain this irregular distribution: the hypothesis put forth by J. Bastin (“Bastin’s rule”), the theory developed by Bourciez (“Bourciez’s rule”).

Bastin supposed that in some cases *k+a* yields a voiced affricate if it is supported by preceding consonant because of elision of unstressed vowel between this consonant and the *k+a* group (Bastin 1894: XLIII). It means that, according to Bastin, *k+a* normally remains voiceless in an intervocalic position (*sic!*), and may only become voiced after merger with a preceding consonant (this merger takes place after elision of the unstressed vowel before *k+a*). However, this explanation contradicts the generally accepted relative chronology of sound changes in Romance languages: it is well known that Latin intervocalic stops got voiced (or, better, lenited) prior to elision of unstressed vowels. But even if we forget this, Bastin’s hypothesis should be discarded anyway as it says nothing on how we could define those some cases in which *k+a* becomes [dʒ], as very often the *k+a* supported by preceding consonant after the elision of unstressed vowel (as it is evident from the table 1) yields the voiceless affricate nevertheless. This absence of precise criteria for distribution of voiced and voiceless reflexes is unacceptable (let alone the incorrect relative chronology) and Bastin’s hypothesis should therefore be rejected.

Bourciez (Bourciez 1958: 125-126) explained this phenomenon on a basis of the stress position hypothesis. According to him, in Latin proparoxytona like *MANICA* (first group of words) the unstressed vowel located between the stress and a clear final vowel syncopated very early (and therefore could not trigger lenition of intervocalic stops, like in *MANICA* > *manca* > *manche*, *BASILICA* > *basilica* > *basoche*). In Latin words (second group) like *BERBICARIU* and *CLERICATU* the unstressed vowel was located just before the stress, this is why its elision was delayed till the time the lenition of intervocalic stops took place (thus *BERBICARIU* > *berbigariu* > *berbgariu* > *bergier*)³. Verbs in *-care* (all of them belonging to the second group – so we should have expected the voiced affricate in all cases) are explained as having leveled their forms by analogy either to 3rd person sing. pres. (*coucher* from *couche*

³ The relative chronology of the process according to Bourciez is as follows:

1. In proparoxytona like *MANICA* (first group) [ˈmanika] the unstressed vowel after the stressed syllable in the last but one syllable syncopated prior to lenition of intervocalic stops, thus *MANICA* > *manche*;
2. In words like *BERBICARIU* (second group) [berbiˈkariu] the unstressed vowel before the stressed syllable syncopated after the lenition of intervocalic stops, thus *BERBICARIU* > *berger*.

< *COLLOCAT* according to the stress rule for proparoxytona, and not **colgier* < *COLLOCARE*) or to infinitive (*CARRICARE* – according to the rule for 2nd group – yielded *chargier*, and not **charchier* from **charche* < *CARRICAT*). Thus, either infinitive or 3rd person sing. pres. is phonetically regular – but not both. Bourciez supposes an early mutual influence of these forms on each other (Bourciez 1958: 126).

The relative chronology of the process according to Bourciez is as follows:

This explanation is more plausible than Bastin's rule and is generally accepted by linguists – see for example a recent work by Chiara Celata (2002: 128). However, in my opinion, this theory has two weak points:

1. As Bourciez himself states, there are some apparent breaches of his theory (Bourciez 1958: 126): *forge* < *FABRICA*, *baillarge* < *BALEARICA* (an obsolete word found in (Makaroff 1917: 111), but not in (PL 1972: 83)), *serge* < *SERICA*, *grange* < *GRANICA* (with a parallel form *granche*) – all these words should have had *-ch-* instead according to Bourciez's rule. Bourciez just says that *-g-* is not typical for the North of France (Bourciez 1958: 126). However he makes a very important indication: in *forge* < *fabrica* *i* is preserved (thus triggering the voicing of *c*[k]) thanks to the group of consonants [br] preceding it. Unfortunately he did not develop this idea.
2. Analogical leveling in *-care*-verbs is absolutely irregular – we cannot tell when the analogy will choose the infinitive and when the 3rd person singular present.

Edouard Schwan made an amendment to this theory in order to reduce the role of analogy and to study the influence of positional factors. According to Schwan, the stressed intervocalic group *k+a* gets voiced in all cases (he adheres to Bourciez in this point), but after the elision of the preceding unstressed vowel the voiced reflex of *k+a* may become voiceless again if the consonant it was in contact with was voiceless (*MASTICARE* > **mastigare* > **mastidžar* > **mastšier* > *maschier*). If the consonant was voiced, the voiced reflex remained voiced (*PLUMBICARE* > **plombigare* > **plombidžar* > **plom(b)džar* > *plongier*) (Schwan 1963: 93). However, this theory, while being very attractive, has weak points too. First, it fails to explain cases like *PENDICARE* > *pencher*, where a voiced reflex is expected according to Schwan (as well as we would have expected a voiceless reflex instead of a voiced one in *figer* < **FETICARE*). Second, cases like *EXCORTICARE* > *écorcher* have problems too: during the phonetic development of this word from Vulgar Latin to Old French we should expect a

