



*Università degli Studi di Firenze*

DOTTORATO DI RICERCA IN  
LINGUISTICA

CICLO XXV

**Positional Effects in Sardinian Muta cum Liquida  
Lenition, Metathesis, and Liquid Deletion**

**Rosangela Lai**



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## Introduction

This dissertation focuses on the role played by positional factors in the evolution of muta cum liquida clusters from Old Sardinian to modern Sardinian. In Old Sardinian, liquids in muta cum liquida were affected by various structural changes, namely various kinds of metatheses and liquid deletion. Dialectological studies offer an intricate picture in which diachronic metatheses, occurring at different historical periods, overlap or superimpose with strong areal variation. Some metatheses can only be found in the south; others are peculiar of a central transitional area, while some are found in all of the Sardinian dialects.

Here I focus on a Campidanese dialect from the eastern area, Tertenia Sardinian, although other Sardinian dialects will also be discussed. In the dialect in question, liquids were removed systematically from word-internal muta cum liquida and moved either to coda position or to word-initial position. Only a few liquids are still in word-internal muta cum liquida. To understand why these liquids did not undergo either metathesis or liquid deletion, I adopt a multidisciplinary approach, paying attention to dialectological, philological, and theoretical perspectives.

In order to best address this issue, I checked both the areal distribution of the various metatheses and their presence in six ancient Sardinian collections dating from the 11<sup>th</sup>-14<sup>th</sup> centuries. The database was then analyzed within the CVCV model, a theoretical approach that explains structural changes as a result of the positional effects determined by two structural forces, Government and Licensing.

The present work is structured as follows. Chapter 1 offers a sketch of Sardinian and its dialects. Chapter 2 is an overview of the theoretical framework adopted here. Chapter 3 deals with the database and the reconstruction of some problematic items. The various metatheses and their areal distribution are addressed in

Chapter 4, while Chapters 5 and 6 account for the various phenomena in terms of Government and Licensing.

# Chapter 1

## The Sardinian Language

Sardinian is a minority language of the Romance group spoken on the island of Sardinia. Sardinian is the largest minority language spoken in the Italian administrative territory.<sup>1</sup> The Sardinian language has been given official recognition both by the Italian Republic (Historical Minorities Protection Act, N° 482/1999) and by the Autonomous Region of Sardinia (Sardinian Protection Act, N° 26/1997).<sup>2</sup>

### 1. Linguistic Classification

#### 1.1 Sardinian among the Romance Languages

Sardinian has been considered an independent language since the earliest linguistic studies (e.g., Ascoli 1882-85:103ff, Meyer-Lübke 1901:16, 22).<sup>3</sup> Romance languages are traditionally divided into Western Romance and Eastern Romance. For its peculiarities, Sardinian is not included in either branch, as one can see from one

---

<sup>1</sup> Rindler Schjerve (1993:273).

<sup>2</sup> The Autonomous Region of Sardinia, like the other autonomous regions of the Italian Republic, is granted by the Italian Constitution and its Regional Statute, which guarantees the right for each region to approve legislation on a number of issues of local interest. The various autonomy statutes have constitutional force: “[a]lla Sicilia, alla Sardegna, al Trentino-Alto Adige, al Friuli-Venezia Giulia e alla Valle d’Aosta sono attribuite forme e condizioni particolari di autonomia, secondo statuti speciali adottati con leggi costituzionali” (Italian Constitution, Act N° 116). The Sardinian Autonomous Statute was approved by constitutional law in the 1948, two years after the establishment of the Italian Republic. The Sardinian Autonomous Statute is available in the Sardinian government web portal at [http://www.regione.sardegna.it/documenti/1\\_39\\_20050318114805.pdf](http://www.regione.sardegna.it/documenti/1_39_20050318114805.pdf)

The Sardinian Language Protection Act can be found at:

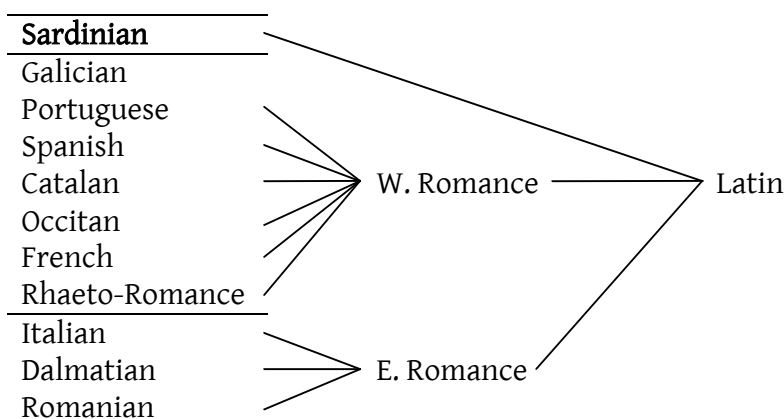
<http://www.regione.sardegna.it/j/v/86?v=9&c=72&s=1&file=1997026>

<sup>3</sup> See also Jones (1988:314): “the dialects of Sardinia [...] are sufficiently distinct from the other Romance languages to warrant the status of a separate language [...]”

recent historical linguistics textbook, Campbell and Poser (2008:84).<sup>4</sup> Their Romance Language Tree is reported in (1). Sardinian is in boldface.

**(1) The Romance Language Tree**

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from Campbell and Poser (2008:84)

1.2 Sardinian and its Dialects

Sardinian is traditionally divided into two main dialectal groups: Logudorese (also known as Logudorese-Nuorese) and Campidanese (Wagner 1941, 1950). Roughly speaking, Logudorese is spoken in northern and central Sardinia,<sup>5</sup> while Campidanese is spoken in the southern areas of the island. This bipartition is nowadays widely accepted (e.g., Blasco Ferrer 1984, Contini 1987, Jones 1997, Loporcaro 2009, among others), even though other scholars prefer a division into three main dialects: Logudorese, Nuorese, and Campidanese (Viridis 1978:9).<sup>6</sup> A further possibility is to classify

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<sup>4</sup> Note that the internal classification of Romance languages is a controversial issue in itself. Classifications may differ from the one reported in Campbell and Poser (2008), not only with respect to Sardinian but also to other languages, e.g., Catalan. See also Harris (1988), Viridis (2003b), Loporcaro (2005b:218ff), Adams (2007:3).

<sup>5</sup> I do not consider here the two Italo-Romance languages (i.e., Gallurese and Sassarese) spoken in the northern coast of Sardinia; see Section 5 for further details and references.

<sup>6</sup> “Noi ci atterremo alla partizione ormai classica che divide il sardo in tre principali dialetti: il Campidanese, il Nuorese, il Logudorese” (Viridis 1978:9).

Sardinian into four groups, i.e., Logudorese, Nuorese, Campidanese, and Arborese,<sup>7</sup> as suggested in Virdis (1988:906): “Pertanto le quattro principali aree dialettali del Sardo sono le seguenti: l’area campidanese [...], l’area arborese [...], l’area logudorese [...], l’area nuorese [...].”

Because of the strong dialectal variation displayed by Sardinian, no classification is uncontroversial (Virdis 1978:9).<sup>8</sup> The question of the classification of Sardinian dialects is aptly summed up by Jones (1988:316):

“The most radical differences are those which distinguish Campidanese from Logudorese and Nuorese; indeed, some linguists classify the Nuorese dialects as subvarieties of Logudorese. It must be emphasised that these dialectal divisions are approximate. The various isoglosses in terms of which the dialects are defined do not coincide exactly and there are others which cut across the major divisions. Moreover, there are many subdivisions within each of these areas.”

Nevertheless, the vast majority of scholars argue for a division into two macro-areas, because Logudorese-Nuorese and Campidanese are considered sufficiently distinct from each other and both of them have a certain degree of internal uniformity. Here I focus on the most basic aspects that distinguish Logudorese-Nuorese and Campidanese. The contents summarized below can be easily found in any historical account of Sardinian.<sup>9</sup>

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<sup>7</sup> Arborese Sardinian is the western transitional area between Campidanese and Logudorese; see, e.g., Maninchedda (1987), Virdis (1988:906).

<sup>8</sup> Map N° 95 in Contini (1987) includes the major isoglosses and may be of help to better address this issue.

<sup>9</sup> Further details can be found in Wagner (1941, 1950), Sanna (1957), Virdis (1978, 1988), Contini (1987), Blasco Ferrer (1984), Blasco Ferrer and Contini (1988), Mensching (1994), Grassi et al. (1997:94), Jones (1997:376), Maiden (1997:7), Savoia (1997:228), Loporcaro (2009:159), among many others. The major isoglosses are discussed in Contini (1987) and Virdis (1988:900ff) and shown in Contini (1987, Map N° 95), and Virdis (1988:908).

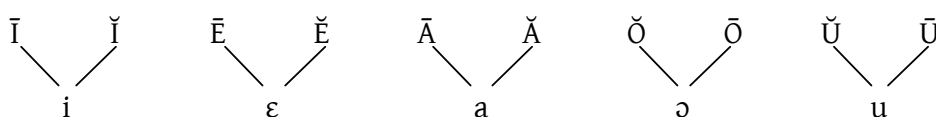


### 1.2.1 The Sardinian Vowel System

The Sardinian vowel system is one of the most peculiar among the Romance languages. Latin had a length-based vowel system.<sup>10</sup> Sardinian neutralized the length distinction while “the original qualities remain[ed] intact” (Maiden 1997:7).<sup>11</sup> See (2) for illustration.

#### (2) Sardinian Vowel System

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from Grassi et al. (1997:94)

However, Logudorese-Nuorese and Campidanese behaved differently with respect to final vowels. Campidanese, contrary to Logudorese-Nuorese, shows the word-final raising of *ε* and *ɔ* that became *i* and *u*, respectively.<sup>12</sup> Thus, for example, the Logudorese-Nuorese outcome of Latin CANEM is *cane*, while the Campidanese one is *cani*. To summarize, Campidanese only has the vowels [i], [u], and [a] in word-final position, whereas Logudorese displays [i], [u], [ε], [ɔ], and [a].

### 1.2.2 The Sardinian Consonant System

However, the most important differences between Logudorese-Nuorese and Campidanese concern the consonant system. Table (3), from Jones (1997:377), summarizes some important historical changes and the respective solutions adopted in the two macro-areas.<sup>13</sup>

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<sup>10</sup> Maiden (1997:7).

<sup>11</sup> Virdis (1978:24ff), Contini (1987:435ff), Jones (1997:376), Savoia (1997:228), Herman and Wright (2000:34), Adams (2007:11, 260-262, 629), Wright (2011:65).

<sup>12</sup> Virdis (1978:34), Contini (1987:435ff), Jones (1997:376), Savoia (1997:228), Bolognesi (1998) and Loporcaro (2005b:210-217, 2009:162).

<sup>13</sup> Another important difference is the palatalization in Campidanese of Latin C+i,e sequences (with various palatalized reflexes within the Campidanese dialects; see

### (3) Historical Changes in Sardinian Consonant System

|                                   | <i>Campidanese</i>         | <i>Logudorese-Nuorese</i> |
|-----------------------------------|----------------------------|---------------------------|
| [kw] [gw]<br>AQUA(M)<br>LINGUA(M) | kw gw<br>'akwa<br>'lingwa  | b(b)<br>'abba<br>'limba   |
| [lj]<br>FILIU(M)                  | ll<br>'fillu               | ɟʒ<br>'fiɟzu              |
| [ll]<br>NULLA(M)                  | ɟɟ <sup>14</sup><br>'nuɟɟa | ɟɟ<br>'nuɟɟa              |
| stop + [j]<br>*PETTIA(M)          | ts<br>'petsa               | θ or t<br>'pεθa or 'pεta  |

from Jones (1997:377)

As one can see in (3), Logudorese-Nuorese, with respect to the evolution of Latin /kw/ and /gw/, displays a peculiar reflex (i.e., /b(b)/) that differs both from Campidanese and more in general from the rest of Romance languages.<sup>15</sup> This solution, considered as typical of Logudorese-Nuorese, is also attested in the Campidanese Ogliastra dialects;<sup>16</sup> e.g., Tertenia Sardinian displays the same reflexes as Logudorese-Nuorese dialects (i.e., 'abba and 'limba). Campidanese and Logudorese-Nuorese adopted different solutions also with respect to Latin l+j<sup>17</sup> and stop+j sequences.<sup>18</sup>

Viridis (1978:46)). Logudorese and Nuorese still maintain the velar stop; for instance, the Sardinian outcomes of Latin CENA(M) are 'tʃena (Camp.) and 'kɛna (Log.-Nuor.).

<sup>14</sup> For the Sardinian voiced retroflex stop, see Contini (1987:159ff).

<sup>15</sup> A similar solution is found only in Rumanian: the Rumanian reflexes of Latin AQUA(M) and LINGUA(M) are *apă* and *limbă* (Tagliavini 1982:370). See also Contini (1987:68).

<sup>16</sup> On the evolution of Latin labialized velars in Sardinian, see Wagner (1941:227-230), Viridis (1978:71), Contini (1987:68-69, map n°33), Lupinu (2000:§17), among others.

<sup>17</sup> Notice that even in this respect a strong diatopic variation is found. Various other solutions are attested within the Campidanese and Logudorese dialects. For details, see Contini (1987, map n° 73).

<sup>18</sup> For stop+j sequences other solutions are attested as well. On the Sardinian treatment of Latin stop+j, see Wagner (1984:§223ff), Viridis (1978:64ff), Paulis (1984:LXXIVff), Blasco Ferrer (1984:§76-79), Contini (1987:230-241), among others. For a brief account of stop+j sequences, see also Chap. 5, Sect. 6.

Another important phenomenon that will be addressed in the following chapters is the intervocalic lenition that affected Sardinian dialects. In this respect, the division into the two macro-areas of Logudorese-Nuorese and Campidanese cannot be adopted: lenition is restricted to Logudorese and Campidanese.<sup>19</sup> The Central Sardinian dialects (e.g., Nuorese) were not affected at all. Table (4) illustrates this divergent behavior.

#### (4) Diachronic Lenition in Sardinian Dialects

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|          | <i>Logudorese and Campidanese</i> | <i>Central dialects</i> |
|----------|-----------------------------------|-------------------------|
| FOCU>    | 'foɣu                             | 'foku                   |
| LUTU>    | 'luðu                             | 'lutu                   |
| APE>     | 'aβe, 'aβi                        | 'ape                    |
| NIGELLU> | ni'edɖu                           | ni'ɣedɖu                |
| PEDE>    | 'pe, 'pei                         | 'pede                   |
| FABA>    | 'fae, 'fa                         | 'fava                   |

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from DES

In Logudorese and Campidanese the Latin voiceless stops have become voiced fricatives (maintaining their place of articulation), while Nuorese still displays the voiceless stops. Voiced stops were lost in Logudorese and Campidanese, whereas Nuorese usually has voiced fricatives.

Word-internal lenition is no longer productive. In the past it was an active process that systematically affected every intervocalic obstruent even in *muta cum liquida* clusters, e.g., PETRA> *pedra* (from C.Volg. I, II<sup>x</sup>, XV, XXI).<sup>20</sup>

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<sup>19</sup> For further details, see Wagner (1941:117ff, 1950:542).

<sup>20</sup> Probably it applied systematically, as currently happens for Tuscan Italian. In Tuscan Italian, lenition affects all obstruents in intervocalic position, both within words and at word boundaries. The 'gorgia toscana' (i.e., Tuscan Italian lenition) is widely discussed in the literature. For a complete account of Tuscan Italian lenition, including areal and sociolinguistic variation, see Giannelli and Savoia (1978, 1979-80). Other works include Castellani (1960), Contini G. (1960), Giannelli (1976), Cravens (1984), Bafile (1997), Marotta (2006, 2008), among many others. Some are dialectological works on the topic, others theoretical accounts (see References).

Synchronically, Logudorese and Campidanese display intervocalic lenition, but only at word-boundaries:<sup>21</sup> word-internally, lenition is a process that does not apply anymore. Also in this respect, Central Sardinian dialects (e.g., Bitti Sardinian) behave differently from Logudorese and Campidanese: lenition is not observed even at word-boundaries.<sup>22</sup>

Thus, whatever linguistic classification one chooses to adopt, it must be kept in mind that within the main Sardinian groups there is strong diatopic variation. Within each of the main dialectal groups, various subdivisions can be found.

### 1.2.3 Dialectal Subdivisions within Logudorese and Campidanese

The various sub-groups in the traditional bipartition (i.e., Logudorese and Campidanese) may be listed.<sup>23</sup> According to Virdis (1988:906), the subdivisions within Campidanese are as follows:

- a) central-western dialects
- b) dialects of Cagliari and neighboring towns
- c) Sulcis dialects
- d) central Campidanese dialects
- e) Southern Barbagia dialects
- f) Ogliastra dialects
- g) Sarrabus dialects

Logudorese can be divided into the following:

- a) Common Logudorese
- b) Northern Logudorese
- c) Central Logudorese (including Nuorese)<sup>24</sup>

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<sup>21</sup> See Wagner (1941:117ff).

<sup>22</sup> See Wagner (1941:119).

<sup>23</sup> For a more accurate account of the various sub-divisions, see Contini (1987:539ff).

<sup>24</sup> Wagner (1950:340ff).

A further subdivision within Logudorese includes the central Barbagia dialects (Wagner 1950:349).

#### 1.2.4 Sardinian Dialect Classification Adopted within this Work

For the purpose of this thesis, I make reference to the following dialects: Southern Sardinian (Campidanese dialects with the exception of the Ogliastra and Southern Barbagia area), Northern Sardinian (Logudorese dialects with the exception of the central area), and Central Sardinian (Central dialects including the Nuorese area).

These geographical designations are needed because most of the phenomena addressed in this work are widespread in areas that are not easily described by traditional classifications.<sup>25</sup> Thus, in order to identify areas that cut across traditional classifications, I will adopt a compound geographical label. As an example, in Chap. 4 the dialects affected by the SWM metathesis<sup>26</sup> are the Arborense and Campidanese dialects, with the exception of the Southern Barbagia and Ogliastra dialects. I label these dialects ‘South-Western Sardinian.’

To conclude, I would like to underline that this section is not and cannot be exhaustive. It is only meant to offer a general sketch of Sardinian. The phenomena addressed in this section are beyond the scope of this dissertation, with the exception of lenition. Further details on historical Sardinian may be found in Wagner (1941, 1950), Viridis (1978), Blasco Ferrer (1984), Contini (1987), among others.

## 2. Tertenia Sardinian: The Dialect under Investigation

Tertenia Sardinian, the Sardinian dialect in question, is the point of inquiry N° 211 in Contini 1987. Tertenia is included in the Ogliastra

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<sup>25</sup> See also Chap. 3, Sect. 1.

<sup>26</sup> The South-Western Metathesis (SWM) involved liquids in coda position which migrated to the word-initial position. On SWM see Chap. 4, Sect. 1.4.

Campidanese subgroup in the central-eastern area.<sup>27</sup> The Ogliastro subgroup is a very heterogeneous one (Contini 1987:561). The various sub-divisions within the Ogliastro dialects are listed below. The following sub-divisions are taken from Contini (1987:561ff):

- a) Central Ogliastro
- b) Northern Ogliastro
- c) South-Western Ogliastro
- d) Eastern Ogliastro

The most important criterion adopted by Contini (1987) to distinguish South-Western from Eastern Ogliastro dialects concerns the evolution of Latin L+j: in South-Western Ogliastro L+j became [ʎ], while Eastern Ogliastro has [ll].<sup>28</sup>

Contini (1987:562) attributes the [ll] outcome to Tertenia, and as a result he classifies Tertenia as one of the Eastern Ogliastro dialects. However, the Tertenia outcome of L+j is actually [ʎ], as in South-Western Ogliastro. A few examples are listed in (5).

#### **(5) Latin L+j in Tertenia Sardinian**

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PALEA > 'paʎa  
OLEUM > 'oʎu  
FILIIUM > 'fiʎu

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Thus, according to the same criterion adopted by Contini (1987), Tertenia actually belongs to the South-Western Ogliastro dialects.<sup>29</sup>

For my purposes, the most important thing to keep in mind is that in the past Tertenia went through intervocalic lenition.<sup>30</sup> As already

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<sup>27</sup> See Viridis (1978:13-14), Blasco Ferrer (1984:1999), and Contini (1987:561ff). On Tertenia Sardinian see Lai (2010, 2011).

<sup>28</sup> See Contini (1987:562). On L+j see also Viridis (2003a:31).

<sup>29</sup> Further evidence comes when comparing Tertenia with the dialect of Perdasdefogu (South-Western Ogliastro group), a village listed in the ALI Atlas (Atlante Linguistico Italiano).

mentioned with regard to Logudorese and Campidanese, word-internal lenition is no longer an active process. In (6) the Tertenian lenis forms are listed.