So the unstressed vowels before *k+a* syncopated in different periods depending on position of these vowel with respect to stress.

form **escortidžar* > *escorchier* – but it is very difficult to imagine from the phonetic point of view how a voiceless stop between two voiced consonants (more precisely, between a sonorant and a voiced consonant) can trigger devoicing of the following voiced affricate. It would be much more logical to expect that the voiceless stop *t* in this position will be assimilated to the following voiced affricate – as it happened in Gascon *pèrja*<*PERTICA* (Patric Guilhemjoan, private communication).

It is necessarily to mention however that Schwan realized a very important phenomenon – the correspondence between the phonetic character (voiced or voiceless) of the reflex of *k+a* and the phonetic character of the consonant supporting (in Bastin’s terminology) supporting it.

Bourciez and Schwan recognize only one sound law – the law of lenition of intervocalic stops (=presence of voiced reflexes of intervocalic *k+a* is considered as regular). Voiceless reflexes of intervocalic *k+a* are considered as irregular and explained by analogy, assimilation or – quite often – left unexplained.

All this means that we do not possess a clear and unambiguous distribution rule for this phenomenon and have to suppose numerous exceptions and analogical effects.

Absence of explanation for this distribution of voiced/voiceless reflexes of Latin *k+a* (palatalization/affrication is secondary and will not be subject of the present paper: for those interested I recommend an excellent study Cull 1994 and a detailed research Videsott 2001) is absolutely unacceptable for such a well established branch of linguistics as study of Romance languages and it is very important to set up some basic rules describing this phonetic development.

The goal of this article lies within the Young Grammarians’ theory: I adhere to the rule saying that exceptions from a given sound law are to be explained by effects of another sound law. I will try to show that the law of lenition was not the only one law active in Proto-Romance period, and that this mysterious distribution of voiced and voiceless reflexes can be explained by an additional sound law.

1. Law of the distribution of voiced and voiceless affricates (< Latin *k+a*) in Puter and Vallader

If we expand our analysis to include data from Rhaeto-Romance languages in addition to French, first of all – from Puter and Vallader, we can make some very interesting conclusions (other languages from this area are not relevant for this preliminary study, as they – except

Occitan and Friulan discussed below – add nothing new to our hypothesis as it will be shown further). These data are given in the table 2⁴ below:

Table 2

Latin	French	Puter	Vallader
<i>MANDUCARE</i>	<i>k+a>dž</i> <i>Manger</i>		
<i>VINDICARE</i>	<i>Venger</i>		
<i>PENDICARE</i>	<i>Pencher</i>		
<i>CARRICARE</i>	<i>Charger</i>	<i>Charger</i>	<i>Chargiar</i>
<i>FABRICARE</i>	<i>Forger</i>	<i>Faverger</i>	<i>Favergiar</i>
<i>BERBICARIU</i>	<i>Berger</i>		
<i>VINDICARE</i>	<i>Venger</i>		
<i>BULLICARE</i>	<i>Bouger</i>		
<i>FILICARIA</i>	<i>Fougère</i>		
<i>DELICATU</i>	<u><i>Delgié</i></u>		
<i>*NIVICARE</i>	<i>Neiger</i>		
<i>*FETICARE</i>	<i>Figer</i>		
<i>ASSEDICARE</i>	<i>Assiéger</i>		
<i>PEDICA</i>	<i>Piège</i>		
<i>*MENTIONICA</i>	<i>Mensonge</i>		
<i>JUDICARE</i>	<i>Juger</i>		
<i>RODICARE</i>	<u><i>Rugier</i></u>		
	<i>k+a>tš</i>		
<i>COACTICARE</i>	<i>Cacher</i>		
<i>CERCARE</i>	<i>Chercher</i>	<i>Tschercher</i>	<i>Tscherchar</i>
<i>PREDICARE</i>	<i>Prêcher</i>	<i>Predger</i>	<i>Predgiar</i>
<i>MASTICARE</i>	<i>Mâcher</i>	<i>Mas-cher</i>	<i>Mas-char</i>
<i>SICCARE</i>	<i>Sécher</i>	<i>S-cher</i>	<i>Sechar</i>
<i>CABALLICARE</i>	<i>Chevaucher</i>	<i>Chavalger</i>	<i>Chavalgiar</i>
<i>FASTICARE</i>	<i>Fâcher</i>		
<i>EXRADICARE</i>	<i>Arracher</i>		
<i>COLLOCARE</i>	<i>Coucher</i>		

⁴ In Puter and Vallader *ch* and *tg* are pronounced similarly as voiceless affricates; *g* before *i*, *e*=[d'ž']. Words in the table 2 are divided in 2 groups according to reflexes of *k+a* in French. Old French forms that are not present in Modern French are underlined. Full list of equivalents is given for French only as in other languages some words descending from corresponding Latin roots are missing and their meaning is expressed by words of a different origin (either developed from a different Latin root or – if there is a phonetic similarity with corresponding words in French like in the case of Puter *manger*/Vallader *mangiar*, French *manger* or in Italian, like in case of Puter *güdicher*/Vallader *güdichar*, Italian *giudicare* – borrowed from French or Italian respectively; they were therefore excluded from this comparative table).