### (6) Diachronic Lenition in Tertenian Sardinian

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|          |         |
|----------|---------|
| FOCU>    | 'foɣu   |
| LUTU>    | 'luðu   |
| APE>     | 'aβi    |
|          |         |
| NIGELLU> | ni'edɖu |
| PEDE>    | 'pei    |
| FABA>    | 'faa    |

---

As in Logudorese and Campidanese, voiceless stops became voiced fricatives, while voiced stops deleted. Synchronically, lenition is observed only at word-boundaries.

Unless otherwise specified, in the remainder of the thesis Sardinian stands for Tertenian Sardinian.

### 3. History of Sardinian

In the Middle Ages, the island of Sardinia was divided into four independent kingdoms: Kálaris (south-eastern area), Torres (north-western area), Arborea (central-western area), and Gallura (north-eastern area).<sup>31</sup> The kings of these kingdoms were called *judike de logu* 'governor of the State' (Solmi 1917:68).<sup>32</sup>

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<sup>30</sup> Historical Tertenian (along with the Ogliastra dialects) displays many interesting phenomena, such as the treatment of the various Latin stop+j sequences, the evolution of Latin /kw/ and /gw/ (already mentioned in Section 1.2.2), the palatalized result of Latin C+i,e, etc. These phenomena are beyond the scope of this work. For details I refer the reader to the classical sources, e.g., Wagner (1941, 1950), Viridis (1978), and Contini (1987).

<sup>31</sup> In Italian they are known by the name of 'giudicati.' In the ancient texts the Kingdom of Kalaris is also known as Callaris, Calaris, Kalares, and Pluminus (in Italian it is called 'Giudicato di Cagliari'). Torres is also known as the Kingdom of

The Sardinian kingdoms were previously part of the Byzantine Empire, but in the 9<sup>th</sup> century they became autonomous.<sup>33</sup> Their existence is historically well-documented from the 11<sup>th</sup> to the beginning of the 14<sup>th</sup> century.<sup>34</sup>

Their independence was subsequently lost, and control of the kingdoms was disputed among the Republics of Pisa and Genoa until the Crown of Aragon conquered Sardinia in 1323.<sup>35</sup> Torres officially fell in 1259 after the death of its last governor Adelasia, but the state was already ruled by the Genoese family Doria in its final years.<sup>36</sup> Torres was immediately followed by Kalaris, which came to an end in 1258 when the Pisans burned Santa Igia (capital of Kalaris) to the ground.<sup>37</sup> The kingdom that lasted longest is Arborea, which survived until 1420.<sup>38</sup>

Sardinian was the official language of the Sardinian kingdoms. Later it was replaced in all administrative functions by Catalan, Spanish, and Italian.<sup>39</sup>

In 1323, Sardinia officially became part of the Crown of Aragon, even though the Catalan influence was strong well before this.<sup>40</sup> There is no doubt that since the 14<sup>th</sup> century the official language changed from Sardinian to Catalan.<sup>41</sup> In 1479, when the Crown of Aragon

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Logudoro, while Arborea is also known as the Kingdom of Arboree. On Sardinian medieval kingdoms, see Solmi (1917:35ff).

<sup>32</sup> Note that *judike* or *iudigi* literally means 'judge,' but they were in fact rulers. On Sardinian *judikes*, see Solmi (1917:36, 68) and Ortu (2005:77).

<sup>33</sup> The date is disputed; see Solmi (1917:49ff, 69) and Zedda and Pinna (2007).

<sup>34</sup> Ortu (2005:259).

<sup>35</sup> See Solmi (1917:237ff, 396ff). Zedda and Pinna (2009:12) point out that even though Catalans officially conquered Sardinia in 1323, the Catalan influence should be placed earlier. Note that in 1297 Pope Boniface VIII invested James II of Aragon with the title of king of Sardinia and Corsica (Solmi 1917:358-361, Ortu 2005:243).

<sup>36</sup> Ortu (2005:174-5).

<sup>37</sup> Ortu (2005:175, 178).

<sup>38</sup> Ortu (2005:259).

<sup>39</sup> Wagner (1950:184-232, 233-253), Blasco Ferrer (1988:884-897), and Jones (1988:314). On the linguistic situation of the Italian territories since the unification of Italy, see De Mauro (1963) and Loi Corvetto (1993:59ff). Further discussion on the Sardinian situation and the relationship between Sardinian and Italian can be found in Loi Corvetto (1988, 1992, 1993).

<sup>40</sup> See Solmi (1917:237ff, 358-361) and Zedda and Pinna (2009:12ff).

<sup>41</sup> Wagner (1950:184ff), Blasco Ferrer (1984:143ff, 1988:884ff).



unified with the Crown of Castile, Spanish became the official language, but Catalan was widely spoken and written for some time thereafter.<sup>42</sup>

Spanish was the official language in schools and tribunals until 1764.<sup>43</sup> After 1764, Spanish was replaced with Italian by order of the House of Savoy, which had ruled Sardinia since 1718.<sup>44</sup>

Thus, at least since the 13<sup>th</sup> century Sardinian has coexisted with a number of dominant languages. These languages have left a mark on the Sardinian lexicon.<sup>45</sup> The first nucleus of loanwords is from the Pisan period, followed by Catalan, Spanish, and Italian loanwords.<sup>46</sup> In Southern Sardinian many Catalan loanwords are found, while the Spanish and the Italian ones are widespread in all of the Sardinian dialects.<sup>47</sup>

#### 4. Ancient Sardinian Texts

During the Middle Ages, Sardinian was the official language of the kingdoms of Kalaris, Torres, Arborea, and Gallura.<sup>48</sup> This peculiar situation<sup>49</sup> has made Sardinian one of the Romance languages with the largest number of ancient texts, the most in the Italian administrative territory.<sup>50</sup> Ancient Sardinian texts are collections of private legal acts (i.e., property transfers, donation contracts,

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<sup>42</sup> Wagner (1950:184-186) and Blasco Ferrer (1984:162, 1988:888).

<sup>43</sup> Wagner (1950:187); see also Loi Corvetto (1993:41, 55ff).

<sup>44</sup> Wagner (1950:187).

<sup>45</sup> Wagner (1941:401ff, 1950:184-232, 233-253), Viridis (1978:77ff), Blasco Ferrer (1988:884-897), and Loi Corvetto (1988:854-867); see also Chap. 3.

<sup>46</sup> On Pisan loanwords, see Wagner (1950:233-243) and Loi Corvetto (1992:878-889, 1993:15ff). On Catalan and Spanish loanwords, see Wagner (1950:184-232), Loi Corvetto (1992:889ff, 1993:36ff), and Blasco Ferrer (1984:143ff, 162ff; 1988:886ff). On Italian, see Blasco Ferrer (1984:132ff) and Loi Corvetto (1992:898ff, 1993:59ff).

<sup>47</sup> Wagner (1941, 1950) and Loi Corvetto (1992:877). On this topic, see also Blasco Ferrer (1988:885).

<sup>48</sup> There was no standard Sardinian, but the various texts were written in various Sardinian dialects. There is also strong variation with regard to the orthography. See Viridis (2003a:26).

<sup>49</sup> In the other Romance territories during the same period the language of literacy was still Latin. See e.g., Delogu (1997:37, 38).

<sup>50</sup> Tagliavini (1982:884) and Delogu (1997:25).

litigation acts) and legal codes.<sup>51</sup> Every collection was written during various centuries and by different scribes.

The texts taken into account in this thesis are the following:

*Carte volgari dell'Archivio arcivescovile di Cagliari*  
*Condaghe di Santa Maria di Bonarcado*  
*Condaghe di San Nicola di Trullas*  
*Condaghe di San Pietro di Silki*  
*Statuti Sassaresi*  
*Carta de Logu*

These texts, dating from the 11<sup>th</sup>-14<sup>th</sup> centuries, were written in different Sardinian dialects.

The editions adopted are the following: *Carte Volgari dell'Archivio arcivescovile di Cagliari* (Solmi 1905a), *Condaghe di Santa Maria di Bonarcado* (Viridis 2002), *Condaghe di San Nicola di Trullas* (Merci 2001), *Condaghe di San Pietro di Silki* (Bonazzi 1900), *Gli Statuti della Repubblica Sassarese* (Guarnerio 1892-1894), and *Carta de Logu dell' Arborea* (Lupinu 2010).<sup>52</sup>

Sardinian ancient texts are invaluable linguistic sources on Old Sardinian, but some provisos are in order. As already mentioned, these texts are collections of legal acts or codes, and for most collections the time of writing spans one or more centuries. Each collection was written by various scribes, and in many cases the scribe was not a mother tongue speaker of Sardinian.<sup>53</sup>

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<sup>51</sup> See Blasco Ferrer (1984:65, 2003:18).

<sup>52</sup> For a comprehensive discussion on Sardinian ancient texts, see Blasco Ferrer (1984:62ff, 2003:195ff). Further discussion on this topic may be found in the introductions and glossaries of the aforementioned editions. See also Wagner (1941), Tagliavini (1982), Contini (1987), Paulis (1997), DES, among others.

<sup>53</sup> Marriages between Sardinian royal families and Catalan, Pisan, or Genoese families are attested from the beginning of the Sardinian kingdoms (see Solmi 1917:358, Loi Corvetto 1993:36, and Zedda and Pinna 2009:12). In the Sardinian courts, people of various proveniences are attested (Delogu 1997:26, 28). Even in the chancery of the different kingdoms one might find people from outside Sardinia (see Zedda and Pinna 2009:13). An analogous situation can be found in the monasteries, the places in which the *condaghes* were written. See Wagner (1950:187), Blasco Ferrer (1984:130), Loi Corvetto (1993:21ff), Delogu (1997:39). The

No quantitative analysis has been performed on the database. In this respect, one has to bear in mind that the number of data points for many items is low, and given the heterogeneous nature of the database, the interpretation of results would be far from trivial.

#### 4.1 Carte volgari dell'Archivio arcivescovile di Cagliari

'Carte volgari dell'Archivio arcivescovile di Cagliari' (henceforth C. Volg.) is a Southern Sardinian collection of twenty-one acts traditionally dated from 1070 to 1226.<sup>54</sup> These documents are official legal acts written by various *iudigis* 'judges' of Kalaris.<sup>55</sup> This collection was published in 1905 in *Archivio Storico Italiano* by Arrigo Solmi, historian and jurist of Medieval Sardinian law. Solmi (1905b:3-4) dates most of these acts as written before 1100. However, the dates of some of these acts are contested in Paulis (1997:133-143). He focuses on some linguistic aspects of the acts n° II, XI, and XX and notes the presence of Catalan loans in a period when a Catalan linguistic influence is not yet expected.<sup>56</sup> Thus, he argues that these acts are fakes written after 1323, the year of the Catalan conquest of Sardinia (Paulis 1997:135).

Zedda and Pinna (2009:12), specialists in medieval history, contest Paulis's (1997) argument by pointing out that the Catalan influence in Sardinia started prior to 1323. In particular, a Catalan loan in acts dated before 1323 is not in itself suspicious, because royal marriages among Sardinian and Catalan families are attested since 1157, and this plausibly could have had implications for the composition of some Sardinian chanceries (Zedda and Pinna 2009:12ff). Therefore, they argue that the scribes who had written these acts might also have been people whose first language was not Sardinian but

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same may have happened later at the time of Catalan influence (Zedda and Pinna 2009:12-3).

<sup>54</sup> Zedda and Pinna (2009:6).

<sup>55</sup> Recall that the *iudigi* or *judike* denotes a governor. It does not refer to the 'judge' of the modern usage.

<sup>56</sup> The numbers of the various acts of C. Volg. are those reported in Solmi (1905a).

Catalan, and thus the presence of Catalan loans is not anomalous.<sup>57</sup> Their conclusion is that the acts contested in Paulis (1997) cannot be considered fakes.<sup>58</sup>

However, Paulis's (1997) claim receives external support from two independent sources: Cau (1989) and Merci (1982). Cau (1989) is a paleographic analysis of the collection in question. In his (1989) paper, Cau advances some doubts with respect to the following acts: III, IV, V, VI, and VIII. By contrast, Merci (1982) has some reservations regarding the peculiar style of act n° XI. Thus, acts other than those in Paulis (1997) may be classified as problematic for paleographic and stylistic reasons.

A possible explanation to solve this intricate situation is found in Cau (1999). Cau (1999:§51) suggests that these acts are probably early transcriptions in Latin characters of original legal acts in Greek characters: “[...] nuovi originali dipendenti da antigrafici che sono fedelmente copiati e dei quali è stato riutilizzato il sigillo.”<sup>59</sup>

To better understand the hypothesis in Cau (1999), it is necessary to recall some historical notes. The Sardinian kingdoms were part of the Byzantine Empire and probably became autonomous in the IX century.<sup>60</sup> Thus, just a few centuries before the birth of these kingdoms the island was part of the Byzantine Empire, whose administrative language was Greek.<sup>61</sup> A few centuries later the language of administration became Sardinian but according to Cau (1999:§51) the use of Greek characters in legal documents was customary in the chancery of Kalaris.<sup>62</sup> Further evidence comes from a peculiar document known as *Charte sarde de Marseille* (Wescher and Blancard 1874), a legal Sardinian act written

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<sup>57</sup> “[...] deve essere ritenuta certa la complessità della composizione etnica dei componenti della Curia arcivescovile cagliaritano e del Capitolo canonico della Cattedrale di Santa Cecilia e della Collegiata di Santa Maria di Cluso, nonché della corte giudiciale cagliaritano, ossia degli ambienti in cui sono state sicuramente redatte le Carte Volgari Cagliaritano” (Zedda and Pinna 2009:13).

<sup>58</sup> Zedda and Pinna (2009:12ff).

<sup>59</sup> See Cau (1999:§50ff).

<sup>60</sup> See Solmi (1917:49ff, 69).

<sup>61</sup> See Solmi (1905b:24) and Delogu (1997:25).

<sup>62</sup> See also Zedda and Pinna (2009:10ff).

in Greek characters.<sup>63</sup> Cau's (1999) proposal is also shared by Zedda and Pinna (2009:10).<sup>64</sup> The proposal has the advantage of providing a way to see the doubts raised by other scholars in a different light.

Nevertheless, due to the fact that the question of the date cannot be settled uncontroversially, I always mark with the symbols  $\tilde{}$  and \* those items that occur in one of the controversial acts. The symbol  $\tilde{}$  before an item from C. Volg. means that the item in question occurs in an act considered anomalous by Paulis (1997), while the asterisk \* signals that the item is culled from a controversial act in Cau (1989).

I would like to emphasize that the brief discussion in this section merely seeks to sum up a long-standing quarrel which started even before the publication of these acts in 1905.<sup>65</sup> For further discussion, see the original sources mentioned in this section: namely, Paulis (1997:133-143) for a linguistic account; Solmi (1905a:273-280, 1905b:3-65) and Zedda and Pinna (2009) for historical aspects; and Cau (1989, 1999) for paleographic aspects.

Notice that with regard to lenition these acts display a more advanced condition than Northern texts. It is also interesting to note that all the metatheses that form the object of inquiry in this thesis (see Chap. 4, Sects. 1.1, 1.2 and 1.3) are already attested.

The LDM metathesis is widely attested, e.g.:

FABRICARE > *fraigei* at IX, *fraigarunt* at IV\*, and *fraigaat* at XIV

FABRU > *frau* at IX, X, XIV, and XVI

COMPLERE > *clonpit/clompit* at II $\tilde{}$ , 2; XI $\tilde{}$ , 2 (2 times); XVII, 7, 8; XXI, 5; XIX, 2 (3 times), and *clonpilli(s)/clompilli(s)* at X, 3; XIII, 9; XIV, 6; XVII, 3, 8 (2 times), 10, 11 (2 times), etc.

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<sup>63</sup> See Cau (1999:\$51ff). A new edition of this document is available in Blasco Ferrer (2003:51ff), in which it appears as *Carta di donazione in caratteri greci*.

<sup>64</sup> “[...] la contraddizione è brillantemente risolta [...] dallo stesso Cau che ipotizza una originale scrittura delle Carte prodotte dal giudicato cagliaritano dell’XI-XII secolo in caratteri propri dell’alfabeto greco ed una totale e completa loro riscrittura in caratteri latini all’inizio del Duecento” (Zedda and Pinna 2009:10).

<sup>65</sup> For an overview, see Zedda and Pinna (2009:6, note 2).

The LM metathesis occurs twice:

PRATU> \**padru*> *pardu* at XV, 2

PETRA> *perda* at XXI, 5

Liquid deletion occurs once:

FENUC(U)LU> *finugu* at XX<sup>\*</sup>, 1

For further discussion, see Wagner (1941), Contini (1987), Paulis (1997), and Blasco Ferrer (1984, 2003:43ff), among others. Further discussion on these acts will be offered in the following chapters.

#### 4.2 Condaghe di Santa Maria di Bonarcado

The latest editions of Condaghe of Saint Mary of Bonàrcado (i.e., 2002 and 2003) are edited by the linguist Maurizio Viridis. *Condaghe* (also *condage*) is from Byzantine Greek *kontàkion*.<sup>66</sup> A *condaghe* (plur. *condaghes*) is a collection of private legal acts (i.e., property transfers, donation contracts, litigation acts)<sup>67</sup> written in monasteries or churches.

The Condaghe of Saint Mary of Bonàrcado (henceforth CSMB) is a collection from the Camaldolese monastery of Bonarcado.<sup>68</sup> Thus, it is from the territory of the Kingdom of Arborea.<sup>69</sup> The acts of CSMB are from the 12<sup>th</sup> to the 13<sup>th</sup> century.<sup>70</sup>

The language of the manuscript is Arborese Sardinian,<sup>71</sup> a transitional dialect between Campidanese and Logudorese spoken in the central-western part of the island. Being from a transitional area, this *condaghe* displays a strong linguistic variation with regard to

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<sup>66</sup> Delogu (1997:9ff), Merci (2001:7, 10ff), Viridis (2003:9), and Blasco Ferrer (2003:116).

<sup>67</sup> See, e.g., Blasco Ferrer (2003:18).

<sup>68</sup> Viridis (2003:8-10). Note that this monastery was dependent on the Tuscan abbey of San Zeno in Pisa (Viridis 2003:10).

<sup>69</sup> See Viridis (2003:7ff) for details.

<sup>70</sup> Viridis (2003:11). See Viridis (2003:11ff) for details on the internal composition of this collection.

<sup>71</sup> Viridis (2003a:7, 26); see also Maninchedda (1987).

lenition, palatalization of Latin C+i,e, and the outcomes of Latin consonant+j.<sup>72</sup>

With regard to the phenomena analyzed in the present thesis, one can find the following:

Items with LDM occur frequently, e.g.:

FABRICARE> *fraigait* at 161, *fraigaresi* at 170, and *fraigare* at 170.

FABRU> *frau(s)* at 114, 167 (2 times) and 205.

COMPLERE> *clomp-* at 1, 11, 13, 15, 32 (2 times), 67, 105, 107, 161, 184, 194, 207, *clompl-* at 28, 107, 184, *clonp-* at 119.<sup>73</sup>

The LM metathesis occurs once:

COPULARE> *colbadas*<sup>74</sup>

Word-initial deletion of the obstruent occurs twice:

GLANDE> *lande* at 34

CRUCE> *ruge* at 219

Other outcomes of CRUCE display word-initial lenition, e.g., *gruge* at 1 and *grugi* at 207.

Further details can be found in the introduction, glossary, and notes in Virdis (2002). Other useful works are Tagliavini (1982:523) and Blasco Ferrer (2003:114ff). Keep in mind that various remarks on CSMB appear throughout Wagner (1941, 1960-64), Blasco Ferrer (1984), and Contini (1987). For the aforementioned items (i.e., the outcomes of COMPLERE, COPULARE, GLANDE and CRUCE) see also Chap. 3.

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<sup>72</sup> Virdis (2003a:26-34); see also Virdis (2002:141-322) and Blasco Ferrer (2003:114ff).

<sup>73</sup> Notice the presence of items with a 'double' liquid. For instance, COMPLERE> *clompl-* (plus the various verbal inflections) displays the liquid in two positions, at its original place (word-internally) and after metathesis (word-initially).

<sup>74</sup> Wagner (1941:§249) reports *cobladas*, but as explained by Maurizio Virdis (personal communication), this item does not appear in the CSMB manuscript; see also Chap. 3, Sect. 4.1.

### 4.3 Condaghe di San Nicola di Trullas

The edition of the Condaghe of Saint Nicholas adopted here (i.e., 2001) is edited by Paolo Merci. The *condaghes* are generally collections written by various scribes in the period of one or two centuries. In contrast, the Condaghe of Saint Nicholas of Trullas (henceforth CSNT) has the peculiarity of being written mostly by one and the same scribe.<sup>75</sup> CSNT is from the Camaldolese monastery of Saint Nicolas.<sup>76</sup>

The entire collection was written approximately between the 11<sup>th</sup> and the 13<sup>th</sup> centuries.<sup>77</sup> The dialect of this *condaghe* is Old Logudorese. As for the other Northern texts, lenition is very rarely attested with respect to southern and western texts. Metathesis, however, occurs in various items. By looking at these items, it seems that in the north metathesis (i.e., the LDM) started later with respect to lenition.

The items affected by LDM are listed below:

COPULARE> *clopatas*

FABRICA, FABRICARE> *frabica(s)* at 9, 79 (3 times), *fravicas* at 294, and *frabicare* at 145

INTEGRU> *integru-a* at 276, 278, 280, 281, 291

FABRU> *frabile* at 46, 102, 131, *fravile* at 130, 300

Note that at 291 there is *integra* together with *intrega* and *intregu*. Each occurs once.

Further details on CSNT can be found in Tagliavini (1982:522), Blasco Ferrer (1984:65, 2003:154ff), and Merci (2001).

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<sup>75</sup> Merci (2001:31-32).

<sup>76</sup> Blasco Ferrer (2003:155).

<sup>77</sup> Tagliavini (1982:522): “[...] San Nicola di Trullas comprende gli atti di quel monastero dal 1113 fino alla prima metà del sec. XIII.” See also Blasco Ferrer (1984:65, 2003:155).



#### 4.4 Condaghe di San Pietro di Silki

This collection was published in 1900 by Giuliano Bonazzi and reprinted in 1997 with revisions by Ignazio Delogu. The Condaghe of Saint Peter of Silki (henceforth CSP) was written in a Camaldolese monastery of nuns and is dated to the 11<sup>th</sup>–13<sup>th</sup> centuries.<sup>78</sup> The most ancient acts (i.e., 21 to 89) are from 1064 to 1085 and correspond to the Kingdoms of Barisone and Mariano.<sup>79</sup> Silki was a medieval village now absorbed in the territory of the city of Sassari (Northern Sardinia).<sup>80</sup> The collection is from the territory of the Kingdom of Torres, and the language is Old Logudorese.<sup>81</sup>

From the analysis of the acts it seems that the collection was written by at least thirty different scribes.<sup>82</sup> As reported in Delogu (1997:12), the acts in CSP are of different types: donations, litigations acts, transactions, etc.

In CSP, various phenomena are attested. As in the other northern texts, metathesis is attested before lenition started.<sup>83</sup>

With regard to metathesis one can find the following items:

COP(U)LARE, COP(Ū)LA> *clopa* at 214, *clopatos* at 190, 311, *clopatas* at 404

COMPLERE> *clomp-*, *clonp-* at 5, 10 (5 times), 11, 96 (3 times), 110 (2 times), 173, 186, 197, 203, 285 (2 times), 290, 307, 316, 385, 404, 413, 422 (3 times).

FABRICA> *frauica* 31, CSP

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<sup>78</sup> Blasco Ferrer (2003:151-152).

<sup>79</sup> Delogu (1997:11).

<sup>80</sup> Blasco Ferrer (2003:151).

<sup>81</sup> Blasco Ferrer (2003:152).

<sup>82</sup> Delogu (1997:11).

<sup>83</sup> Recall that I am talking about ancient texts and not phonetic transcriptions; thus, all possible disclaimers must be applied. If a word is written *pedra*, then it was probably pronounced lenited (i.e., 'pɛdra or 'pɛðra). Clearly if the same item is written *petra* one can hypothesis that lenition has not started yet, but this is not guaranteed. The presence of *petra* might also mean that the scribe hypercorrected a word that at that time was already widely pronounced 'pɛdra or 'pɛðra, on the example of Latin PETRA. This disclaimer must be kept in mind for all items taken from these ancient texts.

INTEGRU> *intregu* at 36, 47, 68, (3v.), 80, 83, 85, 93, 107, 120, 158, 203, 242 (2v.), 282, 284 (3v.), 299, 302, 307, 312, 314, 316, 340, 365, 372, 376, 378, 383, 386 (2v.), 387 (2v.), *intregos* at 30, 42 (2v.), 89, 316, *intrega* at 43, 44, 46 (3v.), 65, 73, 80, 85, 100, 109, 185, 205, 282, 302, 339, 344, 349 (2v.), 390, 394, 408, *intreu* at 14.  
FABRU> *frabu* at 42, 89, 227.

Lenited items are also found:<sup>84</sup>

FABULA> *fauula* at 112

MAGISTRU> *mastru* at 8, 10, 441 (3 times), *mastriu* at 31 (2 times), 202, 244

INTEGRU-A> *intreu* at 14

FABRU> *frauile* at 82, 89, 95, 98, 100, 102, 103 (2 times), 104 (2 times), 105, 107, 108, 111, 177, 223, 226, 341, 352, *fravile* at 2, *fraucatore* at 386.

Further evidence of the instability of voiced obstruents is that forms like CRUCE> *gruke* occur twice, and the same holds of *bruke*<sup>85</sup> or Latin PARABULA, which became *paragula* at 20. Note that this phenomenon is typical of Logudorese.<sup>86</sup>

#### 4.5 Gli Statuti della Repubblica Sassarese

The edition of Statuti Sassaresi adopted here was published in *Archivio Glottologico Italiano* in 1892 by Pier Enea Guarnerio. Statuti Sassaresi (henceforth St.Sass.) is the legal code of Sassari (northern Sardinia). This code was promulgated in 1316, a few years after the alliance with the Republic of Genoa.<sup>87</sup> The manuscript is divided into three books, but the acts are not in chronological order.<sup>88</sup> As argued

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<sup>84</sup> Recall that the ancient Sardinian texts are collections written by various scribes, with different orthographies, sometimes of different mother tongues (Sardinian, Tuscan, Catalan), and each collection was usually written within one or more centuries.

<sup>85</sup> *bruke* occurs twice at 404 together with *gruke* (4 times).

<sup>86</sup> See Wagner (1941:147).

<sup>87</sup> Guarnerio (1892:1).

<sup>88</sup> Guarnerio (1892:1ff).

for in Guarnerio (1892:1), the manuscript is not the original one written in 1316, although it might be dated to the 14<sup>th</sup> century.<sup>89</sup>

The language of the code is Logudorese,<sup>90</sup> but with some peculiarities with respect to the Logudorese of CSP and CSNT. Recall that in the northern area of Sardinia two Italo-Romance languages other than Italian are spoken: Sassarese and Gallurese. In the Middle Ages, the extreme north of the island also spoke Sardinian, but from the 16<sup>th</sup> century the linguistic situation changed.<sup>91</sup> After the dissolution of the Kingdom of Torres, the city of Sassari and neighboring areas were under the influence of Pisa and Genoa. In this code, even though the dialect is still Logudorese Sardinian, various elements of Tuscan and Genoese may be found.<sup>92</sup> Nowadays the language spoken (together with Italian) is Sassarese.

The orthography varies widely with the various scribes that wrote the acts.<sup>93</sup> Blasco Ferrer (2003:187) argues that within the manuscript Tuscan, Genoese, and even Sicilian elements can be found.

As reported in Blasco Ferrer (2003), there is strong linguistic variation in this code. For example, the outcomes of ORIC(U)LA are the following: *oricla*, *oriclas*, *horigia*, *orighia*, and *origia*. Only *oricla(s)* may be classified as Logudorese; the others denote a strong Italo-Romance influence.

With regard to the phenomena analyzed in this thesis, one can find various occurrences of LDM:

COMPLERE> *clomper*, *clonplimentu*, *clompitu*, *clonpitos*, *clompita(s)*

CASTRARE> *crastatos*, *crastatu*, *crastados*, *crastadu*

FABRICARE> *fraicare*, *fraican*, *fraicat*

FEBRUARIU> *freargiu*

Lenition, especially in the most recent acts, is widely attested:

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<sup>89</sup> Some acts were added more recently and are dated to the 15th century. They may be found in the 2<sup>nd</sup> book; see Guarnerio (1892:2) for details.

<sup>90</sup> Guarnerio (1892:2).

<sup>91</sup> Wagner (1950:345), Loi Corvetto (1993:5ff).

<sup>92</sup> Blasco Ferrer (2003:187).

<sup>93</sup> Blasco Ferrer (2003:186).

FEBRUARIU> *freargiu*  
FABRICARE> *fraicare, fraican, etc.*

Further details on St. Sass. can be found in Guarnerio (1892:1) and Blasco Ferrer (2003:182ff), among others.

#### 4.6 Carta de Logu

The Carta de Logu ‘Code of the State’ is probably the most well-known ancient document in Sardinian. It is the code of the Kingdom of Arborea promulgated in the 14<sup>th</sup> century<sup>94</sup> by the governor Eleonora. The Carta de Logu (henceforth CdL) is the most recent text of the Arborese area. The Carta de Logu is a well-studied text also for the history of law.

The edition adopted here is the one edited by Giovanni Lupinu in 2010. It is based on the so-called ‘BUC 211’ manuscript. More on BUC 211 may be found in Strinna (2010).

In CdL, lenition and metathesis of various types are attested. Some items display liquid deletion (see Chap. 4, Sect. 1.3):  
ORIC(U)LA> *origa, origha, horiga, origla*  
OC(U)LU> *hogu*  
MASC(U)LU> *mascho, maschus*

The LM metathesis appears in the following items:  
PRATU>\**patru*> *pardu, pardarjus, pardarjos, pardarju, pardargios*  
PETRU> *Perdu*

In the Incunable A of CdL, the form *lompét* from COMPLERE appears (Lupinu 2010:126), displaying word-initial deletion.

More on Carta de Logu can be found in the introduction and glossary in Lupinu (2010); see also Wagner (1941), Paulis (1997:47ff), and Blasco Ferrer (2003:138ff).

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<sup>94</sup> It was promulgated approximately between 1388 and 1392; see Blasco Ferrer (2003:142) and Lupinu (2010:XI).

## 5. Italo-Romance Languages on the Island of Sardinia

On the island of Sardinia, languages other than Sardinian and Italian are spoken. In the extreme north there are two languages of the Italo-Romance subgroup: Gallurese and Sassarese.<sup>95</sup> Gallurese is closely related to the Southern Corsican dialects,<sup>96</sup> while Sassarese, despite being related to Gallurese, displays more of a Sardinian influence. In the town of Alghero (north-west coast of Sardinia), the Catalan dialect Alguerese (or *algherese* in Italian) is traditionally spoken. In the small towns of Carloforte and Calasetta (south-western coast of Sardinia), the Ligurian dialect Tabarchin (or *tabarchino* in Italian) is spoken.<sup>97</sup>

## 6. Language Policy and Sociolinguistic Situation

According to the Historical Minorities Protection Act, No. 482 from 15 December 1999 (henceforth HMPA),<sup>98</sup> the Italian Republic recognizes the following languages as minority languages: Albanian, Catalan, German, Greek, Slovene, Croatian, French, Franco-Provençal, Friulian, Ladin, Occitan, and Sardinian.<sup>99</sup>

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<sup>95</sup> On Sassarese and Gallurese, see Bottiglioni (1919), Wagner (1950:340ff), Contini (1987), Loi Corvetto (1993:5ff) and Maxia (1999).

<sup>96</sup> On Corsican, see Dalbera-Stefanaggi (1991) and Nesi (1988, 1993).

<sup>97</sup> Gallurese, Sassarese, and Tabarchin are recognized by the Autonomous Region of Sardinian (PASLC art. 2), but not by Italian law. By contrast, Alguerese Catalan is protected by both, like Sardinian. See HMPA and PASLC.

<sup>98</sup> The Historical Minorities Protection Act is available at: <http://www.camera.it/parlam/leggi/99482l.htm>. A critical discussion of HMPA can be found in Savoia (2001).

<sup>99</sup> Obviously, this act refers to the dialects of the aforementioned languages spoken in the Italian administrative territory. Thus, for instance, it does not refer to standard German but to the Germanic dialects spoken in Italy, that is, in South Tyrol and in the region of Bolzano. The same holds for Greek (i.e., Griko dialects), Albanian (i.e., Arbëreshë), Catalan (i.e., Alguerese Catalan), etc. In addition, this act protects indigenous languages such as Ladin, Friulian, Sardinian, etc. See Savoia (2001:15ff).

## **(7) Historical Minorities Protection Act, No. 482**

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In attuazione dell'articolo 6 della Costituzione e in armonia con i principi generali stabiliti dagli organismi europei e internazionali, la Repubblica tutela la lingua e la cultura delle popolazioni albanesi, catalane, germaniche, greche, slovene e croate e di quelle parlanti il francese, il franco-provenzale, il friulano, il ladino, l'occitano e il sardo.

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from <http://www.camera.it/parlam/leggi/99482l.htm>

As stated in (7), the HMPA is an act that is meant to protect the aforementioned languages and their respective cultures.

From a linguistic point of view, the HMPA aims at protecting the minority languages in (7) and favors their use in the respective territories as languages of literacy in schools and universities, together with Italian (art. 4 and art. 6). It also promotes linguistic research of these languages (art. 5) and favors their use in the administrative offices both in a spoken and in a written form (art. 9). Publishing and broadcasting in the local minority language is encouraged (art. 12 and art. 14). The articles 15 and 20 concern the financial dispositions to guarantee the applications of HMPA.

The Protection Act of Sardinian Language and Culture (henceforth PASLC) is dated 1997 (two years before HMPA). PASLC contains some provisions about the safeguard of the Sardinian language. Most of the articles are about generic propositions for the safeguard of Sardinian culture and language, which legislators take to be inseparable. Only one article is exclusively about language, namely article 23, which argues for the recognition of Sardinian as an administrative language together with Italian.

Since 2006 Sardinian has a standard form, called 'Limba Sarda Comuna',<sup>100</sup> adopted by the Autonomous Region of Sardinia in its official documents.<sup>101</sup>

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<sup>100</sup> The norms of the Limba Sarda Comuna are available in the web portal of the Autonomous Region of Sardinia at:  
[http://www.regione.sardegna.it/documenti/1\\_72\\_20060418160308.pdf](http://www.regione.sardegna.it/documenti/1_72_20060418160308.pdf).

<sup>101</sup> The act of the Autonomous Region of Sardinian is available at:  
[http://www.regione.sardegna.it/documenti/1\\_74\\_20060503165850.pdf](http://www.regione.sardegna.it/documenti/1_74_20060503165850.pdf) (in

Nonetheless, in spite of its constitutionally recognized status, Sardinian is declining. UNESCO classifies Sardinian as an endangered language: “Campidanese Sardinian and Logudorese Sardinian are [...] losing speakers on a scale that makes it necessary to define them as endangered” (Moseley 2007, 2010).<sup>102</sup>

Sardinian stands in a diglossic relationship with Italian. Most Sardinians are bilinguals in Italian and Sardinian, even though proficiency in such languages varies depending on sex, age, and social class.<sup>103</sup> Bilingual people regard Sardinian as the low-prestige language while Italian is the high-prestige one.<sup>104</sup> As a consequence, Sardinian is used within the home or, more generally, in informal settings, while Italian is used in all formal settings, e.g., at school, university, and administrative offices.

Nowadays the competition among Sardinian and Italian has been definitely settled in favor of Italian. The parental transmission of Sardinian has been interrupted in most families,<sup>105</sup> and those children that learn Sardinian in preschool age “[...] stop using it at school age” (Moseley 2007:239, 257). This is evidence of the inadequacy of the Italian educational system in effectively handling the bilingualism question. Linguistic policies of the Autonomous Region, on the other hand, might be seen as lacking a realistic familiarity with the sociolinguistic situation of Sardinia.<sup>106</sup>

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Sardinian) or at:

[http://www.regione.sardegna.it/documenti/1\\_74\\_20060503165407.pdf](http://www.regione.sardegna.it/documenti/1_74_20060503165407.pdf) (in Italian).

<sup>102</sup> The online version of the UNESCO Atlas of the World’s Languages in Danger is available at: <http://www.unesco.org/culture/languages-atlas/en/atlasmap.html>

<sup>103</sup> Rindler Schjerve (1993:278-9, 1998).

<sup>104</sup> Rindler Schjerve (1993:278ff).

<sup>105</sup> Rindler Schjerve (1993:278, 280).

<sup>106</sup> The Autonomous Region commissioned the sociolinguistic survey in Oppo (2007). This work is rich in demographic and sociological detail, but its reliability as a source of the sociolinguistic reality of Sardinia is to some extent diminished by its methodology, which was based on self-assessed evaluations of competence and use by the speakers themselves.

## Chapter 2

### The CVCV Model

The present chapter illustrates the theoretical background under which the present research was carried out. The CVCV model, also known as Strict CV, is a development of standard Government Phonology (henceforth SGP).<sup>1</sup> Its peculiarity with respect to SGP is that in this approach there are no branching constituents. Branching onsets and nuclei are replaced by strict sequences of onsets and nuclei. Relations between segments are expressed by two forces: Government and Licensing. The CVCV approach adopted here follows Lowenstamm's (1996) proposal as developed at great length in Scheer's (2004) book and further works.<sup>2</sup> This chapter is meant to offer a sketch of CVCV and address the aspects of this approach which will be of great importance for the analysis here.

#### 1. Introduction

In the CVCV approach, phonological representations are reduced to a sequence of onsets and nuclei. Even traditional branching onsets and nuclei are re-interpreted under the strict alternation of consonantal and vocalic positions. Since this model admits only strict sequences of this kind, it inevitably implements empty nuclei. Therefore stop-plus-liquid clusters, coda-onset clusters, and geminates are taken to enclose an empty nucleus.

Coda consonants are viewed as onsets of an empty vocalic position. Table (1) below illustrates the CVCV representations of stop-plus-liquid clusters (henceforth TRs), coda-onset clusters (henceforth RTs), and geminates (henceforth TTs). T is shorthand for obstruents, R for sonorants, Ø represents empty nuclei, and V stands for nuclei.

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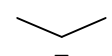
<sup>1</sup> Kaye et al. (1985, 1990).

<sup>2</sup> See also Nevins (2008).



### (1) Representation of Consonant Clusters in CVCV

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|                         |                     |  |
|-------------------------|---------------------|--|
| <i>stop-plus-liquid</i> | <i>coda-cluster</i> | <i>geminate</i>  |
| C V C V                 | C V C V             | C V C V  |
|                         |                     |  |
| T Ø R V                 | R Ø T V             | <br>T V |

adapted from Scheer (2004:§9)

As one can see from (1), there is no difference between codas and onsets. All consonants are onsets, some of a full nuclear position and others of an empty one (in the case of internal and final codas<sup>3</sup>).

To regulate the distribution of empty nuclei, CVCV, like SGP, adopts the Empty Category Principle. In SGP (Kaye et al. 1990), the Empty Category Principle is defined as follows:

### (2) Empty Category Principle - SGP

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A position may be uninterpreted phonetically if it is properly governed.

from Kaye et al. (1990:219)

A slightly revised version which also takes into account Infrasegmental Government<sup>4</sup> appears in Scheer (2004:§60). In this approach, the Empty Category Principle is defined as follows:

### (3) Empty Category Principle - CVCV

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A nucleus may remain phonetically unexpressed iff it is

- a. properly governed or
- b. enclosed within a domain of Infrasegmental Government or
- c. domain-final.

from Scheer (2004:§60)

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<sup>3</sup> Note that here and elsewhere the use of the term ‘coda’ is only notational. In CVCV the term ‘coda’ means “a consonant occurring before a governed empty nucleus” (Scheer 2004:§6).

<sup>4</sup> See Sect. 2.2, this Chapter.

Thus, in Scheer's (2004) version, empty vocalic positions may exist if one of the conditions in (3) is satisfied.

The Empty Category Principle states that a nucleus may be left empty if it is properly governed.<sup>5</sup> The governor must be a filled nucleus; thus, sequences of two empty vowel positions cannot exist for government reasons. The alternation must be between a filled and an empty vocalic position.

## **2. Lateral Relations**

### **2.1 Government and Licensing**

As mentioned in Section 1, Government accounts for the distribution of empty nuclei. Government and Licensing are the two lateral relations that in CVCV express the traditional syllabic arborescence of more traditional approaches (Scheer 2004:3ff). Thus, in the CVCV model all syllable-related processes can be expressed by the lateral relations of Government and Licensing (Scheer 2004:3ff).

Government and Licensing have antagonist effects. The former has a negative effect while the latter supports its target (Scheer 2004:134ff, 160ff).

#### **(4) Antipodal Effects of Government and Licensing**

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- a. Proper Government inhibits the segmental expression of its target.
- b. Licensing enhances the segmental expression of its target.