<i>EXCORTICARE</i>	<i>Ecorcher</i>	<i>Scorcher</i>	<i>Scorchar</i>
<i>MANICA</i>	<i>Manche</i>	<i>Mangia</i>	<i>Mongia</i>
<i>PERTICA</i>	<i>Perche</i>	<i>Percha</i>	
<i>PERCA</i>	<i>Perche</i>	<i>Percha</i>	<i>Percha</i>
<i>DOMENICA</i>	<i>Dimanche</i>	<i>Dumengia</i>	<i>Dumengia</i>

Table 2 helps us to see that the distribution of voiced and voiceless affricates in Puter and Vallader (Engadin languages) is perfectly regular – indeed, we can formulate the following sound law for this area: if the Latin group *k+a* is preceded by an unstressed vowel which in its turn is preceded by a voiced consonant or a group of voiced consonants, then *k+a* yields a voiced reflex, and in all other cases – an voiceless reflex (both reflexes being affricates due to a later palatalization). In other words, the Latin group *k+a* gets voiced in Puter and Vallader (or better in Proto-Engadine) if it is preceded by an unstressed vowel (that syncopates after lenition of intervocalic *k+a*) which in its turn is preceded by a voiced consonant or a group of voiced consonants. In all other cases this *k+a* yields voiceless reflexes.

If *k* is geminated, it simply means that the group *k+a* is not in an intervocalic position being a part of the geminate *kk* and thus is not eligible for becoming a voiced affricate according to the law formulated above. This *kk* lenites to *k* and then yields a voiceless affricate.

At last, as the *k* can only become voiced in an intervocalic position, we may give one more formulation of this law for Proto-Engadine: a Latin unstressed vowel in Inlaut followed by the group *k+a* syncopates later (after voicing of *k*) if it is preceded by a voiced consonant or a group of voiced consonants. This formulation is probably the best from the phonological point of view as it is known that unstressed vowels (especially *i* and *u* – that are the most typical for this position in the Latin verbs in question) have a tendency to reduce (partially or completely) between voiceless consonants (Alexander Vovin, personal communication); unstressed vowels after voiced consonants are more stable. I will call this Proto-Engadine sound law “the law of elision”⁵.

It is clear from this law that *k+a* could not get voiced in initial position.

This law should be considered not as a simple sound law that applied to Puter and Vallader (or, better, to their common ancestor) only but as fundamental phonetic trend that existed

⁵ The relative chronology of the process according to the law of elision is as follows:

3. Unstressed vowel (before *k+a*) preceded by a voiceless consonant syncopated before lenition of intervocalic stops, thus *PERTICA* > *pertga*;
4. Unstressed vowel (before *k+a*) preceded by a voiced consonant syncopated after lenition of intervocalic stops, thus *MANICA* > *mangia*.

throughout all Gallo-Romance and Rhaeto-Romance (except Ladin) area – but with limitations specific to each language as I will try to show below.

2. Action of the law of elision in Gallo-Romance (except French) and Rhaeto-Romance languages (except Puter and Vallader)

Other languages of Swiss Rhaeto-Romance subgroup (Surselvan and Sutselvan – for the sake of space only data for Surselvan are given) show a great number of exceptions from this law, as shown in the table 3 below, which can be explained by interferences with other Romansh idioms and borrowings from French and Italian.