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from Scheer (2004:139)

Both relations apply right-to-left. In CVCV, the various segmental positions are expressed within these lateral relations. The strength or the weakness of a segmental position is expressed within these two relations (see Sect. 5).

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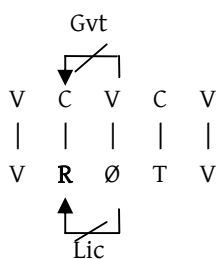
<sup>5</sup> Kaye et al. (1990:219ff) and Scheer (2004:§15ff).

In this and in the following sections (Sects. 3 and 4), I will anticipate some of the ideas of the Coda Mirror Theory (Ségéral and Scheer 2001).

As seen in Section 1, coda consonants are followed by an empty vocalic position that, as stated in (3), needs to be governed. Thus, the representation of coda consonants in terms of lateral relations is as follows:

**(5) Coda Consonants in CVCV**

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from Scheer (2004:133)

A coda consonant is the onset of an empty nucleus. This empty nucleus is unable to govern its own onset, which thus escapes Government. Coda consonants are in a weak position, neither governed nor licensed.

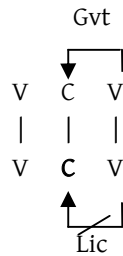
The other weak position is the intervocalic one. Intervocalic consonants are weak, but in a different way with respect to coda consonants.<sup>6</sup> Figure (6) represents the lateral relations for intervocalic consonants:

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<sup>6</sup> Ségéral and Scheer (1999) and Ziková and Scheer (2010); see also Chap. 5, Sect. 5.

### (6) Intervocalic Consonants in CVCV

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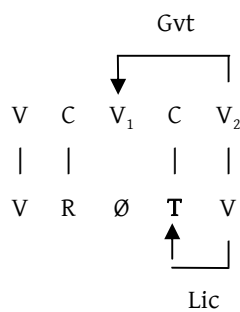
from Ziková and Scheer (2010)

Consonants in intervocalic position are preceded and followed by filled vocalic positions. This means that intervocalic consonants appear to be governed by the following vowel, since the vowel that precedes, being a filled nucleus, escapes Government. Thus, Government applies to the intervocalic consonant. Intervocalic consonants are governed but unlicensed.<sup>7</sup>

As depicted in Figure (7) below, consonants in strong position occur after an empty nucleus.

### (7) Consonants in Strong Position in CVCV

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from Scheer (2004:132)

In this configuration, T escapes Government since its own nucleus is called to govern the empty nucleus that precedes it. Thus, in (7), in

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<sup>7</sup> The representation in (6) follows the version 2 of the Coda Mirror (Ziková and Scheer 2010); see Sect. 5.1 (this Chap.) and Chap. 5, Sect. 5.

contrast to (6), the Government of V2 applies to V1 (i.e., the empty nucleus), and thus the post-coda consonant may escape the effects of Government.

## 2.2 Infrasegmental Government

In CVCV there is also another lateral relation besides Government and Licensing. The lateral relation in question is the so-called Infrasegmental Government.

Infrasegmental Government (henceforth IG) is a lateral relation within a consonantal cluster.<sup>8</sup> This relation does not have any segmental effect, negative or positive, on its target, unlike Government and Licensing (Scheer 2004:162). The difference between Government and IG may be found in Scheer (2004:64):

“Infrasegmental Government is the equivalent of Proper Government at the level of the internal structure of segments. At the syllabic level, Proper Government describes a lateral relation whereby a contentful position establishes Government over an empty position. Infrasegmental Government does the same thing below the skeleton (and it is therefore called “infrasegmental”). Also the effects of both operations are identical: an empty nucleus is circumscribed and must not appear on the surface.”

Thus, IG is a relation contracted among the two members of a cluster, while Government and Licensing are relations that hold at the syllabic level. IG is responsible for the cohesion among the liquid and the obstruent in a homosyllabic TR, i.e., a branching onset<sup>9</sup> (Brun-Trigaud and Scheer 2010:17).

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<sup>8</sup> See Scheer (1999, 2004:36ff) and Brun-Trigaud and Scheer (2010:17).

<sup>9</sup> Here and elsewhere the use of the term ‘branching onset’ is only notational. As already mentioned, in CVCV syllabic constituents do not branch. Note also that other analyses within the CVCV framework may consider TR sequences as contour segments (Lowenstamm 2003, Ségéral and Scheer 2005) or heterosyllabic clusters (Lowenstamm 2003, Ségéral and Scheer 2005). These options will be considered in Chap. 5.

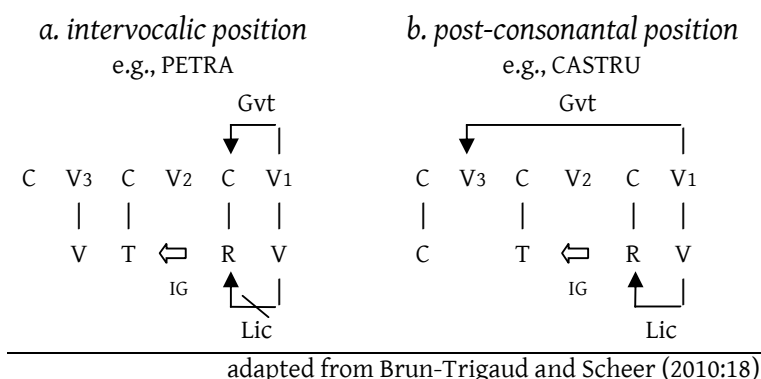
### 3. Branching Onsets and Locality in CVCV

As reported in Scheer (2004:42, 60), IG is based on Harris (1990) and Charette (1990, 1991). In the consonantal interaction that holds among the two members of a branching onset, Standard Government Phonology takes the obstruent as the head of the cluster. By contrast, CVCV maintains that sonorants are more complex than obstruents and the hierarchy is reversed: sonorants govern obstruents. Thus, the liquid is considered the head of a branching onset (Scheer 2004:37, 43, 58ff).<sup>10</sup>

As stated in (3), a vocalic position can remain empty if it is enclosed in a domain of Infrasegmental Government. This means that with regard to branching onsets, the empty nucleus enclosed within the obstruent and the liquid does not need to be governed because of the relation of IG that holds among them (Scheer 1999; 2004:64, 75).

Figure (8) reports the representation of branching onsets within the CVCV approach. IG is represented by the white arrow that connects the two members of the cluster.

#### (8) Branching Onsets in CVCV – Classic Representation



As argued in Brun-Trigaud and Scheer (2010:18), the representation in (8) has some weak points. First, the obstruents in (8)a and (8)b do not have an identity in terms of local relations. They are involved in

<sup>10</sup> For further discussion, see Harris (1990), Charette (1990, 1991), and Scheer (1999, 2004:37ff).

an IG relation, but as mentioned in Section 2.2, IG does not have any segmental effect. In (8) the liquid is the only target of Government and Licensing. It is governed and unlicensed in the case of an intervocalic TR, while in a post-consonantal TR it is ungoverned but licensed. By contrast, the obstruent has no status at all.

Another weak point concerns locality (Brun-Trigaud and Scheer 2010:18ff). The notion of locality is inspired by the approach to syntactic locality known as Relativized Minimality (Rizzi 1990). In this view, a syntactic relation between two elements A and B cannot be established if there is a third element C such that C is of the same type of B and C intervenes between A and B (i.e., C is closer to A than B is). The most crucial difference between Relativized Minimality and the locality notion adopted by CVCV Phonology is that in the former the notion of intervention is defined on tree structures (in terms of c-command), while in the latter intervention is defined in terms of lateral relations.

Thus, CVCV structures respond to locality principles, but in (8)b locality is violated:<sup>11</sup> the leftmost empty nucleus (i.e., V3 in Figure (8)b) is governed by V1. Thus, this Government relation does not satisfy locality by trespassing a category of the same kind as V3 (i.e., the empty nucleus in V2).<sup>12</sup>

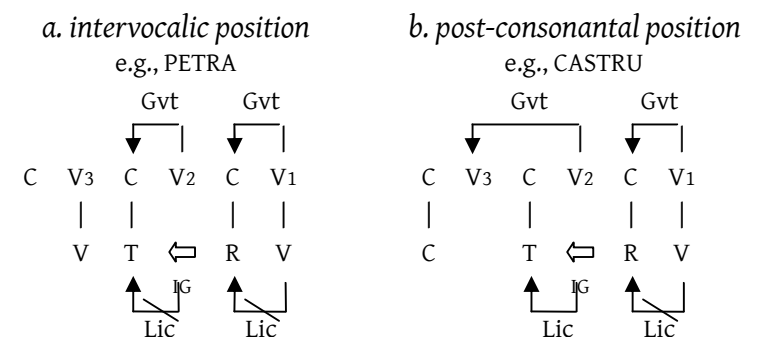
To avoid this undesirable situation, Brun-Trigaud and Scheer (2010) argue in a recent paper for the necessity of a revised representation for branching onsets. The revised version they propose appears in (9):

---

<sup>11</sup> For the application of the notion of Locality (in the sense of Rizzi 1990) to phonology, see Brun-Trigaud and Scheer (2010) and Scheer (2012a:173, note 41).

<sup>12</sup> A further problem is that the traditional representation in (8) does not fit the Coda Mirror statements; see Sect. 5, this Chap. and Chap. 5, Sect. 3.1.

### (9) Branching Onsets in CVCV – Revised Representation



adapted from Brun-Trigaud and Scheer (2010:19)

In (9) locality is now preserved: V3 is governed by V2. As already mentioned, however, an empty nucleus such as V2 in (9) cannot be a governor. Only full nuclei are in the condition to govern.<sup>13</sup> Nevertheless, according to Brun-Trigaud and Scheer (2010:19), “the ability of nuclei to govern and license is defined by their phonological, rather than by their phonetic properties: nuclei are lateral actors iff they are ungoverned, i.e. independently of whether they are pronounced or not.”

The other advantage is clearly depicted in Figure (9). The status of T has now been defined: it is governed but unlicensed in an intervocalic TR configuration, while in a post-consonantal position it is ungoverned but licensed. Notice also that in the revised representation, Ts in a branching onset configuration contract the same lateral relations of simplex Ts in an analogous environment (see Figures 6 and 7). Thus, in intervocalic position they are both governed but unlicensed, while in post-consonantal position both are ungoverned but licensed.

In (9) there is also a further change that involves liquids. In contrast to (8)b, in (9)b liquids are governed but unlicensed. Thus in the amended version liquids are always governed and unlicensed, both in intervocalic and post-consonantal branching onsets.

<sup>13</sup> See Kaye (1990), Scheer (2004), and Brun-Trigaud and Scheer (2010:19).



In my view, a further advantage of this version is that it is able to account for the identity of liquids in branching onsets. As will be seen in the following chapters, liquids in TR clusters in Sardinian went through various structural changes (i.e., metathesis and liquid deletion). These changes involved liquids in post-consonantal and intervocalic branching onsets with no difference in behavior. This is further evidence for the claim that the structural configuration of liquids in branching onsets is independent from the fact that the liquid sits in a post-consonantal or an intervocalic branching onset. In both configurations the liquid is in weak position: it is governed and unlicensed.

For the reasons advocated here, I consider the revised version in (9) as the representation of branching onsets in CVCV. Further discussions will be offered in Chaps. 5 and 6.

#### **4. The Identity of the Word-initial Position**

According to Lowenstamm's (1999) proposal, languages are considered to have an empty CV unit at the left edge of words. In Scheer's (2012a:185) terms it can be said that the phonological identity of the beginning of the word is an empty CV.<sup>14</sup> Lowenstamm's proposal was then developed at great length in Scheer (2000, 2004:96ff, 2012a:74ff).

The presence of the empty CV site is in parametric variation; thus, it is only considered to be available for some languages (Scheer 2000, 2012a:190ff). For example, English and Romance languages have a word-initial CV site, whereas Semitic languages and Greek do not display this empty unit.<sup>15</sup> Evidence for this empty CV structure comes from the fact that the left edge of words is the site of various phenomena observed across languages; for examples, see the list in (10) from Scheer (2012a):

---

<sup>14</sup> The initial CV site realizes morpho-syntactic information; see Scheer (2012a).

<sup>15</sup> Scheer (2000, 2004:97ff, 2012a:188ff), Seigneur-Froli (2003, 2006).

## (10) Stable Effects of the Beginning of the Word across Languages

---

a. **Restrictions on Initial Clusters**

In some languages initial clusters are restricted to #TR. In others, they have the same distribution as internal clusters. But there is no language where they are restricted to #RT.

b. **Strength of Initial Consonants**

In some languages word-initial consonants are especially strong. In others, they do not have any peculiar behaviour regarding strength. But there is no language where they are especially weak.

c. **Deletion of the First Vowel of the Word**

In some languages the first vowel of words is unable to alternate with zero. In others, it does not show any peculiar behaviour with respect to other vowels. But there is no language where non-initial vowels are unable to alternate with zero, while initial vowels do.

---

from Scheer (2012a:187)

As can be seen from (10), languages split into two groups with regard to the phenomena under investigation. First, in word-initial position most languages only have TR clusters, while others admit both TR and RT clusters. Second, only in some languages do word-initial consonants appear strong. Third, there are languages in which the first vowel of the word may alternate with zero like any other vowel of the word, while in other languages the deletion of the first vowel is never observed.<sup>16</sup>

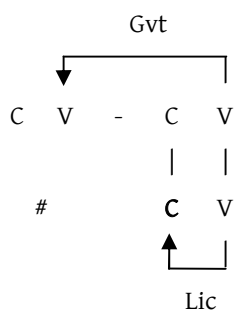
The hypothesis of an empty CV unit may easily explain all of the above phenomena (Scheer 2004:97ff). Figures (11) and (12) represent the word-initial position in languages with and without the CV unit. Figure (11) represents a word-initial consonant in a language with an empty CV site, while Figure (12) represents a word-initial consonant in a language that does not display the initial empty site.

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<sup>16</sup> Further discussion on these topics may be found in Lowenstamm (1999), Scheer (2004:97ff), and Ségéral and Scheer (2008b).

### (11) Initial Consonant with the Empty CV

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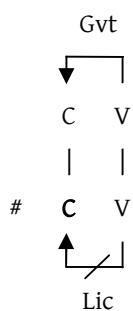



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from Ségéral and Scheer (1999:23)

### (12) Initial Consonant without the Empty CV

---



In languages that possess the empty CV site, as in Figure (11), word-initial consonants are strong because they escape Government: the empty nucleus of the initial CV dispenses the word-initial consonant from being governed by its own nucleus. By contrast, in languages that lack the initial CV, the word-initial consonants have the same configuration encountered in intervocalic consonants (see Figure (12)). In sum, in Figure (11) the initial consonant is strong: it is licensed but ungoverned. In comparison, in Figure (12) the initial consonant is weak: it is governed but unlicensed.

Thus, as already mentioned, languages pattern differently with regard to the phenomena in (10), summarized again in (13). This

contrasting behavior is analyzed as being related to the different status of the word-initial position.

### **(13) Presence vs. Absence of the Initial CV Site**

---

Languages that admit word-initial RT clusters and those that display weakening in word-initial position are languages without the empty CV site.

By contrast, languages in which word-initial consonants are not subjected to weakening and those that do not admit word-initial RT clusters or word-initial vocalic deletion are languages with the empty CV unit.

---

In what way might the above phenomena be related to the initial CV?

The empty nucleus of this initial CV string must be licensed by government, as for every empty nucleus (see ECP). For this reason, languages that admit word-initial RT clusters cannot also have a word-initial CV unit. Having a CV unit plus an RT cluster means two adjacent empty nuclei, of which only the one enclosed within R and T can be governed by the first vowel of the word.

Analogously, word-initial vowel deletion in languages with an empty CV site is not possible for government reasons: the deletion of the word-initial vowel means the deletion of the governor of the empty CV nucleus. This is the reason why in some languages the word-initial vowel cannot be deleted, while in others the word-initial vowel can delete as other vowels do (Scheer 2012a:187).

Weakening in languages with an initial CV site is not observed, since the initial empty nucleus preserves the word-initial consonant from the negative effects of Government. By contrast, initial weakening is a possibility in those languages without an initial CV, because, as shown in (12), an initial consonant that is not preserved by the empty CV displays the same lateral relations as intervocalic

consonants: it is governed but unlicensed, and in a weak position changes are possible (see next section). For the time being it must be kept in mind that in a language with the empty CV, weakening phenomena of any sort are predicted not to occur in word-initial consonants.

Further discussions on these topics may be found in Lowenstamm (1999), Ségéral and Scheer (2001), Scheer (2004), Ségéral and Scheer (2008b), and Scheer (2012a). Here I have focused on the more relevant aspects of the theory which will have a direct application in Chaps. 5 and 6. For further discussion, I refer the reader to the original sources.

The notion of initial CV and its implications have been the building blocks of a theory couched in the CVCV model which explains lenition and fortition in terms of lateral relations: the Coda Mirror Theory.

## **5. The Coda Mirror**

Some of the considerations I have anticipated in the previous sections also hold for the Coda Mirror Theory, in which strengthening and weakening are interpreted in light of positional effects: lateral relations (i.e., Government and Licensing) explain the processes that affect segments.

The Coda Mirror Theory was first introduced in Ségéral and Scheer (1999, 2001) and further developed in Scheer (2004:117ff), Ségéral and Scheer (2008a, 2008b), and Ziková and Scheer (2010). The basic claim of this theory is that weakening and strengthening are the visible effects of lateral relations, namely Government and Licensing.

As noted by Ségéral and Scheer (1999, 2001), consonants occur in five different positions:<sup>17</sup>

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<sup>17</sup> Branching onsets are not examined here. They are discussed in Section 3, this Chapter and in Chaps. 5 and 6.

- in word-initial position                   #\_
- after a coda consonant                C.\_
- in intervocalic position               V\_V
- before a heterosyllabic consonant   \_.C
- word-finally                            \_#

With regard to the effects induced by these positions across languages, the above positions are classified as follows:<sup>18</sup>

**(14) The Five Positions and Their Grouping**

---

| <i>position</i> | <i>usual name</i> |   |                 |   |
|-----------------|-------------------|---|-----------------|---|
| a. #_V          | word-initial      | } | STRONG POSITION |   |
| b. VC._V        | post-coda         |   |                 |   |
| c. V_.CV        | internal coda     | } | coda            | } |
| d. V_#          | final coda        |   |                 |   |
| e. V_V          | intervocalic      |   |                 |   |

---

from Scheer (2004:119)

The word-initial position and the post-coda position are the sites that inhibit weakening, while in the other environments weakening is typically observed.

In Ségéral and Scheer (1999, 2001), diachronic evidence comes from the evolution of French, Portuguese, Galician, and German, whereas on the synchronic side, examples are from Somali and Tiberian Hebrew. Tables (15), (16), and (17) illustrate several examples from historical French; data are from Ségéral and Scheer (1999:2):

---

<sup>18</sup> Table (14) implicitly refers to languages that have an initial CV; see the previous section.

### (15) Consonants in Strong Position from Latin to French

---

| <i>a. word-initial position</i> #_ | <i>b. post-coda position</i> C_ |
|------------------------------------|---------------------------------|
| PORTA> porte                       | TALPA> taupe                    |
| BENE> bien                         | HERBA> herbe                    |
| TELA> toile                        | CANTARE> chanter                |
| DENTE> dent                        | ARDORE> ardeur                  |
| COR> coeur                         | RANCORE> rancoeur               |
| GULA> gueule                       | ANGUSTIA> angoisse              |
| FAME> faim                         | INFERNU> enfer                  |
| SERPENTE> serpent                  | VERSARE> verser                 |

---

### (16) Consonants in Coda Position from Latin to French

---

| <i>a. internal coda</i> _C | <i>b. final coda</i> _# |
|----------------------------|-------------------------|
| RUPTA> route               | LUP(U)> [lu]            |
| CUB(I)TU> coude            | UB(I)> où               |
| PLAT(A)NU> plane           | MARIT(U)> mari          |
| ADVENIRE> avenir           | NUD(U)> nu              |
| FACTA> faite               | *VERAC(U)> vrai         |
| RIG(I)DU> raide            |                         |
| STEPH(A)NU> Etienne        |                         |
| MUSCA> mouche              | NOS> [nu]               |

---

### (17) Intervocalic Consonants from Latin to French

---

|                  |
|------------------|
| RIPA> rive       |
| FABA> fève       |
| VITA> vie        |
| CODA> queue      |
| LACTUCA> laitue  |
| *AGUSTU> août    |
| DEFORIS> dehors  |
| CAUSA> chose [z] |

---

As the data show, French was affected by various types of weakening, namely voicing, spirantization, and complete deletion of the consonant. Only in Table (15) have the consonants remained unchanged.