Table 3

Latin	Surselvan	Friulian	Ladin	Occitan	Francoprov.
<i>MANDUCARE</i>		<i>Mangja</i>		<i>Manjar</i>	<i>Meudjî</i>
<i>CARRICARE</i>	<i>Cargar</i>	<i>Cjaria</i>	<i>Ciarié</i>	<i>Cargar</i>	<i>Tchardjî</i>
<i>FABRICARE</i>	<i>Fravegiar</i>			<i>Fargar</i>	<i>Farodjî</i>
<i>VINDICARE</i>				<i>Venjar</i>	
<i>BULLICARE</i>				<i>Bolegar</i>	
<i>JUDICARE</i>				<i>Jutjar</i>	
<i>ASSEDICARE</i>				<i>Assetjar</i>	
<i>CERCARE</i>				<i>Cercar</i>	
<i>COACTICARE</i>					<i>Catchî</i>
<i>SICCARE</i>		<i>Secja</i>	<i>Secé</i>	<i>Secar</i>	<i>Sétchî</i>
<i>CABALLICARE</i>		<i>Cjavalgja</i>		<i>Cavalgar</i>	
<i>MASTICARE</i>	<i>Mustegiari</i>	<i>Mastia</i>	<i>Mastié</i>	<i>Mastegar</i>	<i>Arratchî</i>
<i>EXRADICARE</i>					<i>Prédjî</i>
<i>PRAEDICARE</i>				<i>Colcar</i>	<i>Coutchî</i>
<i>COLLOCARE</i>					
<i>MANICA</i>	<i>Mongia</i>				<i>Maindja</i>
<i>PERTICA</i>	<i>Pertga</i>			<i>Perga</i>	
<i>PERCA</i>	<i>Perca</i>			<i>Perca</i>	
<i>DOMENICA</i>	<i>Dumengia</i>			<i>Dimenge</i>	

Surselvan words *cargar* and *perca* are obvious borrowings (most probably – from North Italian dialects, but for *cargar* Occitan and Francoprovençal sources may also be considered) as they show no trace of palatalization of *k/g* typical for this area. Remaining words mostly comply to the law of elision except *mustegiari* that should have had an voiceless reflex

So the unstressed vowels before *k+a* syncopated in different periods depending on quality

instead. However, *mustegiar* can also be explained as a suffixal form (cf. Surselvan parallel forms *scurtegiar* and *scurtgar* < Latin *EXCORTICARE* – with and without suffix respectively), so the original form should have been **mustgar*, and in this case the law is perfectly respected.

Friulian mostly does not comply to the law as *k+a* gets regularly lenited in all intervocalic positions (Vicario 2005: 54-55). The only exceptions are *mangja* and *cjavalgja*, *cj* and *gj* being postpalatal – or prevelar – [k'] and [g'] respectively (Narumov, Suchačev 2001: 371; La grafie... 2002: 4). *Mangja* can be easily explained as a phonetic adaptation of Italian *mangiare*. However, the situation with *cjavalgja* is more difficult: this word goes back directly to Latin *CABALLICARE* (Franco Finco, private communication) so it should have been something like **cjavaleâ* instead. We can propose the following hypothesis of the etymology of this word: the voiced reflex of *-ka-* is due to the possibility that at the stage of transition from Vulgar Latin to Romance protolanguages the unstressed *i* (or maybe any unstressed vowel) before *-care* and after *l* (simple or geminated) was very unstable and could disappear early⁶ – after the voicing of *-ka* in Friulian, but before this voiced reflex underwent any further lenition to zero (via *j*). This fluctuation in development of an unstressed vowel after *l* may be due to weaker (“less voiced” so to say) nature of *l*, but this question requires an additional study. It is worth mentioning that this approach could also explain the difference between French *chevaucher* < *CABALLICARE*, *coucher* < *COLLOCARE* (where the unstressed vowel was lost even before lenition) and *bouger* < *BULLICARE*.

Ladin (where *c* before *e, i*=[tʃ]), as we clearly see it in the table 3, does not comply to the law at all and follows the pattern of North-Italian dialects (Coco 1970: 70-71) – simple intervocalic *k* regularly lenited (got voiced and then disappeared) in all positions, while initial and postconsonant *k* remained voiceless (with regular simplification of geminated *k*: *kk* > *k*) and got palatalized.

Unfortunately, the data available for Francoprovençal (examples in table 3 have been taken from Neuchâtelois dialect, Switzerland) are not sufficient to draw an unambiguous conclusion about the action of this law. Indeed, table 3 lacks examples of reflexes of *k+a* after voiceless consonants, the only exception being *catchî* – but the problem is that this is the only example which, in addition, well may be borrowed from French (which is indeed the case for *arratchî*

(voiced or voiceless) of consonants preceding these vowels.

⁶ But not in all cases – see for example *bujâ* (DESF: 280) < *buljâ* < *bulijâ* < Lat. *bullicare* (in DESF orthography), where *-ka-* lenited regularly (that is, *i* after *l* syncoped relatively later in this word – like in French, see above).

< French *arracher*, otherwise it would have been **arradjî*). *Coutchî* may also be a French loanword, but its phonetic form may also be due to an early (during the Vulgar Latin period) drop of unstressed *o* in *COLLOCARE* (this hypothesis is further supported by French *coucher* and Occitan *colcar* – both of which should normally have had a voiced reflex of Latin *k+a*). Therefore, there may be two hypotheses for Francoprovençal: 1) It respects the law of elision (supported, but not decisively, by *catchî*) 2) It follows the Occitan pattern⁷ (all intervocalic *k+a* got voiced regardless of their consonant neighborhood) – see below. Additional data may help to clarify the matter.

If we travel further to West, towards French and Occitan, we realize that this law becomes less regular and more limited by additional conditions (which leads us to a cautious conclusion that this sound shift first emerged and was the most regular in the Alpine area). As French is the starting point of our study and given that the distribution of [tʃ]/[dʒ] in French is the most intricate, we will dedicate a special part of this article to an analysis of this phenomenon in French. Here we will concentrate on Occitan.

In Occitan the phenomenon described by the law of elision is absent – *k+a* gets regularly voiced in an intervocalic position (Schultz-Gora 1906: 49). But it is interesting to study the palatalization of *k+a* in Occitan – despite the fact that it is not the main topic of the present article, it occurs in all Romance languages studied above and shows some interesting regularities in Occitan, and, as I will try to demonstrate, it is strongly connected with the law of elision. As the table 3 clearly indicates, Latin *k+a* produces [dʒ] if it is preceded by an unstressed vowel which is preceded in its turn by *d* – alone or preceded by a sonorant (Occitan rule). That means that *k+a* got voiced in an intervocalic position and then affricated due to a contact with a voiced stop (after the deletion of the unstressed vowel). In other words, affrication of voiced *k(g)+a* in Occitan (or better in Southern dialects of Occitan, as in Northern dialects palatalization of *k/g+a* took place in all positions like in French, see Lobodanov, Morozova, Čelyševa 2001: 302) occurred not regularly (as in all languages discussed above) but only if it interacted with the preceding *d* due to elision of an unstressed vowel between them and thus yielding voiced affricates only. Interestingly enough, in Gascon we have the same development for voiceless stops too – in this case they probably first got voiced due to the adjacent *g* (< Latin *k+a*) and then triggered affrication in full accordance

⁷ This pattern is typical not only for Occitan, but also for Spanish, Portuguese and many other Western Romance languages; I quote Occitan here because it belongs to Gallo-Romance group – just as Francoprovençal does.

with the above formulated Occitan rule: *pèrja* < *PERTICA* (Patric Guilhemjoan, private communication).

DOMENICA > *dimenge* is the only registered exception from this rule for Occitan. This exception may be due to the specific use of this word as a Christian designation of a day of week – this word could be in a very active use in comparison to other words from our study, which may have triggered this special development of *k+a*. However, this explanation is just a hypothesis and this subject requires an additional study.

We also have very interesting data from Gascon dialect of Occitan, where voiced *k(g)+a* regularly palatalizes after *n*: *MANICA* > *manja*, *MENTIONICA* > *mensonja* (Patric Guilhemjoan, private communication). We can cautiously suppose that this effect is connected with the dental character of *n* (by analogy with the dental stop *d*) and thus conclude that in Gascon the Latin group *k+a* produces [dž] if it is preceded by an unstressed vowel (that syncopates after lenition of intervocalic *k+a*) which is preceded in its turn by *d* or *t* (see above for *pèrja* < *PERTICA*) – alone or preceded by a sonorant, - or by *n* (a dental nasal), or, in a more general formulation, if it is preceded by a dental consonant (alone or preceded by a sonorant; Gascon rule). These rules have nothing to do with the law of elision formulated above, but they are very interesting from the point of view of the Occitan historical phonetics. It is possible then that Occitan *DOMENICA* > *dimenge* had its *g* palatalized exceptionally in this word due to its specific frequent use and presence of the dental sonorant. At last, we also can consider the possibility that *dimenge* is a loan word from Gascon (where it is also spelt and pronounced as *dimenge*).

It should be noted that this law of elision is not valid for other Western Romance languages, where, like in Occitan, the intervocalic *k+a* got regularly voiced (lenited) after all consonants (Grigor'jev 2004: 93; Poulter 1990: 70; Vol'f 1988: 27).

4. Effects of the law of elision in French

As table 2 shows, Vulgar Latin *k+a* yields the voiced affricate [dž] in Old French in the following case: if it was preceded by a combination of a sonorant and a voiced stop, or by *r* or *l* (simple or geminated), followed by an unstressed vowel that later disappeared (Rule OF1, OF standing here for Old French). Sonorant here stands for *m*, *n* and *r* with *l* never occurring in this position (but we may suppose that if *l* had been present in this position it would have followed this pattern). This rule works for Vulgar Latin words from *MANDUCARE* to

DELICATU in the table 2). This rule is universal and virtually has no exceptions but *pencher* < *PENDICARE*, but as the table 1 shows, this verb could also be spelt as *pengier* in Old French, so the rule is perfectly respected (presence of the voiceless reflex in Modern French will be explained below).

This rule also easily explains the cases that Bourciez (1958: 126) considers dubious: *BALEARICA* > *baillarge*, *SERICA* > *serge* as they are perfectly regular according to the Rule OF1. *GRANICA* > *grange* is most probably due to a borrowing from an Eastern Gallo-Romance dialect (as the normal French form is *granche* witnessed in some texts (Bourciez 1958: 126) – see below).