A main bipartition can be found between codas on the one hand and consonants in a strong-position on the other. Consonants in internal and final coda were subjected exactly to the same changes, while word-initial and post-coda consonants systematically avoided any kind of weakening.

To summarize:

1. The previous data clearly illustrate behavior shared by the environments in final and internal coda on the one hand, and word-initial and post-consonantal position on the other.
2. The effects that are found in these two groups are opposite: internal and final coda environments favor weakening, while word-initial and post-consonantal environments do not.

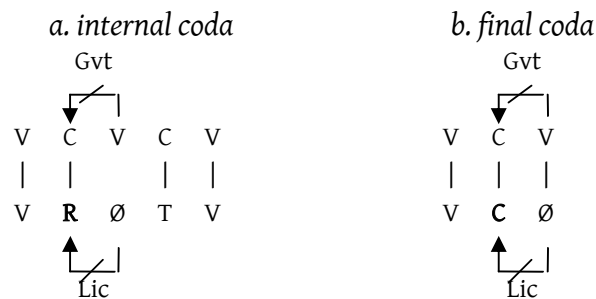
Intervocalic consonants may display weakening as well, but the kind of phenomena in which they are involved differs with respect to codas (see Sect. 5.1).

According to Ségéral and Scheer (1999, 2001), the word-initial and post-consonantal positions are the Coda Mirror contexts: they are the ‘mirror’ contexts of coda environments. Thus, a bipartition may be observed between coda contexts and Coda Mirror contexts. The consonants in final and internal coda are unified by the fact that both occur before an empty nucleus, while word-initial and post-consonantal consonants occur after an empty nucleus. Figures (18) and (19) present the coda context and its ‘mirror,’ respectively.



### (18) Coda Context

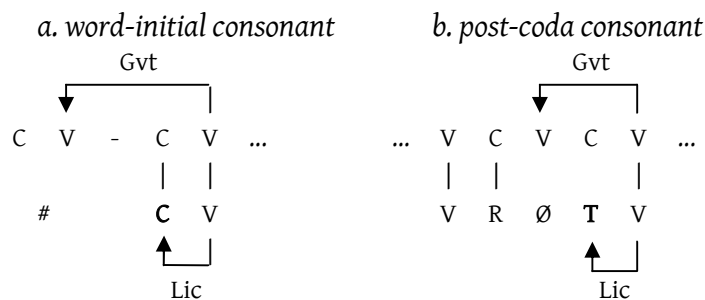
ungoverned and unlicensed



from Scheer (2004:141)

### (19) Coda Mirror Context

ungoverned but licensed



from Scheer (2004:140)

In (18) internal and final codas occur before an empty nucleus. They are both ungoverned and unlicensed. In the Coda Mirror context the situation is reversed: Coda Mirror consonants occur after an empty nucleus. Thus, they are ungoverned but licensed.

As already seen in (4), Licensing is a positive force that supports its target; being the antagonist of Licensing, Government has a negative effect. In (19) Coda Mirror consonants are strong because they escape Government: the filled nucleus that follows coda mirror consonants is called to govern the empty nucleus to its left. By contrast, codas display a peculiar structural condition: they avoid Government but at the same time fail to receive the support of Licensing.

Table (20) summarizes the bipartition between coda and Coda Mirror context and their opposite effects.

**(20) Coda vs. Coda Mirror – Segmental Effects**

|             | <i>structural description</i> | <i>segmental effects</i> | <i>syllabic analysis</i> |
|-------------|-------------------------------|--------------------------|--------------------------|
| Coda        | _ {#, C}                      | weakness                 | before empty Nuclei      |
| Coda Mirror | {#, C} _                      | strength                 | after empty Nuclei       |

from Ségéral and Scheer (1999:22)

The segmental health of a consonant is the result of the interaction of these forces. Coda Mirror consonants are strong because they lack the effects of Government. By contrast, codas avoid both Government and Licensing. As Ziková and Scheer (2010:§4.2) state: “[Codas] do not experience any lateral influence. One could say that they appear ‘naked’ on the surface, i.e. in the positional conditions that are produced by the absence of phonological computation.”

5.1 Codas vs. Intervocalic Consonants and Their Relative Strength

As already mentioned, the coda position and the intervocalic position are weak positions, even though they can differ in a number of respects.<sup>19</sup>

The two sites are analyzed in terms of lateral relations in Ziková and Scheer (2010). They argue (contra Ségéral and Scheer 2001) that

<sup>19</sup> A list of the different phenomena affecting codas vs. intervocalic consonants may be found in Ségéral and Scheer (1999:24), which is reported in Chap. 5, Sect. 5. For further details, see Harris (1997), Ségéral and Scheer (1999), Ségéral and Scheer (2001), Ziková and Scheer (2010), and the Cyran’s (2006) review of Scheer (2004).

Government and Licensing are not equal forces, but Government applies over Licensing, as reported below in (21):<sup>20</sup>

### (21) Government vs. Licensing

---

“No constituent can be governed and licensed at the same time. In case a constituent can potentially be subjected to both lateral forces, it will be governed.”

---

Ziková and Scheer (2010:§4.2)

This statement conflicts with the traditional configuration of intervocalic consonants as reported in the first version of the Coda Mirror Theory (Ségéral and Scheer 2001). In the Coda Mirror v.1, intervocalic consonants are affected either by Government and Licensing. According to the principle in (21), intervocalic consonants are considered governed but unlicensed. Figures (22) and (23) present the two configurations.

### (22) Intervocalic Consonants – Coda Mirror v.1

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governed and licensed



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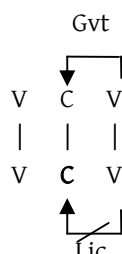
traditional version from Ségéral and Scheer 2001

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<sup>20</sup> See Ziková and Scheer (2010:§4.2) and Chap. 5, Sect. 5, in which a brief discussion can be found.

### (23) Intervocalic Consonants – Coda Mirror v.2

governed and unlicensed



revised version from Ziková and Scheer (2010)

The principle in (21) also has another consequence: intervocalic consonants are weaker than codas.<sup>21</sup> This consequence will be of great importance in the next chapters. It will help to better understand some peculiar behavior found in stop-plus-liquid sequences. Chapter 5, Sections 5 and 6 will provide further discussion on the topic.

#### 5.2 Codas vs. Intervocalic Consonants in Sardinian

To give an idea of how the Coda Mirror statements may be of help to understand the Sardinian situation, I report some examples below. In (24), (25), and (26), I provide the Tertenia Sardinian reflexes of Latin B. Etymological forms are from DES, while the Tertenia forms are my own.

#### (24) Coda Context in Sardinian

| <i>a. internal coda</i>                       | <i>b. final coda</i> <sup>22</sup> |
|---|------------------------------------|
| RUBEU> <i>rubiu</i> <sup>23</sup> > or 'ruβiu | -                                  |

#### (25) Coda Mirror Context in Sardinian

| <i>a. word-initial position</i> | <i>b. post-coda position</i> |
|---------------------------------|------------------------------|
| BUCCA> 'bukka <sup>24</sup>     | CAMBA> 'kamba                |

<sup>21</sup> Ziková and Scheer (2010:S4.3).

<sup>22</sup> Sardinian never displayed voiced bilabial obstruents in final coda in its history.

<sup>23</sup> The ancient texts display *rubiu* or *ruviu*; see Wagner (1941:234).

## (26) Intervocalic Context in Sardinian

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FABULA > 'faula

---

As one can see, consonants in Sardinian in the Coda Mirror context resist weakening. Coda and intervocalic consonants adopted different solutions in the evolution from Latin to Sardinian. The former displays a fricative, while the latter deleted. In other words, lenition applied to intervocalic obstruents (i.e., governed and unlicensed) only, while coda consonants (i.e., ungoverned and unlicensed) were not affected.

I would like to avoid misunderstandings regarding the examples in (24). In Sardinian lenition, voiced obstruents deleted (see Wagner 1941, among many others). The fact that a fricative surfaces in (24) as a result of Latin B is not due to lenition. It might be considered the result of a weakening phenomenon if one accepts that Latin B was a voiced stop, or it might be considered as simply unaffected by changes if one considers that Latin B was pronounced as a voiced fricative.<sup>25</sup> Suffice it to say that it is a different matter from the Sardinian lenition which is relevant here. For current purposes, the forms in (24) did not go through lenition, while the forms in (26) did. The evolution of Latin RUBEUM in Sardinian can thus be regarded as revealing the fact that B was a coda consonant; see Chap. 5, Sect. 6.

### 6. Summary

The Coda Mirror Theory unifies environments that appeared unrelated within other frameworks and offers a unified account for weakening and strengthening.

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<sup>24</sup> The status of word-initial voiced obstruents is slightly more complex. See Wagner (1941:§118, 123). On voiced obstruents in Tertenia Sardinian see Lai (2010, 2011).

<sup>25</sup> See e.g., Lindsay (1894:78): “Latin *b*, *p* were labial mutes, apparently with the same sound as *b*, *p* in Ital., e.g. bene (Lat. *bēnē*), pino (Lat. *pīnus*), and English *b*, *p*. Between vowels *b* became in course of time a labial spirant [...]” and Herman and Wright (2000:46).

In the following chapters I will adopt The Coda Mirror Theory and the CVCV model to analyze the behavior of stop-plus-liquid sequences. According to the Coda Mirror Theory, a consonant is expected to reflect its segmental health and this should be visible both in diachrony and in synchrony. Its segmental integrity is related to the lateral relations in which the consonant in question is involved. This is true for simple consonants and heterosyllabic clusters, as stated in the Coda Mirror Theory, but also for branching onsets, as argued for in Ségéral and Scheer (2005) and Brun-Trigaud and Scheer (2010).<sup>26</sup>

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<sup>26</sup> See Chap. 5.

## Chapter 3

### Database

The purpose of the database is to investigate the distribution and thus the evolution of stop-plus-liquid sequences from a diachronic perspective. A comparative list was obtained with both the trigger forms and the resultant forms in terms of syllable structure for the main Sardinian dialects.

The database lists 92 items with a stop-plus-liquid that went through various structural changes. The forms of these items have been examined both in present-day dialects (Tertenia Sardinian, Northern Sardinian, Central Sardinian, and Southern Sardinian) and in a corpus of ancient documents. Over one thousand five hundred occurrences have been manually inspected. The ancient texts are the following:<sup>1</sup>

---

<sup>1</sup> The editions adopted are as follows: *Carte Volgari dell' Archivio arcivescovile di Cagliari* (Solmi 1905a), *Condaghe di Santa Maria di Bonarcado* (Viridis 2002), *Condaghe di San Nicola di Trullas* (Merci 2001), *Condaghe di San Pietro di Silki* (Bonazzi 1900), *Gli Statuti della Repubblica Sassarese* (Guarnerio 1892-1894), and *Carta de Logu dell' Arborea* (Lupinu 2010). Further discussion on the ancient Sardinian texts may be found in the introductions and glossaries of the aforementioned editions. See also Wagner (1941), Contini (1987), Paulis (1997), Blasco Ferrer (2003), DES, among others. On Ancient Sardinian Texts see Chap. 1, Sect. 4.

### (1) Ancient Sardinian Texts

| Acronym  | Text   | Dialect     | Age   |
|----------|--|-------------|---|
| C. Volg. | <i>Carte Volgari dell'Archivio arcivescovile di Cagliari</i> | Campidanese | 11 <sup>th</sup> –12 <sup>th</sup> cc. <sup>2</sup> |
| CSMB     | <i>Condaghe di Santa Maria di Bonarcado</i>                  | Arborese    | 12 <sup>th</sup> –13 <sup>th</sup> cc.              |
| CSNT     | <i>Condaghe di San Nicola di Trullas</i>                     | Logudorese  | 11 <sup>th</sup> –13 <sup>th</sup> cc.              |
| CSP      | <i>Condaghe di San Pietro di Silki</i>                       | Logudorese  | 11 <sup>th</sup> –13 <sup>th</sup> cc.              |
| St.Sass. | <i>Gli Statuti della Repubblica Sassarese</i>                | Logudorese  | 13 <sup>th</sup> c.                                 |
| CdL      | <i>Carta de Logu dell'Arborea</i>                            | Arborese    | 14 <sup>th</sup> c.                                 |

The total of 92 items cannot be further expanded easily due to the nature of the Sardinian lexicon. Sardinian has coexisted for centuries with a number of dominant languages (for instance, Old Pisan, Catalan, Spanish, and Italian), and a non-negligible part of its lexicon consists now of loanwords.<sup>3</sup> That said, only indigenous words can be meaningfully taken into account in a discussion on the development of Latin stop-plus-liquid clusters. TR clusters in loanwords show different patterns that, however interesting, would take the discussion beyond the limitations of this dissertation.

An exception is made for the oldest loanwords from Old Pisan, since they usually pattern with the native lexicon as far as sound changes are concerned. For this reason, some Old Pisan loanwords have been incorporated in the database. In the appendix, a few loanwords from other languages are reported in order to show their differences with respect to native words and Pisan loanwords: namely, these more

<sup>2</sup> Some of these acts are contested. For details see Chap. 1, Sect. 4.1.

<sup>3</sup> See Chap. 1, Sect 3.



recent loanwords were not affected by lenition or metathesis. In some cases, an epenthetic vowel is inserted in the cluster. To account for this, I propose that TRs in loanwords were analyzed as heterosyllabic.

Another relevant issue is that the investigated phenomena (metathesis and liquid deletion) only affected word-internal TRs. Because of this, only Latin items with word-internal clusters have been taken into account. Nevertheless, some items with word-initial TRs will be discussed in Sects. 4.33-4.39 in order to assess the status of the word-initial position in Old Sardinian (see also Chap. 6, Sect. 6).

This chapter is structured as follows: Sections 1 and 2 introduce the database plus the criteria adopted in its internal organization. Section 3 is designed to offer a sketch of the various phenomena in the database which played a role in the evolution from Latin to Sardinian. Section 4 deals with the evolution of several terms with a problematic history.

## **1. Introduction**

The database used for the analysis is provided in the appendix. Etymological forms are mostly from the Etymological Dictionary of Sardinian, i.e., DES (Wagner 1960-64), and in just a few cases from the Etymological Dictionary of Romance Languages, i.e., REW (Meyer-Lübke 1911). The tables in the appendix always report the page references in the respective dictionaries. In the appendix, Latin forms can appear in the nominative, in the nominative plus genitive, or in the accusative, as indicated in DES. In the rest of the work I usually report the accusative form without the *-m* inflection.

The type of convention adopted in DES for TVR sequences that lost the vowel at some stage of the evolution may vary. The syncopated vowel usually appears in brackets (e.g., FENUC(U)LU, PEDUC(Ū)LUS), but in a few cases one can find an apostrophe (e.g., CONUC'LA)

instead of the lost vowel. In the appendix I always report the Latin etyma as they appear in DES.

The DES edition is the latest one, published in 2008 (G. Paulis, ed.). For every entry, DES reports the modern Sardinian outcomes for the three main dialect groups: Central Sardinian (i.e., Nuorese Sardinian and neighboring dialects), Logudorese Sardinian, and Campidanese Sardinian.

The internal classification of the Sardinian dialects is still disputed, although many scholars prefer the classification with two main dialects, Logudorese and Campidanese, with Central Sardinian as a sub Logudorese dialect.<sup>4</sup> For the syllabic changes dealt with in this work, I instead make reference to the following three main groups: Central Sardinian, Northern Sardinian,<sup>5</sup> and Southern Sardinian (Campidanese dialects, with the exception of the Ogliastra and Southern Barbagia area); thus, in the analysis I refer to a tripartite classification.

The reason to adopt this partition is clear when comparing the Sardinian data reported in the appendix. Logudorese is usually divided into the Northern Logudorese, Central Logudorese, and Nuorese dialects. With regard to the evolution of stop-plus-liquid, Northern Logudorese does not pattern with the rest of the Sardinian dialects. Stop-plus-liquid in this area went through various palatalization phenomena which Wagner (1941:§251ff) attributes to the influence of Sassarese and Gallurese (Italo-Romance dialects), both of which are geographically close to Northern Logudorese.<sup>6</sup>

Central and Nuorese dialects typically differ from the rest of Logudorese in various phenomena. The same items may go through

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<sup>4</sup> See Chap. 1, Sect. 1.

<sup>5</sup> By Northern Sardinian I mean the Logudorese dialects, except for those from the extreme North Logudorese area in which stop-plus-liquid underwent palatalization. Thus, in the remainder of this work, I never take into account the extreme Northern Logudorese area, the so-called 'Nord Logudorese' in Italian dialectology. For palatalization phenomena in Northern Logudorese, see Wagner (1941:§251, 253, 257 and map VII), Paulis (1984:LXIff), and Contini (1987:411, note 64).

<sup>6</sup> See Chap. 1, Sect. 5.

different structural evolutions, for example, metathesis (see, for instance, entry A#50), deletion of word-initial obstruents (see, for instance, entry A#45), and other structural changes, such as liquid deletion in stop-plus-liquid sequences (see, for instance, entry A#12).

The Ogliastra and Southern Barbagia dialects (central-southern areas close to the central Nuorese dialects) do not pattern with the rest of Campidanese in many respects. With regard to metathesis, southwestern areas display peculiar metatheses (both synchronic and diachronic) that are not attested in Ogliastra and Southern Barbagia.<sup>7</sup> They behave differently also in the treatment of some stop-plus-liquid that never deleted, e.g., entries A#54, 55, 56 (see Chap. 4, Sect.1.5). The different Sardinian metatheses and their areal distribution are discussed at length in Chapter 4.

The different tables and their internal organization are as follows: In each table, one can find in the first and second column the etymological form (in capital letters) followed by the Tertenian Sardinian form, respectively. In the third, fourth, and fifth columns the modern Sardinian forms are listed for Central Sardinian (including Nuorese Sardinian), Logudorese Sardinian, and Campidanese Sardinian, respectively, as reported in DES.<sup>8</sup> The last column lists the instances from the ancient Sardinian texts.

The label “DES” means that the transcription in question is taken from the Sardinian Etymological Dictionary (Wagner 1960-64), e.g., 'krɔβa, 'lɔβa (log.), DES. Tertenian Sardinian data plus some items from neighboring dialects are my own; I refer to these in the appendix with the abbreviation “fld.” (“fieldwork”), e.g., 'uŋgula (Jerzu), (fld.). The hyphen “-” indicates Latin forms for which no corresponding Sardinian forms have been found. The database includes 99 items in total (92 are items with a stop-plus-liquid sequence).

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<sup>7</sup> See Chap. 4.

<sup>8</sup> If not specified, here and elsewhere data from Sardinian dialects other than Tertenian Sardinian are from DES.

In the appendix one finds the following: Table 1 lists items that had a stop-plus-liquid sequence in their etymological form. Table 2 lists some loanwords with a stop-plus-liquid taken from Italian or other Sardinian dialects. Recent stop-plus-liquid sequences due to syncope are reported in Table 3. Some word-initial TRs that were subjected to weakening phenomena are also taken into account in Table 4. In Table 5 one can find a few TRs that underwent epenthesis in some Logudorese and Campidanese dialects, while Table 6 reports TVR sequences which never displayed a stop-plus-liquid, unlike in other Romance languages.

## 2. Content of the Different Tables

I will briefly explain the content of the tables mentioned above. In Table 1 (i.e., Etymological TRs), the main division is between secondary and primary TRs, each of which split into voiceless and voiced clusters. Every subgroup is further divided by looking at the position of these sequences, i.e., the intervocalic vs. post-consonantal positions. For clarity, in (2) below the scheme of Table 1 is reported with the subdivisions of etymological TRs, for which I provide an example of each subgroup.

### (2) Scheme of Table 1 in the appendix - Etymological TRs

| Secondary TRs    |   |
|------------------|---|
| <i>Voiceless</i> |   |
|                  | intervocalic position (e.g., FENUĆ(Ů)LUM)           |
|                  | post-consonantal position (e.g., MASC(Ů)LUS)        |
| <i>Voiced</i>    |   |
|                  | intervocalic position (e.g., SUBULONE) <sup>9</sup> |
|                  | post-consonantal position (e.g., *ANG(U)LONE)       |
| Primary TRs      |   |
| <i>Voiceless</i> |   |
|                  | intervocalic position (e.g., PETRA)                 |
|                  | post-consonantal position (e.g., CASTRUM)           |
| <i>Voiced</i>    |   |

<sup>9</sup> See Sect. 4.11, this Chap.

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intervocalic position (e.g., CALABRICUS)  
post-consonantal position (e.g., UMBRA)

---

Note that items can appear in more than one class if they had more than one TR cluster in their etymological form (e.g., A#17, UMBRAC(Ū)LUM).