The case of Old French *pengier*/Modern French *pencher* is very interesting as it shows a specific example of two coexisting parallel forms [dž]/[tš] in the position where only the [dž]-form is allowed by the rule. There are two more examples of this coexistence not included in our tables (TLFi: *revancher*; *berge*): *venger/revancher* < *VINDICARE* and *berge/berche* < *BARICA* (*berche* does not exist in Modern French, furthermore, this etymology is contested, but in order to make this research as complete as possible I included it in this analysis). Taking into account the fact that a national language is normally a blend of different dialects, we may suppose that there were some French dialects in which *k+a* gave [tš] in most positions (probably a (North)-Western dialect, as it will be shown in p. 5), so the words with irregular reflexes may have been taken into the literary French from this dialect (or dialects).

The word *basoche* < *BASILICA* (Bourciez 1958: 126) seems not to follow the OF1 pattern, but actually we have the placename *La Bazeuge* (TLFi: *basoche*) that perfectly respects the rule (it is worth mentioning, however, that *La Bazeuge* is located in Haute-Vienne, that is, in North Occitan area). As indicated in the same TLFi entry, the form *basoche* is typical for Central and Western parts of the French language area (as shown in the point 5, in dialects from this area *k* yields voiceless reflexes), which may explain this irregularity.

However, the voiced affricate can also arise in other phonetic contexts, and these cases are more ambiguous. We can cautiously suppose that *k+a* > *dž* if the consonant preceding it was in its turn preceded (at the stage of passage from Vulgar Latin to Old French) by an *i*-diphthong (**MENTIONICA* > *mensonge*, probably *NIVICARE* > *neiger* by analogy with *neif*). This supposition will be referred to as Rule OF2.

In addition to this, sometimes $k+a > d\check{z}$ if it was preceded by t or d (Joret 1874: 297). Some cases can be explained by the i -diphthong hypothesis (*PEDICA* > *piège*, **FETICARE*⁸ > *figer* (TLFi; *figer*), see above Rule OF2), but in other cases the situation is more ambiguous (*JUDICARE* > *juger*, *PRAEDICARE* > *prêcher*, **RODICARE* > *rugier*). We can suppose that t,d -cases are generally governed by OF1 (thus *PRAEDICARE* > *prêcher* is absolutely regular) and OF2 (*PEDICA* > *piège* as stated above). The remaining exceptions are not governed by a single rule (if there had been such rule it could have been named OF3), rather they are due to a specific development of a specific word. The easiest case to explain is *juger* < *JUDICARE*, as here we may have an assimilation to the initial [dž]. **RODICARE* > *rugier* is harder to explain; it might have to do with the long root vowel in **RODICARE* [ro:dicare]. An additional sample not included in our comparative table is *empêcher* < *IMPEDICARE* (which is regular according to OF1) with a parallel form *ampagier* witnessed in XIIIth century (see TLFi: *empêcher*) – but it might be that the latter spelling belongs to the Eastern part of the Gallo-Romance area, close to Francoprovençal, and thus could share with the Francoprovençal the possible feature of voicing of $k+a$ after all consonants as supposed in the point 3 of the present paper.

The seeming exception to the Rule OF1 is the evolution of verbs *CABALLICARE* > *chevaucher* and *COLLOCARE* > *coucher*. We may consider the following hypotheses:

1. These exceptions could be dealt with as words in which the voiceless vowel dropped during late Vulgar Latin period before lenition of intervocalic stops took place (reason of its deletion may well remain unknown), with the result that they develop following the *CERCARE* > *chercher* pattern.
2. It may also be that l , as a “weaker” (as supposed in section 3 of this paper) consonant in comparison with r , normally lead to a voiced reflex – normally, but not always. This difference may be linked to way this l was pronounced – probably as a velar or a palatal: palatal l is more sonorous than velar l , so in this case the palatal l (before a front vowel) should mostly lead to preservation of the unstressed vowel, the velar l (before a non-front vowel) – never. *BULLICARE* > *bouger* and *FILICARIA* > *fougère* seem to confirm this hypothesis. In *COLLOCARE* we may have a velar l (before a non-front vowel), this hypothesis may be further strengthened by the simplification ll

⁸ The development of *FETICARE* is very specific as here we have a voiceless consonant before $k+a$. It may be due to the possibility that the lenition of t took place before the lenition of k , and this secondary voiced d had the same effect as the original d , provided that it was preceded by an i -diphthong.

> *l* occurred in Late Latin. This explanation may also apply to *CABALLICARE* < *CABALLUS* – a relatively new word in Latin, and *l* in this word may have been pronounced as a velar – like in *CABALLUS*, preserving the velar character of *l* from the etymon. The hypothesis of the specific deletion of an unstressed vowel after *l* is supported by Friulian *cjavalgjà* (see p. 3 of the present article).