Table 2 (i.e., Old Loanwords) lists some loans (mostly from Italian) which had a stop-plus-liquid sequence in the language of origin.

Table 3 (i.e., TRs due to syncope) lists some TRs of new formation due to the loss of the vowel between the stop and the liquid. This phenomenon might be a very recent one (at least for the items listed), since in some cases an alternation between the sequence TVR and TR, e.g., *comprai* vs. *comporai*, is still possible. In other cases the alternation is no longer possible but the form with the vowel is still available in fixed expressions, e.g., [s'attur'annu] *su atturu annu* 'last year,' while 'attru is the modern Tertenia term. One can argue that this phenomenon may be due to the influence of Italian.

Italian might be considered as having influenced other items as well. I refer to *com'prai* (the preferred form nowadays) instead of *compo'rai*. The former could be modeled on the corresponding word in Italian *comprare*. But this quite recent phenomenon could not be relegated simply to the influence of Italian, because items such as LITTĒRA> 'littra display the loss of the vowel even if the corresponding word in Italian *lettera* does not. For all the items listed in Table 3, it might also be useful to compare the Tertenia Sardinian forms with those from the neighboring dialects, which still maintain the vowel and thus still have a TVR sequence in their modern form.

Table 4 (i.e., Word-initial deletion in TR clusters) is of great importance for the analysis here. It contains some words which had a word-initial TR whose obstruent was deleted. I refer to the Sardinian outcomes of CLAMARE, GLANDE, GRANUM, etc., (see Sects. 4.33-4.38). These items underwent the loss of the word-initial stop at some point in their evolution. In other words, they were subjected to a weakening phenomenon that provoked the complete deletion of

the obstruent, e.g., CLAMARE> la'mai, GLANDE> 'landi, and GRANUM> 'ranu.<sup>10</sup>

In Table 5 (i.e., Vowel insertion in TR clusters from loanwords), one is faced with the opposite phenomenon to that reported for the items in Table 3; that is, Table 5 lists words that underwent the insertion of a vowel (i.e., epenthesis) in a TR sequence.

Table 6, the last table in the appendix, contains TVR sequences that in most Romance languages became TR clusters but that (at least in Sardinian) never became TRs. I am talking about, e.g., DIABŎLUS> ti'aulu, FABULA> 'faula, TABŎLA> 'taula, TEGŎLA> 'teula, and so on. For a discussion of these forms, see Sects. 4.41ff.

### 3. Remarks on the Evolution of Sardinian

The following chapters deal with metathesis and liquid deletion, both of which affected stop-plus-liquid sequences. The etymological form should not always be considered the form to which metathesis applied. In some cases, metathesis applied to an intermediate form structurally different from the etymological form reported in the appendix.

For illustrative purposes, a modern form such as 'krastu is the result of a metathesis which applied to a form like *castru*, and thus it applied to a string that was exactly the same as its etymological form (i.e., CASTRU). However, this is not always the case. For some words, one might hypothesize an intermediate form to which metathesis applied. An example may be Tertenia Sardinian pur'ðedðu. The etymological form is PULLETRU. Nevertheless, this does not mean that metathesis applied to a form like *pulletru*, but rather to a form like *putrellu*. In other words, one is confronted with a word that previously underwent another syllabic change.<sup>11</sup> The chronology might have been *pulletru*> *putrellu*> pu'ðredðu> pur'ðedðu, but surely

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<sup>10</sup> For the evolution of these items, see also Sects. 4.33-4.38 (this Chap). For the analysis of such phenomena, see Sect. 6, Chap. 6.

<sup>11</sup> See Wagner (1941:§435) and Virdis (1978:76).

not *pulletru* > *pur'ðeq̄ɸu*.<sup>12</sup> Notice also that lenition applied before metathesis.<sup>13</sup>

An analogous example is Tertenia Sardinian *kar'ðiya* <CRATIC(Ů)LA (see Sect. 4.6). Again, in this case metathesis did not apply to a form like *cratic(u)la*, but to an intermediate form such as *catricla* (or even *catrica*). As one can see from the modern Sardinian terms listed in (3), this might be true not only for the dialect in question but also for the main Sardinian dialects.

**(3) Sardinian outcomes for CRATIC(Ů)LA**

|   |   |   |
|---|---|---|
| <i>kra'ðika</i><br>(Nuoro),<br><i>ka'trika</i> (Orosei) | <i>ka'ðiya</i><br>(Logudorese<br>Sardinian) | <i>kar'diya</i><br>(Campidanese<br>Sardinian) |
|---|---|---|

from DES 234

The different metatheses which affected the Sardinian dialects might have applied to a form like *catrica*. The reader should not be misled by the Nuorese form, because *kra'ðika* probably was not the direct evolution of *cratic(u)la*, but the result of a metathesis that applied to an intermediate form similar to the one present in Orosei Sardinian (i.e., *ka'trika*). As one can see from the data reported in the appendix, Nuorese and other neighboring dialects were especially affected by a kind of metathesis which affected liquids from intervocalic TRs and recreated a new TR in word-initial position.<sup>14</sup> This kind of metathesis was particularly widespread in Nuorese. Thus, for Nuorese Sardinian I suggest the following steps: *catrica* > *kra'ðika*.

Further evidence for *catrica* as an intermediate step in the evolution comes from the ancient texts. In these texts I did not find forms like *craticla* but rather forms which had already changed, such as *catriclas* (CSP 424). Thus, I believe that the modern dialects stem from *catrica*,

<sup>12</sup> As one can see from the examples listed in the appendix this could not be true for every Sardinian dialect. For instance, *puq'q̄etru* (Orosei DES 647) cannot have *putrellu* as an intermediate form, but rather *pulletru*. See DES and Wagner (1941:§435); see also Section 4.17 (this Chap.).

<sup>13</sup> See Chap. 5, Sect. 6.

<sup>14</sup> A monograph on this dialect is Pittau (1972).

with the following steps: *craticla* > *catricla* > *catrica*. The metatheses I will discuss in the following chapters applied to this final form. Notice that in Tertenia Sardinian and Campidanese Sardinian, metathesis applied after lenition, i.e., *catrica* > *ka'ðriya* > *kar'ðiya* (see Sect. 4.6 and data in DES 234). Analogous remarks should be made for the outcomes of PRATUM.<sup>15</sup>

A cautionary proviso to keep in mind is that in many cases the forms under the label “secondary TRs” (i.e., TVR sequences) might have already been stop-plus-liquid sequences in Late Latin (e.g., OCULUS vs. OCLUS). As Lindsay (1894:176) argues: “The Romance languages show that a later wave of syncope not only reduced *saec(u)lum* & co. to their original form *saeculum*, but also words like *porculus* to *porclus*.”

This phenomenon was so widespread that it was noted and condemned even in the *Appendix Probi*. The author of the *Appendix Probi* reports the “correct” forms to write instead of the “wrong” ones. The syncopated forms were all considered as incorrect. In (4) I list the syncopated words reported in the *Appendix Probi* with the “correct” forms suggested by the same author. In the first column the full forms are listed, while in the second the syncopated ones.<sup>16</sup>

**(4) Appendix Probi - Syncope in Latin TVR sequences**

|     |                   |                  |
|-----|-------------------|------------------|
| 1.  | <i>speculum</i>   | <i>speclum</i>   |
| 2.  | <i>masculus</i>   | <i>masclus</i>   |
| 3.  | <i>vetulus</i>    | <i>veclus</i>    |
| 4.  | <i>vitulus</i>    | <i>viclus</i>    |
| 5.  | <i>vernaculus</i> | <i>vernaclus</i> |
| 6.  | <i>articulus</i>  | <i>articlus</i>  |
| 7.  | <i>baculus</i>    | <i>baclus</i>    |
| 8.  | <i>angulus</i>    | <i>anglus</i>    |
| 9.  | <i>jugulus</i>    | <i>juglus</i>    |
| 10. | <i>oculus</i>     | <i>oclus</i>     |
| 11. | <i>tabula</i>     | <i>tabla</i>     |
| 12. | <i>stabulum</i>   | <i>stablum</i>   |

from Lindsay (1894:176)

<sup>15</sup> See Section 4.16 (this Chap.).

<sup>16</sup> The *Appendix Probi* examples are taken from Lindsay (1894:176). See also Lindsay (1894:95), Ward (1951:481ff), Solodow (2010:212-3), among others.



Even though syncope was a common phenomenon in Latin, it is important to note that not every Romance language adopted the syncopated forms attested in Late Latin. If one looks at the Italian and Spanish reflexes of SPECULUM (i.e., *specchio* and *espejo*, respectively), it is clear that they cannot stem from SPECULUM but from its syncopated form SPEC(U)LUM. Analogously, Spanish *hablar* is the reflex of syncopated FAB(U)LARE, and Italian *fiaba* is from FAB(U)LA and not from the fuller form FABULA.<sup>17</sup>

That said, I will now concentrate on the Sardinian data. The attentive reader may notice that TVR sequences with a voiced obstruent in Sardinian rarely became TR sequences. The Sardinian word *faula* cannot stem from FAB(U)LA but from the fuller form FABULA. Analogously, Sardinian *staulu* may only stem from STABULUM and not from its syncopated form. The reason is quite simple: Sardinian *faula* and *staulu* are the result of intervocalic lenition. Intervocalic voiced obstruents in the evolution from Latin to Sardinian were lost in most of the Sardinian dialects, e.g., NUBE> 'nui or NIGELLU> ni'eddu (Viridis 1978:§20). FABULA> 'faula and the other entries in Table 6 were no exceptions. The loss of the voiced obstruent presupposes a fuller form (i.e., \**fabula*) to which lenition applied. Thus, *faula* and *staulu* stem from the fuller forms FABULA and STABULU, respectively. One can say exactly the same for *taula* <TABULA, *tiaulu* <DIABOLU, *teula* <TEGULA, and all the other items listed in Table 6 of the appendix.

It might be argued that another hypothesis should also be considered. One can suggest that the modern items *faula*, *staulu*, *taula*, etc., stem from a syncopated form, and that the *u* observed in modern dialects is the result of a weakening in coda position, i.e., TABULA> TAB(U)LA> \**tab.la*> *tôle*, as happened in Old French.<sup>18</sup> This

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<sup>17</sup> French, Spanish, and Italian data are taken from Solodow (2010:212-3). For the Italian evolution of Latin FAB(U)LA, see Vennemann (1988:58). For the Italian *fiaba*, see also Rohlfs (1966:§323).

<sup>18</sup> “Il en existe quelques cas où les groupes br, bl, primaires ou secondaires, aboutissent à wr, wl. Le w se mélange alors avec la voyelle précédente. Cette évolution représente la trajectoire de b en coda, et donc illustre les cas où le groupe TR solidaire ne s'est pas constitué: Vb.RV> Vw.RV (au lieu de V.bRV)” Ségéral and Scheer (forth:§102).

is a more expensive solution than the simpler FABULA> *faula*, i.e., with the loss of the obstruent, as for every intervocalic voiced obstruent. But there is also another reason to reject this hypothesis. In Sardinian, Latin voiced bilabial obstruents in coda became voiced fricatives, e.g., RUBEU> *rub.iu>* or *'ruβiu* (see Chap. 2, Sect. 5.2 and Chap. 5, Sect. 6). Voiced obstruents in coda were not subjected to the same kind of weakening of voiced intervocalic obstruents.<sup>19</sup> Thus, it should be concluded that the voiced obstruent in the items listed in Table 6 was simply subjected to intervocalic lenition.

A further remark is also necessary for items such as ROTŬLU, MENTŬLA, and VETULU. As Romanists know, the vowel between the dental stop and the liquid was lost early on and the resultant *tl* sequence became *cl*. This well-known phenomenon was also noted in the *Appendix Probi*, as reported in Ward (1951:482):

“Even *-tl-*, a consonant group never encountered in Latin authors, occurs on certain inscriptions as a result of this reduction, e.g., CIL 4.1391 (Pompeii) *mentla* 'membrum virile', CIL 11.3303 (18 A.D.) *crustlum* 'little pastry', CIL 6.20217 (143 A.D.) *titlus* 'inscription'. Yet this new *-tl-* very soon yielded *-cl-* [...], so that we find the author of the *Appendix Probi* (possibly as early as the 3d cent. after Christ) urging people to say '*vetulus, non veclus*', along with '*tabula, non tabla*' and '*angulus, non anglus*.'”<sup>20</sup>

Note also that many languages (as well as Latin) show the gap of *tl* and *dl* (Vennemann 1988:19).

Another well-known phenomenon that affected Sardinian stop-plus-liquid is rhotacism. Since the 15<sup>th</sup> century, laterals in TR clusters became rhotics.<sup>21</sup> This means that obstruent plus lateral became obstruent plus rhotic, e.g., FLOREM> *'frōri*.<sup>22</sup>

<sup>19</sup> For obstruents in coda position, see Chap. 5, Sect. 6.

<sup>20</sup> See also Lindsay (1894:§89): “*Veclus* for *vetulus*, *viclus* for *vitulus*, *capiclum* for *capitulum*, were mispronunciations in vulgar speech (*Probi* App. p. 197. 20 and 198. 34 K.).”

<sup>21</sup> See Contini (1987: 373-4, 386) and Paulis (1997:135); see also Chap. 6, Sect. 6.

<sup>22</sup> Not every Sardinian dialect underwent rhotacization. An exception is Baunei Sardinian, point of inquiry n° 143 in Contini (1987) and Wagner (1941:§250); see also Paulis (1984:XLVII) and Contini (1987:373-4). Other dialects that still maintain the lateral may be found in Contini (1987:374 note 79).

To conclude this section, I would like to focus on the content of Table 5 of the appendix. Table 5 lists TR sequences that underwent epenthesis. This phenomenon appears to be widespread in some of the Logudorese and Campidanese dialects.<sup>23</sup>

For convenience, I report in example (5) some items taken from Table 5. These are from both Wagner (1941:\$69-73) and DES. As one can see, stop-plus-liquid sequences insert an epenthetic vowel (in boldface).<sup>24</sup> Note also that the reported examples are borrowed from Catalan, Spanish, and Italian.

**(5) Epenthesis in stop-plus-liquid sequences - Loanwords**

| Input - TR sequences | Output - TvR sequences                       |
|----------------------|--|
| a) lucro (It.)       | 'lukuru (Log.)                               |
| b) libro (It.)       | 'liberu (Log.), 'liburu (Camp.)              |
| c) xucla (Cat.)      | 'ʃukkara (Camp.)                             |
| d) gronda (It.)      | g <b>o</b> 'ronda (Camp.)                    |
| e) trulla (?)        | tu'rud <b>ɔ</b> (Log.), ti'rud <b>ɔ</b>      |
| f) mangra (Cat.)     | 'mangara (Camp.)                             |
| g) latrina (It.)     | lat' <b>ɛ</b> arina (It. spoken at Cagliari) |
| h) litro (It.)       | 'lituru (Camp.)                              |
| i) catre (Sp.)       | 'kattiri (Camp.)                             |
| j) libbra (It)       | 'libbera (Log.)                              |

As the examples above show, the behavior among Sardinian dialects was similar with regard to the treatment of TR clusters from loanwords. In my view, these new TRs had a heterosyllabic structure that allowed the insertion of an epenthetic vowel.<sup>25</sup> In particular areas, one can find the same phenomenon for TRs from the native lexicon too. But first I will focus on the phonetic analysis of this phenomenon by Contini (1987:469-470).

As Contini (1987) states, some areas have developed a schwa (a mid-

<sup>23</sup> See Wagner (1941:\$69ff) and Contini (1987:374 note 79b).

<sup>24</sup> Epenthesis in consonantal clusters is discussed in Wagner (1941:\$69-73), Paulis (1984:XXV), and Contini (1987:469-471). Sardinian geminates are not “true” geminates, but usually – though not always – simplex segments which are realized as strong. See note 34, this Chap.

<sup>25</sup> See Chaps. 5 and 6.

central vowel) between consonant clusters.<sup>26</sup> This is true especially for villages in the Barbagia and Ogliastra areas. He also argues that this epenthetic vowel might be found even in TR clusters, e.g., 'maskru> 'maskəru, 'iskra> 'iskəra, and 'kraʃa> 'kəraʃa (Contini 1987:469). As one can see, the stop-plus-liquid cluster is separated by the insertion of the central vowel.

However, Contini (1987:470) also points out another interesting fact: in some of these dialects the central vowel has become, in his terms, a “true vowel.” In fact, in Table 1 in the appendix one can find original TR sequences separated by a vowel, as in COLOBRA> ko'lovuru (Gadoni Sard., DES 261) and CIRIBRUM> tʃi'livuru (Seulo Sard., DES 244).<sup>27</sup> These data become more interesting when compared with the Tertenia Sardinia data.<sup>28</sup> For the same Latin words, Tertenia Sardinian displays ko'lovru and tʃi'livru. Thus, there is no epenthesis, but the stop-plus-liquid sequence is preserved, which is not a common phenomenon in the dialect in question.

In (6) below I report other examples taken from Wagner (1941:§73). In the second column the words that show epenthesis are listed. The epenthetic vowel is in boldface.

**(6) Epenthesis in stop-plus-liquid sequences – Native Lexicon**

|   |   |
|---|---|
| a'intro (Log.)                                  | a'inturu (Camp.)                                |
| 'lavras, 'laβras (Log., Camp. and Centr. Sard.) | 'laβaras (Seulo Sard.), 'laβurus (Gadoni Sard.) |

According to Contini (1987), the examples in (5) and (6) might be explained by suggesting three different stages, as in (7) below.

**(7) Epenthesis in stop-plus-liquid sequences – Stages<sup>29</sup>**

| 1 <sup>st</sup> stage | 2 <sup>nd</sup> stage | 3 <sup>rd</sup> stage |
|-----------------------|-----------------------|-----------------------|
| 'maskru>              | 'maskəru>             | 'maskuru              |
| 'iskra>               | 'iskəra>              | 'iskara               |

<sup>26</sup> “De nombreux parlers ont tendance à développer un élément vocalique de passage dans tous les groupes avec [r]” (Contini 1987:469).

<sup>27</sup> For further discussion, see DES and Sects. 4.23, 4.24.

<sup>28</sup> Gadoni and Seulo Sardinian are neighboring dialects to Tertenia Sardinian.

<sup>29</sup> Examples are taken from Contini (1987:469).

In the evolution of these words, stop-plus-liquid sequences were separated by a central vowel. Then, this central vowel became a “true vowel,” in Contini’s terms. In other words, in the final stage the schwa became a stable vowel, with no alternations. As one can see, this vowel is the reduplication of the following vowel.

To sum up, TRs from the traditional lexicon plus some Old Pisan loanwords were canceled by metathesis (Chaps. 4 and 6), while TRs from loanwords were avoided by epenthesis.

It might be useful to specify that the kind of epenthetic vowels I am talking about are usually called “svarabhaktic” vowels in traditional textbooks. Furthermore, the phenomenon in question is typically known as “anaptyxis” (see, e.g., Lindsay 1984:§102, 142, 154).<sup>30</sup>

#### **4. Problematic Entries**

In the present section, some essential clarifications will be given for items with a controversial etymology and items subjected to structural changes other than those analyzed in Chaps. 4 and 6. For more extensive discussions related to the following entries, see DES, Wagner (1941), Viridis (1978), Contini (1987), among others. For the textual references of the ancient terms, I refer the reader to the respective ancient texts and the introductions and glossaries of the editors (see References).

The following entries are taken from the appendix and marked with a reference number. In the entries listed below, the reference numbers (e.g., A#32) correspond to the items with the same number in the appendix (e.g., 32, in this case, PETRA).

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<sup>30</sup> Epenthetic vowels among stop-plus-liquid sequences are attested in many languages, even in Latin. As Lindsay (1894:§102) states: “In Latin especially after the time of Plautus, there was a tendency to facilitate the pronunciation of a mute followed by *l*, particularly when post-tonic by the insertion of a vowel, written on early inscriptions *o*, later *u*.”

#### 4.1

##### A#1 - COP(Ū)LA and Related Items

The Sardinian outcomes for Latin COP(Ū)LA are as follows: Northern and Southern dialects may have 'krɔβa or 'lɔβa, while Central dialects have 'krɔppa. The same distribution is found for the outcomes of COP(U)LUM (A#3). Thus, Central Sardinian displays 'kroppu, while the other dialects have 'kroβu or 'loβu (see DES 286, 287). The distribution slightly differs for the verb COP(U)LARE (A#2). Central Sardinian displays krop'pare, while the other dialects may have kro'βare, lo'βare, akkro'βai, or kro'βai.<sup>31</sup>

DES (286-7) argues for an intermediate form in the evolution from Latin to Sardinian. In this view, COP(Ū)LA, COP(U)LARE, and COP(U)LUM went through a further step with \*CLOPPA, \*CLOPPARE, and \*CLOPU, respectively.<sup>32</sup>

It is not apparent that intermediate forms with a geminate such as \*CLOPPARE and \*CLOPPA are needed at all. If the modern Sardinian forms stem from \*CLOPPARE and \*CLOPPA, one should not see outcomes with a voiced fricative (e.g., kro'βare, lo'βare, or akkro'βai) in the Sardinian dialects with lenition processes. A voiced fricative may merely be the result of intervocalic lenition of a simplex obstruent, not of a geminate.<sup>33</sup> But if Wagner's purpose was to explain the phonetic geminate which appears in Central Sardinian (i.e., kroppare, DES 286), there is no need to hypothesize such a form, since the geminate in question may be considered a fake geminate. Phonologically, one is faced with a simple obstruent.<sup>34</sup> For these reasons I do not consider \*CLOPPARE and \*CLOPPA as intermediate forms in the evolution from COP(U)LARE and COP(Ū)LA.

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<sup>31</sup> DES 286, 287.

<sup>32</sup> "kroppare centr., kroβare, loβare log., (...) akkroβai camp. rust., 'accoppiare, appaiare' [...] = \*CLOPPARE per COPULARE (REW 2210)" DES 286, 287.

<sup>33</sup> Wagner (1941:\$99ff).

<sup>34</sup> The status of geminates in Sardinian is controversial. For further discussion, see Wagner (1941:\$428), Paulis (1984:XCVI), Contini (1987:55 note 12, 59ff, 101ff), Bolognesi (1998:158ff, 411), Ladd and Scobbie (2003), among others.

For sure, all Sardinian forms are the result of metathesis.<sup>35</sup> Thus, the steps should have been COP(U)LA> \*copla> \*clopa.<sup>36</sup> At this step some dialects were subjected to word-internal lenition (i.e., \*clopa> \*cloba) and the word-initial stop deleted (i.e., \*cloba> 'lɔβa). This loss happened before the 15<sup>th</sup> century.<sup>37</sup> Some forms never lost the word-initial obstruent, and the rhotacisation of the liquid took place.<sup>38</sup>

At the entry for COP(U)LARE, Wagner (1941:§249) lists some forms taken from the ancient texts. Among these he reports one occurrence of *cobladas*, which he attributes to CSMB. However, *cobladas* is not attested in CSMB (new ed., Viridis 2002). On the contrary, the form that appears in CSMB is *colbadas*. The latter seems to be the correct form reported in the manuscript, as argued for by Maurizio Viridis, linguist and editor of the CSMB edition (personal communication).

The existence of a form like *colbadas* is a puzzle even if it occurs only once. It is difficult to ascertain if this form is the mistake of an ancient copyist or if it was a form widespread in the western transitional area at that time. Moreover, I am not aware whether some modern Sardinian dialects display a form such as *colbadas*. Nevertheless, it is interesting that a form like this appears only in CSMB, a text from the western transitional area. As argued by Contini (1987:412), the type of metathesis that created coda-onset clusters is present only in a small central-southern area. If the form *colbadas* was not a mistake of some copyist, it could be considered one of the first examples of this type of metathesis (see, Chap. 4, Sect. 1.2).

## 4.2

### A#8 - VETŪLUS

The Sardinian terms 'bekru and 'beyru 'old' stem from VETULUS through two subsequent stages. The vowel between the dental stop

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<sup>35</sup> This is what DES points at by proposing an intermediate form with metathesis.

<sup>36</sup> Note that in some dialects lenition applied before metathesis, e.g., COP(U)LA> \*copla> \*cobla. See e.g., the form *colbadas* (CSMB).

<sup>37</sup> Contini (1987:386) and Paulis (1997:135).

<sup>38</sup> Contini (1987:386).

and the liquid went to syncope, and then the *tl* sequence became *cl*.<sup>39</sup> Since the 15<sup>th</sup> century, a further step took place: laterals in TR clusters became rhotics.<sup>40</sup> Thus, *beclu* became 'bekru. The Northern Sardinian form 'beyru, with a voiced fricative, is the result of lenition. *Becla*, *beglu*, *begla*, etc. are attested even in the ancient texts.<sup>41</sup> Nowadays in most of the Sardinian dialects these terms are lost. Currently, the terms used for 'old' (e.g., 'bettsu or 'bettfu) are usually loanwords from Old Italian.<sup>42</sup>

### 4.3

#### A#9 - ROTŪLUS

The modern Sardinian forms for Latin ROTŪLUS are 'rukru (Centr. Sard.), 'ruyru, 'ruyu (North. Sard.), and a'royu (South. Sard.).<sup>43</sup> Similar to VETŪLUS (A#8), ROTŪLUS at some point also displayed a stop-plus-liquid sequence due to syncope, and the *tl* sequence became *cl*, i.e., ROTŪLUS > \*ROT'LUS > \*roclu. This form was subjected to lenition in Southern and Northern Sardinian, i.e., *cl* > *gl*. An occurrence of this item (with the form *orrogli*) is attested in one southern text.<sup>44</sup> The term *orrogli* shows the effects of lenition, as expected for Southern Sardinian, but there is also another phenomenon typical of Southern Sardinian dialects: word-initial rhotics are banned. Thus, since the Middle Ages every Latin word with an initial *r* was reanalyzed with the insertion of a word-initial vowel, and the subsequent rhotic appears geminated.<sup>45</sup> The Tertenia Sardinian outcome is or'royu, a form very close to Old Sardinian *orrogli*.

In most of the Sardinian dialects, the item in question went to liquid deletion. Only Central Sardinian and some Northern Sardinian dialects still maintain the liquid and thus the stop-plus-liquid

<sup>39</sup> DES 159. See also the previous section (this Chap.).

<sup>40</sup> Contini (1987:386) and Paulis (1997:135).

<sup>41</sup> The Northern Sardinian form 'beyru, with a voiced fricative, is the result of lenition. In the ancient texts one can find, *becla* (in CSP at 190, 311), while CSMB has *Begla* at 186, *Beglas* at 114, *Beglu* at 124, and *Vegla* at 105, 114, 118.

<sup>42</sup> DES 159 and Wagner (1941:\$255).

<sup>43</sup> DES 674.

<sup>44</sup> C. Volg XIII, 7.

<sup>45</sup> For prothetic vowels in Southern Sardinian, see Wagner (1941:\$74-5) and Viridis (1978).



sequence. Recall that in Old Sardinian, laterals in TR clusters became rhotics.

#### 4.4

##### A#10 - \*RET(Ů)LA> REC'LA, REG(Ů)LA

LLS 84 (Wagner 1921) argues that the various Sardinian terms for 'honeycomb' stem from \*RET(Ů)LA> REC'LA. By contrast DES 664, according to REW 7177, points out that the etymological form for such terms should be REG(Ů)LA. From DES 664, one knows that the Central Sardinian term is 'rɛyɾa, while the Southern Sardinian is a'rreɾa. Tertenia Sardinian displays a'rɛɾa, i.e., with word-initial epenthesis typical in Southern dialects, but without the gemination of the rhotic.<sup>46</sup>

#### 4.5

##### A#11 - FLAC'LA> \*FLACCA

The Sardinian term 'frakka for 'flame' is widespread in the southern and central areas. DES 362 argues that FLAC'LA> \*FLACCA might be the correct etymological form for 'frakka, contra REW 3137 FLACCULA.<sup>47</sup> Thus one should presuppose that DES hypothesizes the following stages: \*FLACCA> 'frakka, while REW, FLACCULA> \*flaccla> 'frakka, thus with the loss of the liquid. In my view, the REW proposal might also be possible. I will discuss liquid deletion in stop-plus-liquid clusters in Chap. 6, Sects. 5 and 6.

#### 4.6

##### A#16 - CRATIC(Ů)LA

The Sardinian outcomes for CRATIC(Ů)LA are as follows: kra'ðika, ka'trika (Centr. Sard.), ka'ðriɾa (North. Sard.), and kar'diya (South. Sard.).<sup>48</sup> From a structural point of view, the modern Sardinian terms are far away from Latin CRATIC(Ů)LA. As mentioned in Section 3, I hypothesize that the modern terms have a common intermediate form. In the ancient texts one can find an occurrence of this item already having undergone the change, i.e., *catriclas* (CSP 424).

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<sup>46</sup> For prothetic vowels, see Wagner (1941:§74-5) and Viridis (1978).

<sup>47</sup> See REW 3137 and DES 362.

<sup>48</sup> DES 234.

The existence of *catricula(s)* suggests that this might be one of the intermediate steps in the evolution from Latin to the modern Sardinian dialects. By looking at the various Sardinian outcomes (i.e., *ka'trika*, *ka'ðriya*, *kra'ðika*, and *kar'diya*), one can easily understand that the previous step in the evolution might have been *\*catrica*. Thus, I hypothesize the following steps: CRATIC(Ů)LA> *catricula*> *\*catrica*. All Sardinian forms should stem from the intermediate form *\*catrica*. Note that the most conservative dialects of the central area still maintain this form, e.g., Orosei Sardinian *ka'trika*, DES 234.

It is at this step in the evolution that the different metathesis took place in the various dialects. Nuorese Sardinian *kra'ðika* is the result of a metathesis widespread in this dialect that affected word-internal stop-plus-liquid and created another stop-plus-liquid word-initially (i.e., *catrica*> *kra'ðika*).<sup>49</sup> Northern Sardinian *ka'ðriya* is simply the counterpart of the hypothesized form *\*catrica* affected by lenition. In Southern Sardinian *kar'ðiya*, metathesis applied after lenition in this order: *catrica*> *ka'ðriya* > *kar'ðiya*.

#### 4.7

##### A#18 – RENIC'LU

Tertenia Sardinian *e'rriyu* and Southern Sardinian *a'rriyu* stem from RENIC'LU.<sup>50</sup> As already said for the entry A#9 (i.e., ROTŮLUS), the insertion of a word-initial vowel is a typical phenomenon of Southern Sardinian dialects.<sup>51</sup>

#### 4.8

##### A#20 – CENĀPURĀ

The Sardinian forms for 'Friday' stem from CENĀPURĀ, a Latin term calqued from Greek *δέιπνον καθάρων* (Wagner 1920:620). It entered Sardinian via North African Jews (DES 239 and Wagner 1950:72). The Sardinian outcomes are as follows: *ʃe'naβura* and *ʃe'naβara* in Southern Sardinian, *ke'napura* in Central Sardinian, and *ke'naβura* or *ke'naura* in Northern Sardinian.<sup>52</sup> The Tertenia form is *ʃe'narβa*.

<sup>49</sup> See the Nuorese data in the appendix taken from DES 234. For more on this dialect, see Pittau (1972).

<sup>50</sup> DES 121.

<sup>51</sup> See Wagner (1941:§74-5) and Viridis (1978).

<sup>52</sup> Data are from DES 239; see also the appendix.

The form tʃe'narβa is the result of various changes. I believe that an intermediate form like \*tʃe'naβura was subjected to syncope, creating a stop-plus-liquid as in \*tʃe'naβra, and it was from this form that metathesis applied.<sup>53</sup> Thus, the Tertenia Sardinian form tʃe'narβa is the result of a metathesis that affected a “new” stop-plus-liquid sequence due to syncope. In St. Sass. one can find some occurrences of this item, i.e., *kenapura* at I, 160; II, 38, (see DES 239 and the appendix).

#### 4.9

##### A#22 - MENTŪLA> MENT'LA> \*MINC'LA

The Sardinian terms for ‘penis’ are 'miŋkra (Central and Northern Sardinian) and 'miŋka (Southern Sardinian). As mentioned earlier (Sect. 3), in some cases Latin TVL sequences went through syncope and the resultant *tl* sequence became a *cl* sequence. This was the case for Sardinian 'miŋkra and 'miŋka: both are the outcomes of MENTŪLA> MENT'LA> \*MINC'LA. Only at a very latter stage did the liquid become a rhotic, i.e., 'miŋkra.<sup>54</sup> Southern Sardinian 'miŋka is due to liquid deletion (Wagner 1941:§256). For a brief discussion, see also Chap. 4.

#### 4.10

##### A#24 - INS(Ū)LA

The outcomes of Latin INS(Ū)LA are as follows: Central and Northern Sardinian display 'iskra, while Southern Sardinian displays 'iska.<sup>55</sup> Tertenia Sardinian has 'iskra. In these dialects, 'iskra or 'iska denote a fertile land near the river.<sup>56</sup> The steps in the evolution of this item are as follows: INS(Ū)LA> *iscla*> 'iskra in Northern and Central Sardinian, and INS(Ū)LA> *iscla*> 'iskra> 'iska in Southern Sardinian

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<sup>53</sup> For the Tertenia form tʃe'narβa one can also hypothesize a further intermediate step \*tʃe'naβura>\*tʃe'naβara, thus with a vowel assimilation (Virdis 1978:31), and then the deletion of the vowel between the stop and the liquid, i.e., \*tʃe'naβra.

<sup>54</sup> See DES 529 and entries A#8 and A#9 in Sects. 4.2, 4.3.

<sup>55</sup> DES 433.

<sup>56</sup> I report the definition in Tertenia Sardinian. The meaning may differ slightly from one dialect to another; see DES 433 and the different glossaries from the ancient text editions (see References).

(Wagner 1941:§256). This item occurs in the ancient texts as *iscla* or *yscla*.<sup>57</sup>

#### 4.11

##### A#25 - SUBULONE

The Central and Southern terms for ‘wild boar’ are *sir'vone*, *sir'βone*, *sir'βoni*, and *sri'βōi*.<sup>58</sup> DES 719 cites these terms as evolutions of SUBULONE. Northern Sardinian *su'lone* stems from SUBULONE as well but with a different meaning (e.g., ‘little deer,’ DES 719).

A closer examination of these outcomes shows that only Northern Sardinian *su'lone* did not maintain the voiced obstruent. Central Sardinian dialects still display it, as expected. Only the Southern outcomes *sir'βoni* and *sri'βōi* had an anomalous behavior. The voiced obstruent should have been deleted, but this did not happen. If the voiced obstruent of the Southern outcomes had been in intervocalic position (i.e., *\*subulone*), it should have been deleted by lenition, as in the Northern dialects.

By looking at the form *sir'βoni*, one may hypothesize that Southern Sardinian forms went through a further step. The form *\*subulone* developed into *\*sublone*, and thus a stop-plus-liquid sequence was created. In my view, the voiced obstruent of this sequence was in a structural condition that avoided lenition. It sat in a heterosyllabic stop-plus-liquid cluster.<sup>59</sup> Only much later did metathesis take place, creating a coda-cluster. I suggest such an evolution also because the metathesis that affected *sir'βoni* may only originate from a stop-plus-liquid cluster.<sup>60</sup>

The form *sri'βōi* is simply the most recent metathesis that applies to the form *sir'βoni*. In some towns of the deep southern area, liquids in

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<sup>57</sup> In the ancient texts one frequently finds *iscla*, while *yscla* occurs only once, namely in Carte Volgari at XX<sup>\*</sup>, 1. Thus, Carte Volgari has *iscla* at II<sup>\*</sup>, 2; XI<sup>\*</sup>, 4; XIV, 8; XV, 3; XX<sup>\*</sup>, 1; XX<sup>\*</sup>, 2; XX<sup>\*</sup>, 4; XX<sup>\*</sup>, 5; XX<sup>\*</sup>, 6 and *yscla* at XX<sup>\*</sup>, 1. CSNT displays *iscla* at 92 and 278. CSP has *iscla* (133, 197 (3 times), 202 (2 times), 206 (3 times), 257, 398). CSMB has *iscla* at 1, 42, 137, 207.

<sup>58</sup> DES 719. See also Wagner (1928:60).

<sup>59</sup> This issue will be analyzed in Chaps. 5 and 6.

<sup>60</sup> See Chap. 4.

coda go to word-initial position creating new consonant clusters.<sup>61</sup> In sum, the various steps may be as follows: *\*subulone* > *\*sublone* > *\*subrone* > *sir'β̃oni* > *sri'β̃i*. Northern Sardinian *su'lone* is due to the loss of the voiced obstruent, thus, *\*subulone* > *su'lone*.

However, there is also another hypothesis. The form *su'lone* might share some steps in its evolution with the other Sardinian dialects. As for the other dialects, a stop-plus-liquid was created. But with respect to the other dialects, the new stop-plus-liquid was a tautosyllabic one, which permits the voiced obstruent to delete. Thus, the steps should have been as follows: *\*subulone* > *\*sublone* > *su'lone*. Notice also that *su'lone* displays a lateral, not a rhotic (i.e., *\*su'rone*). If the latter hypothesis is correct, it means that the obstruent was lost before the 15<sup>th</sup> century.<sup>62</sup>

#### 4.12

##### A#26 - SUBULA

The same remarks offered for the entry #25 apply also to SUBULA. The Sardinian outcomes of Latin SUBULA are as follows: 'surβa, 'surva (Centr. Sard), 'surβa, 'sula (North. Sard.), and 'sula (South. Sard.).<sup>63</sup> The form 'sula shows the effects of lenition (i.e., deletion of the voiced stop). In the other Sardinian terms, lenition did not apply. I thus believe that 'surβa and 'surva are the result of the following two steps: First, syncope took place between the voiced obstruent and the lateral, creating a stop-plus-liquid sequence, i.e., *\*subula* > *\*subla*. And second, the liquid was affected by metathesis and went to coda, i.e., *\*subla* > 'surβa, 'surva.<sup>64</sup>

#### 4.13

##### A#27 - SIBILARE > \*SUBILARE

The remarks for entries #25 and #26 also apply to entry #27, SIBILARE > \*SUBILARE. The modern Sardinian forms for this item are *sur'βare* (Centr. Sard.), *su'lare* (North. Sard.), and *su'lai* (South.

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<sup>61</sup> Wagner (1941), Viridis (1978), Contini (1987). Bolognesi (1998), Molinu (1999), and Alber (2001). See Chap. 4, Sect. 1.4.

<sup>62</sup> Contini (1987:386) and Paulis (1997:135).

<sup>63</sup> DES 721.

<sup>64</sup> For the rhotacism, see Contini (1987:386) and Paulis (1997:135).

Sard.).<sup>65</sup> In the Sardinian terms su'lare and su'lai, lenition took place, while in the Central Sardinian sur'βare it did not, as expected for most of the Central Sardinian dialects, a group of dialects with no lenition.<sup>66</sup> The item sur'βare is in the latter step of a three step evolution. The form \**subulare* was subjected to syncope, (i.e., \**subulare* > \**sublare*). The form with the resultant stop-plus-liquid sequence was then affected by metathesis, (i.e., \**sublare* > sur'βare).<sup>67</sup>

#### 4.14

##### A#34 - VITRUM

Central Sardinian 'briðu (Nuoro) and 'vriðu (Bitti, Fonni), Northern Sardinian 'biðru, and the Southern forms um'birðu and im'birðu all stem from Latin VITRUM.<sup>68</sup> The Southern forms um'birðu and im'birðu are the result of a metathesis that applied to a voiced stop-plus-liquid cluster (i.e., already affected by lenition).

#### 4.15

##### A#35 - MATRICE

The Southern Sardinian forms 'mardi, 'maðri, and 'maðrie are the outcomes of Latin MATRICE.<sup>69</sup> All outcomes display both lenition and loss of the velar stop.<sup>70</sup> The form 'mardi was subjected to metathesis. In Carte Volgari there are the following occurrences: *matrige* at I 1, 7; *madriedu* at XIII, 9; and *madrii* at XVII, 8, 11.<sup>71</sup>

#### 4.16

##### A#36 - PRATUM

Latin PRATUM is the etymological form of Sardinian 'pratu, 'praðu, and 'parðu.<sup>72</sup> Central Sardinian 'pratu and Northern Sardinian 'praðu still maintain the same structure as Latin PRATUM. However, some problems arise with the southern form 'parðu.

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<sup>65</sup> DES 721.

<sup>66</sup> Wagner (1941).

<sup>67</sup> For the rhotacism, see Contini (1987:386) and Paulis (1997:135).

<sup>68</sup> DES 167. For the word-initial insertion of the nasal, see Wagner (1941:§389-90).

<sup>69</sup> DES 514.

<sup>70</sup> For the deletion of intervocalic velar stops, see Viridis (1978:44) and Paulis (1984:XLIII).

<sup>71</sup> See also DES 514.

<sup>72</sup> DES 639 and Wagner (1941:§419).