Rules OF1 and OF2 may be merged in one, if we remember that Old French rising diphthong *ie* was initially a falling one (Čelyševa 2001: 253), so in Latin words like *SEDICA*, *pedica* (in which the stressed *e* produced this diphthong) *d* was preceded by *i*-glide (maybe, there also was a kind of falling diphthong in **RODICARE* developed from the long *o*?). In this case we can reformulate the rules OF1 and OF2 as follows: the unstressed vowel before *k+a* disappeared later (after the voicing of *k+a* took place) if it was preceded by a combination of a sonorant (or a glide) and a voiced stop, or by *r* or *l* simple or geminated (law of elision for French). Voiced stop may be secondary, as in *figer* < **FETICARE* (where intervocalic *t* likely got voiced). *Neiger* < *NIVICARE* is to be explained by contamination with Old French *neif* where we have the diphthong *ei*. *MENTIONICA* > *mensonge* then will be explained as word taken from Eastern part of *langue d’oil* area (or even from Occitan) – or maybe we still have to pay attention to the presence of an *i*-diphthong in the root, this question requires additional study. Forms with irregular reflexes were borrowed in the literary French from regional dialects with a different phonetic history (that is, from dialects where elision of the unstressed vowel before *k+a* was governed by different rules, see chapter 5 of the present article).

It is interesting to try to find out why an unstressed vowel before *k+a* in Old French required for its preservation not simply a voiced consonant but a voiced consonant cluster. First of all, some of these clusters correspond to Latin *muta cum liquida* groups that could be syllable initial and thus were considered (at least in terms of syllabification) as single consonant (or, better a “superconsonant”). Of course, supposed Old French clusters with glides do not fall in this category (and their existence still remains to be proven – otherwise we will have to deal with 2 separate rules OF1 and OF2) – but as they seem to trigger the same phonological effects as *muta cum liquida* do, we will analyse them together.

So these clusters may be considered as single consonants (or better segments) with a feature “hypervoicing” (we have a very interesting analogy from Mixtec (Salmons, Iverson 1996: 165) where prenasalised consonants are seen as hypervoiced). Therefore, we can conclude that in Old French simple voicing was not enough for preservation of the following unstressed vowel – the feature “hypervoicing” was needed.

It is important to remember that there is a class of words in Latin where the development of the intervocalic *k+a* is not governed by the law of elision – di- and trisyllabic paroxytona. As the preceding vowel in this case never disappears – it is either stressed or in the first syllable which generally does not syncope in Old French – *k+a* is always in intervocalic position and undergoes therefore complete lenition (to zero sound if the preceding vowel is *o* or *u* or to *o* if the preceding vowel is *a*, *e* or *i*) – see Bourciez 1958: 127.

5. Geographical distribution of the action of the law of elision

As stated above, at first glance this law has its maximum in Engadiner (Puter and Vallader in Switzerland) and Selvan areas as shown in table 2 and 3. Its effect gets weaker in French (with unclear situation in Francoprovençal) and disappears in Occitan in the South. Ibero-Romance languages show no trace of effect of this law – at least no effect worth mentioning. Main effect of the law – as it is clear from its formulation – is preservation of voiceless historically intervocalic *k+a* (with following palatalization) after voiceless consonants and voicing of this intervocalic *k+a* after voiced consonants or sonorants. If there is no distribution of voiced and voiceless (or, as it occurs in Friulian, “less lenited” and “more lenited”) reflexes of this Latin intervocalic *k+a*, we register a breach of this law.

To the East we have Ladin and Friulan that show no effects of this law with an only peripheral exception of *cjavalgja* < *CABALLICARE* in Friulan (but this exception, as shown in sections 3 and 4, is very important for understanding of the influence of presence of *l* on the time of elision of the following unstressed vowel).

This geographical distribution is somewhat irregular, but the basic principle is clear: first, effects of the law are less regular the farther we get from the Engadiner area (with the possible exception of Francoprovençal in the West), second, languages outside Rhaeto-Romance and Gallo-Romance groups do not show any reflexes of this law (as indicated in section 3 of the present paper).

The first thesis is confirmed by the fact that Picard dialect of the Old French in many cases preserved the voiceless *k+a* in positions where we would have expected a voiced reflex according to the law of elision for French (section 4) – see Picard *plontcher* < *PLUMBICARE* (French *plonger*) or *quértcher* < *CARRICARE* (French *charger*) – Jean-Luc Vigneux, personal communication, or Wallon *plonkî* < *PLUMBICARE* (French *plonger*), or *fêchîre* < *FILICARIA* (French *fougère*) – Stéphane Quertimont, personal communication. These dialects

are the most remote from Engadiner area to the North-West. It might be then that the doublet form in Old French (*penchier~pengier*, *berge~berche*, *revengier~revenchier*) may be due to the borrowing of the forms with voiceless reflex from a dialect from this area (as the normal development in French is the presence of voiced reflex in this position).

It is very interesting to highlight that in the Reichenau glosses (belonging to one of the Northernmost parts of the Romance world and to the very periphery of both Gallo-Romance and Rhaeto-Romance areas) we have *carcatu*s for Latin *CARRICATUS* (RG). That means that in the language of this peripheral document (close to French – RG) the unstressed vowel before *k+a* syncopated even after a geminated *r*, situation that never took place in Old French (and is impossible according to the law of elision).

Gallo, the Westernmost Gallo-Romance language (spoken in Brittany) in several cases has no voicing of *k* after a voiced consonant: **RODICARE* > *róchae* (Cristoff Simon, personal communication) or *rouchae* (Michaël Genevée, personal communication), cf. Old French *rugier* or even *couch* < *CUCURBICA* (French *courge*, Michaël Genevée, personal communication) – however the latter may be due to a later devoicing.

The second thesis is supported by the data from the historical phonetics of Western Romance languages: Italian – lenition and preservation of intervocalic consonants do occur in Italian but are very irregular and have nothing to do with the law especially given the fact that syncope is very rare in Italian and the syncope is required by the law in question (Čelyševa, Čerdanceva 2001: 64), North-Italian dialects (Coco 1970: 70-71), Spanish (Grigor'jev 2004: 93; Poulter 1990: 70), Portuguese (Vol'f 1988: 27), Romanian (Lucht, Narumov 2001: 588).

We can therefore build up the following hierarchy of Western Romance languages where syncope occurs:

1. Languages where *k+a* gets lenited in all intervocalic positions: Northern Italian dialects, Friulan, Ladin, Occitan, Francoprovençal (has to be demonstrated), all Ibero-Romance languages (unstressed vowel before *k+a* syncopates in all positions after lenition of *k+a*).

2. Languages where *k+a* gets lenited in intervocalic positions after voiced consonants or voiced clusters (with different limitations):

- 2.1 Languages where *k+a* gets lenited after all voiced consonants: Swiss Rhaeto-Romance languages (unstressed vowel before *k+a* syncopates after lenition of *k+a* only if this unstressed vowel is preceded by a voiced consonant or a voiced consonant cluster).

2.2 Languages where $k+a$ gets lenited after voiced clusters (a sonorant or a glide and a voiced stop) and simple or geminated l (palatal?) and r : French.

2.3 Languages where $k+a$ may remain voiceless even after voiced clusters (a sonorant or a glide and a voiced stop) and simple or geminated l and r : Picard, Wallon, Gallo (has to be demonstrated), language of the Reichenau glosses. It may also include Normand dialects as they share common features with Picard (R'ef'erovskaia *et al.* 2001: 243).

If we manage to prove that words with voiced reflexes of $k+a$ in the group 2.3 are due to contamination with French, we could then introduce the group 3 (instead of 2.3) – Languages where lenition of $k+a$ never takes place (or, which is equivalent, languages where syncope is prior to any lenition of $k+a$). In this case we would have a very clear geographical distribution of Western Romance languages (partially based on Shirokova 2005: 211-212): Central (Italian and Sardinian), Southern Romance (group 1), Celto-Romance (all languages from the group 2.1 above), Peripheral (languages from the group 2.2), Frontier (languages from the group 2.3 if it can be justified).

It should be noted that this classification indicates that the trend for all intervocalic voiceless stops to get voiced (to lenite) is decreasing from South to North of Western Romance area: Ibero-Romance languages regularly voiced $k+a$, like Occitan did, while voicing in Rhaeto-Romance and Northern Gallo-Romance languages is limited by the law of elision (and voicing possibly did not take place at all in Northern-most languages – like in Picard).

6. Conclusions

We can formulate the following law of elision: in Swiss Rhaeto-Romance and Northern Gallo-Romance areas there was the trend for the intervocalic $k+a$ to get voiced if the unstressed vowel preceding it was in its turn preceded by a voiced consonant (or a group of voiced consonants). In other cases this intervocalic $k+a$ remained voiceless due to an early drop of the unstressed vowel preceding it. In other words: the unstressed vowel before $k+a$ syncopated after lenition of $k+a$ if it was preceded by a voiced consonant, and after lenition in all other cases. This trend is referred to as law of elision. Types of voiced consonants triggering voicing of $k+a$ are different for all languages from this area (and specific for each language). In most languages these voiced and invoiced reflexes of Latin $k+a$ later

palatalized. It can be added (until the situation with Francoprovençal is clarified) that this law applies to peripheral areas of these language groups.

This law explains the distribution of voiced and voiceless reflexes of Latin *k+a* on a basis of position factors. Exceptions are explained as borrowings from other dialects where the effects of this law were different.

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