If one looks at the ancient texts, one finds that an intermediate form is attested in the south and in the transitional western area. In the collection *Carte Volgari* (south area), *padru* is frequently attested while *pardu* occurs just once. In CSBM it is attested twice with the form *pratu* and *pradu*, but it occurs most frequently as *patru* (4 times) or *padru* (10 times). In the most recent CdL, it appears as *padru* or *pardu* (plus all derivatives; see the glossary in Lupinu (2010)). These data suggest that in the southern and western areas the form *patru* for Latin PRATUM was the most widespread. It means that 'parðu is the result of the following steps: PRATUM > \**patru* > \**padru* > 'parðu. Thus, it is from the form \**padru* that the latter metathesis applied. The final step was the creation of a coda-onset cluster (i.e., 'parðu).

#### 4.17

##### A#37 - \*PULLETRU

The Sardinian terms for 'colt' stem from \*PULLETRU or from \*PULLETRU plus the suffix -ĪCU.<sup>73</sup> Here I concentrate on \*PULLETRU and the relative outcomes. Central areas (e.g., Orosei Sardinian) display puɖ'ɖetru, thus a form that still maintains the same structure as Latin \*PULLETRU.<sup>74</sup> Nuorese Sardinian pur'ðeɖɖu,<sup>75</sup> and Northern and Southern pur'deɖɖu, pru'ðeɖɖu, and pu'ðreɖɖu appear with the most various structural combinations. The form pu'ðreɖɖu is the key to understand this puzzling distribution.

A form like \**putrellu* co-occurred with the form \**pulletru* (the form most similar to the Latin one). The most conservative dialects of the central areas stem from the latter, while the other dialects stem from the former. In some dialects \**pulletru* developed into \**putrellu* at a very early stage.<sup>76</sup> Thus, \**putrellu* is the intermediate form for pu'ðreɖɖu and pur'deɖɖu, with the following steps: \**putrellu* > pu'ðreɖɖu > pur'deɖɖu. As already mentioned, the type of metathesis that created a coda-onset cluster (i.e., pur'deɖɖu) applied only to stop-plus-liquid clusters. By contrast, the hypothesized evolution for

<sup>73</sup> DES 647.

<sup>74</sup> ɖɖ is the Sardinian reflex of Latin -LL-; see Viridis (1978:§33), Paulis (1984:LXXXVff), among others. Data (i.e., puɖ'ɖetru, pur'ðeɖɖu, pur'deɖɖu, pru'ðeɖɖu, and pu'ðreɖɖu) are from DES 647.

<sup>75</sup> For my Nuorese informant, the Nuorese form is puɖ'ɖeriku.

<sup>76</sup> See Wagner (1941:§435) and Viridis (1978:76).

pru'ðeqðu is as follows: \*putrellu> pu'ðreqðu> pru'ðeqðu. In the ancient texts, various instances of this item are found. Carte Volgari displays *pulledrus* at XV, 3. CSNT has *pulletru* at 122, 186, 211, and 309, *pulletros* at 130, and *putrellu* at 306. In CSP *pulletru* occurs twice, at 155 and 251.

#### 4.18

##### A#42 - VITRICUS

The Sardinian outcomes of VITRICUS 'step-father' are as follows: 'vitriku, 'briðiku, 'vritiku (Centr. Sard.), 'biðriyu (North. Sard.), 'biðriu, and 'birdiu (South. Sard.).<sup>77</sup> From a structural point of view, the Central Sardinian forms are closest to the Latin ones. The exception is Nuorese 'briðiku, which displays the type of metathesis which applied to Nuorese Sardinian and related dialects.

#### 4.19

##### A#43 - BOTRYONE or BUTRONE

The various Sardinian terms for 'grape bunch' (i.e., brut'təne, bu'ðrone, bur'dəne, bu'ðrəni, bur'dəni, gur'dəni, pur'ðəni, etc.) are from Latin BOTRYONE or BUTRONE.<sup>78</sup> As already noted in DES 192, some villages display forms with a word-initial voiceless labial stop, i.e., pur'ðəni. My two informants for Nuorese Sardinian each produced a different form, one with the initial voiceless stop (i.e., pur'dəne), and another with the voiced one (i.e., bur'dəne).<sup>79</sup> In CSNT, *Butrone* occurs once at 260.<sup>80</sup>

#### 4.20

##### A#45 - COMPLERE

The Sardinian outcomes of Latin COMPLERE are as follows: 'krəmpere (Centr. Sard.), 'ləmpere (North. Sard.), and 'ləmpiri (South. Sard.).<sup>81</sup> The Northern and Southern Sardinian terms are of particular interest. The items 'ləmpere and 'ləmpiri show the loss of the word-initial stop. Word-initial deletion was not a widespread phenomenon in Sardinian, even though some items that went

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<sup>77</sup> DES 800.

<sup>78</sup> DES 192.

<sup>79</sup> See the appendix, entry #43.

<sup>80</sup> See CSNT 260 and DES 192.

<sup>81</sup> DES 286.



through this deletion can be found.<sup>82</sup> But 'lɔmpere and 'lɔmpiri have a peculiarity that is not found in other items which lost the word-initial stop. Their word-initial stop deleted after metathesis took place. This occurred in the following steps: COMPLERE> \*clompere> 'lɔmpere/'lɔmpiri. *Clompere* (plus all derivative forms) is widely attested in the ancient texts.<sup>83</sup> One can find forms with and without metathesis (i.e., *clomp-* vs. *compl-*), but in CSMB some items display a double stop-plus-liquid sequence: the liquid appears both word-internally and word-initially (i.e., *clompl-*).<sup>84</sup>

Lupinu (2010:126, note 1) also reports another interesting fact: in the incunable A of CdL there is an occurrence of *lompēt*. This means that the word-initial deletion was not a recent phenomenon. Further evidence for this comes by looking at the liquid. In Sardinian, laterals in stop-plus-liquid clusters became rhotics. This phenomenon should be dated to the 15<sup>th</sup> century.<sup>85</sup> Thus, the word-initial deletion took place before the 15<sup>th</sup> century. The only Sardinian dialects that never lost the word-initial stop and thus display the rhotic at the place of the lateral are those from the Central Sardinian area (e.g., Nuorese Sardinian 'krɔmpere, DES 192).

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<sup>82</sup> Contini (1987:374).

<sup>83</sup> In Carte Volgari there are the following occurrences: *clonpit/clompit* II\*, 2; XI\*, 2 (2 occurrences); XVII, 7, 8; XXI, 5; XIX, 2 (3 occurrences); *clonpilli(s)/clompilli(s)* X, 3; XIII, 9; XIV, 6; XVII, 3, 8 (2 occurrences), 10, 11 (2 occurrences). In CSMB one can find *clomp-* 1, 11, 13, 15, 32 (2 occurrences), 67, 105, 107, 161, 184, 194, 207 (=18 occurrences); *compl-* 42, 43, 44, 45, 47, 48, 49, 50, 51, 52, 55, 58, 59, 60, 62, 70, 134 (2 occurrences), 136, 143 (4 occurrences), 157 (6 occurrences) (=29 occurrences); *clompl-* 28, 107, 184, (=5 occurrences); and *clonp-* 119. In CSNT there are *clonpet* 317 and *clonperun* 102, 317 (any *compl-* or *conpl-*). CSP displays *clomp-*, *clonp-* 5, 10 (5 occurrences), 11, 96 (3 occurrences), 110 (2 occurrences), 173, 186, 197, 203, 285 (2 occurrences), 290, 307, 316, 385, 404, 413, 422 (3 occurrences). In CdL one can find *conplit*, *conpliri*, *compliri* (see Lupinu (2010)) and *lompēt* (only in the incunable A, Lupinu 2010:126). St. Sass. displays *clomper* I, 131; *clonplimentu* I, I; *clompimentu* I, 28, 131; III, 42, 48; *clomper* I, 37; *clompitu* II, 29; *clonpitos* II, 20; *clompita(s)* I, 99 (4v.), 123; II, 17 (3v.), 19. See also the respective glossaries of the ancient texts.

<sup>84</sup> See the various ancient texts plus their respective glossaries.

<sup>85</sup> Contini (1987:386) and Paulis (1997:135); see also Chap. 6, Sect. 6.

#### 4.21

##### A#50 - VENTER

The items 'brēnte (Centr. Sard.), 'bēntre (North. Sard.), and 'brēnti (South. Sard.) are the Sardinian outcomes of Latin VENTREM.<sup>86</sup> The same type of metathesis (i.e., VENTRE> 'brēnte, 'brēnti) is observed in the Central and Southern dialects. The evolution v> b was a common phenomenon in Old Sardinian and in other Romance languages.<sup>87</sup> The only occurrence I found in the ancient texts is *bentre* from St.Sass (II, 49).

In Tertenia Sardinian, the outcome of Latin VENTRE is subjected to a synchronic metathesis that takes place when *bentre*<sup>88</sup> is preceded by a consonant-final word (see Section 2.2, Chap. 4). Thus, when *bentre* is preceded by a vowel, the voiced obstruent undergoes intervocalic lenition (i.e., it is not realized) and no metathesis is observed. The result is an utterance such as [s̄ ɛntri] for *sa bentre*. By contrast, when the preceding word is vowel-final, as in *is bentres*, lenition does not apply to the voiced obstruent but metathesis takes place, and thus the final result will be [ir 'βrēntizi].<sup>89</sup>

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<sup>86</sup> DES 161.

<sup>87</sup> Wagner (1941:§149-160).

<sup>88</sup> The phonological status of the final vowels in the Southern Sardinian dialects is still disputed. The transcription adopted here follows Bolognesi (1998): /e/ and /o/ in final position surface as [i] and [u], respectively. See Wagner (1941:§46) and Viridis (1978:§12). On Sardinian vowel system see also Loporcaro (2005b). See also Chap. 1, Sect. 1.2.1.

<sup>89</sup> This type of metathesis is analyzed in Scheer (to appear). Some data can also be found in Lai (2010). As noted in Scheer (to appear), Tertenia Sardinian also displays synchronic metathesis (see Chap. 4, Sect. 2.2). Other Sardinian dialects with synchronic metathesis are analyzed in Bolognesi (1998), Molinu (1999), and Alber (2001), among others. Molinu's paper is a comprehensive work on Sardinian metathesis with not only synchronic but also diachronic data. Note though that Bolognesi (1998), Molinu (1999), and Alber (2001) refer to Sardinian dialects other than Tertenia Sardinian. There is strong diatopic variation in Sardinian metathesis, both synchronically and diachronically (see Chap. 4). The synchronic data they report are from Sestu Sardinian, a Southern Sardinian dialect (i.e., Southern Campidanese) and from Genoni and Senorbì (the southern-western area). The type of metathesis they analyze is observed only in some south-western Sardinian dialects, but not in Tertenia Sardinian. See also Wagner (1941), Viridis (1978), Contini (1987), and Geisler (1994), among others.

#### 4.22

##### A#54 - CALABRICE, CALABRICUS

The Sardinian terms for ‘hawthorn’ stem from Latin CALABRICE or CALABRICUS (DES 203). Central dialects display ka'laβrike and ka'lavrike. Other outcomes listed in DES 203 are kala'riye, ka'laβriu, ko'arviu, and ko'aviyu. The former is from Northern Sardinian; the others are attested in central-southern areas.

Central Sardinian ka'laβrike and ka'lavrike still maintain the voiced obstruent, as expected for the Central Sardinian dialects. Note also that the stop-plus-liquid cluster still is there, as it was in Latin, even though Central Sardinian was usually subjected to a type of metathesis that re-creates another stop-plus-liquid word-initially. But forms like \*kra'laβrike and kra'lavrike are not present, as far as I know.

In other dialects, the voiced obstruent deleted (e.g., Macomer Sardinian kala'riye). Recall that intervocalic voiced obstruents deleted in Northern and Southern Sardinian. However, in all of the Southern Sardinian forms reported in DES, the voiced obstruent is still there. The voiced obstruent is in boldface, e.g., ka'laβriu, ko'arviu, and ko'aviyu. The lack of deletion of the voiced obstruent is an anomalous result for Southern Sardinian dialects. Even in Tertenia Sardinian, another dialect affected by lenition, the obstruent is still there (i.e., ka'lavriyu). This issue will be analyzed in Chaps. 5 and 6.<sup>90</sup> In CSP, *calabrike* occurs twice at 191 and once at 290.

#### 4.23

##### A#55 - COLUBRA > COLOBRA

The remarks in Sect. 4.22 also apply to the Sardinian outcomes of Latin COLUBRA (DES 261). Central Sardinian ko'lövra and ko'lovru still maintain the obstruent, and metathesis is not observed. The Northern and Southern Sardinian ko'löra and ko'loru are the expected evolutions for these areas: the voiced obstruent deletes, as

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<sup>90</sup> See also Chap. 2, Sect. 5.2. For the items that avoided lenition, see Wagner (1941:\$269ff).

every obstruent in intervocalic position.<sup>91</sup> But if the expected result in southern areas is deletion, a problem arises if one looks at Tertenia Sardinian ko'lovra. This dialect displays most of the patterns found in southern areas, such as lenition, but here lenition did not apply.<sup>92</sup> Notice also the behavior of a neighboring dialect, Gadoni Sardinian, whose evolution (i.e., ko'lovuru) developed an epenthetic vowel between the obstruent and the liquid of the stop-plus-liquid sequence.<sup>93</sup>

#### 4.24

##### A#56 - CIRIBRUM

For the outcomes of CIRIBRUM, see the remarks in 4.22 and 4.23. Central Sardinian ki'liβru still has the voiced obstruent, as one can expect from this area, and metathesis did not apply. By contrast, Northern Sardinian ki'liru and Southern Sardinian tʃi'liru lost the obstruent.<sup>94</sup> As in 4.22-23 one can expect that Tertenia Sardinian deleted the obstruent, but anomalously the obstruent remains in place, with the form tʃi'livru. Analogously, the neighboring dialect Seulo Sardinian still maintains the voiced obstruent, and moreover an epenthetic vowel developed between the two members of the stop-plus-liquid: thus, the modern Seulo form is tʃi'livuru.<sup>95</sup>

#### 4.25

##### A#57 - LABRUM, LABRA

The remarks in Sect. 4.22-24 also apply to the Sardinian outcomes of Latin LABRA. In Tertenia Sardinian 'lavraza, lenition did not apply and the stop-plus-liquid sequence is still in its original place. In Central Sardinian, one can find outcomes without lenition, and in a few cases with metathesis (e.g., 'lavra, 'laβra, and 'larva). Even in Northern Sardinian dialects, various outcomes may be found, some with lenition and others without (e.g., 'lavra, 'laβra, and 'larva vs. 'lara). The same holds for the Southern Sardinian outcomes, e.g.,

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<sup>91</sup> See Chap. 5 and relative references. As usual, data other than Tertenia Sardinian are from DES.

<sup>92</sup> See Chaps. 5 and 6.

<sup>93</sup> Gadoni Sardinian ko'lovuru is taken from DES 261.

<sup>94</sup> DES 244.

<sup>95</sup> Seulo Sardinian tʃi'livuru is taken from DES 244. As for the previous entries, these anomalous outcomes will be analyzed in Chaps. 5 and 6.

'lavra, 'laβra, 'larva, 'lavru, and 'lau.<sup>96</sup> In the ancient texts *labru* (311 CSP), *labra* (CSP 376), and *lauras* (St. Sass. III, 5) are found.<sup>97</sup>

#### 4.26

##### A#58 - QUADRULA

DES cites 'parðula as derived from QUADRULA (DES 592). The Sardinian reflexes for Latin QU (i.e., [kw]) were of two types: Northern and Central Sardinian display [b(b)] (e.g., AQUA> 'abba, QUATT(U)OR> 'battoro, DES), while in Southern Sardinian one finds [kw] (e.g., AQUA> 'akkwa, QUATT(U)OR> kwattru, DES), similar to most other Romance languages, including Italian.<sup>98</sup>

Tertenia Sardinian and all the other Ogliastra dialects display two different results with respect to the treatment of Latin sequences QU. Word-internally -QU- became -b(b)- (e.g., AQUA> 'abba, AQUILA> 'abbila, EQUA> 'ebba, DES), as in the Northern and Central dialects, but word-initially there is QU-> kw-, as in the Southern dialects (e.g., QUATT(U)OR> kwattru, DES).<sup>99</sup>

It should also be mentioned that Wagner (1941:§218) only considers the Northern and Central Sardinian reflex [b(b)] as the genuine one.<sup>100</sup> He also argues that for the forms with [kw] there was probably some Italian (i.e., Old Tuscan) influence (Wagner 1941:§218, Wagner 1950:243). Note that Wagner's proposal is rejected by a recent work by Lőrinczi (2007).<sup>101</sup>

All of these general considerations are just to say that it is not simple to decide whether 'parðula should be considered an indigenous term, originating from the south (DES 592), or a loanword from other dialects.<sup>102</sup> In any case, it should be noted that it could not be a loanword from Northern Sardinian, but only from one of the Central

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<sup>96</sup> DES 472.

<sup>97</sup> See DES, CSP, and St. Sass.

<sup>98</sup> Wagner (1941:§216, 496), Viridis (1978:§29), and Contini (1987:68-70 and maps n° 32 and 33).

<sup>99</sup> Wagner (1941:§216), Viridis (1978:§29), and Contini (1987:70).

<sup>100</sup> The same idea is also reported in Viridis (1978:§29), Contini (1987:68), and Blasco Ferrer (2003:202).

<sup>101</sup> See also Bolognesi (2005).

<sup>102</sup> Wagner (1941:§216), Bolognesi and Heeringa (2005), and Lőrinczi (2007:7ff).

Sardinian dialects, because the type of metathesis that originated 'parðula (with the following steps: \*'paðrula <QUADRULA) occurred only in a small central area from the western coast to the eastern one.<sup>103</sup>

#### 4.27

##### A#59 - FABRICARE, FABRICA

The Sardinian outcomes of Latin FABRICARE, 'build' are as follows: fraβi'kare, frai'kare (Centr. Sard.), frai'yare (North. Sard.), and fabbri'kai (South. Sard.) (DES 361). Central and Northern dialects display the metathesis of *r*. The Northern Sardinian outcomes were also affected by lenition, as expected. On the contrary, the Southern Sardinian outcome does not display the weakening phenomena. This is an anomalous result (i.e., intervocalic obstruents were subjected to lenition). DES 361 acknowledges that there was probably some Italian influence. In fact, terms with lenition such as *fraigei*, *fraigarunt*, and *fraigaat* are attested even in southern ancient texts (e.g., Carte Volgari).<sup>104</sup> The modern forms without lenition must be due to the late influence of the corresponding Italian term, which did not display any kind of lenition.

#### 4.28

##### A#64 - FABRU

The outcomes of FABRU 'blacksmith' are as follows: fraβi'lardzu, (Centr. Sard.), frai'lardzu (North. Sard.), and 'frau (few South. Sard. dialects) (DES 361). All outcomes show metathesis. In the dialects with lenition, metathesis goes together with lenition (e.g., 'frau, DES). Metathesis is also observed in those Sardinian dialects that were not subjected to lenition (e.g., fraβi'lardzu, DES 361). The

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<sup>103</sup> Contini (1987:412).

<sup>104</sup> The outcomes of FABRICARE attested in Carte Volgari and their corresponding locations are as follows: *fraigei* at IX, 5; *fabrigada* at 5; *fabricarat* at IV\*, 1; *fraigarunt* at IV\*, 2; and *fraigaat* at XIV, 4. Note that the occurrences whose stop-plus-liquid was affected by lenition were also those that went through metathesis. Note also that in the same act (Carte Volgari IV\*) two forms with opposite results are found: *fabricarat* (no lenition, no metathesis) and *fraigarunt* (lenition plus metathesis). In a text from the transitional western area (i.e., CSMB), one can find *fraigait* at 24 and 161, *fraigaresi* at 170, and *fraigare* at 170. In CSNT the same items are attested as *Frabica(s)* at 9, 79 (3 times), *fravicas* at 294, and *fabricare* at 145. Any *fabric-* is found. In CSP, *fabricare* and *frauica* are attested at 31. In Stat. Sass. one can find *fraicare* at I, 18, *fraican* at I, 37, *fraicare* at I, 37 (4 times), and *fraicat* at I, 37.

Tertenia Sardinian term *fer'reli* is borrowed from the Catalan (see DES 361). In the Middle Ages, the only form attested in Southern texts was *'frau*.<sup>105</sup>

#### 4.29

##### **A#68 - *petronciano, petroniciano***

The Central and Southern Sardinian terms *pređin'džanu*, *perdin'džanu*, and *peđrin'džanu* are borrowed from Old Italian *petronciano* or *petroniciano*.<sup>106</sup> The evolution of this loanword is in line with the indigenous lexicon. Thus, lenition is observed and in some areas metathesis took place, as one can see by the form *perdin'džanu*.

#### 4.30

##### **A#69 - *muteclu, \*MUTULU***

The Sardinian terms for 'cistus' (i.e., *mu'treku*, *mu'đreku*, *mu'đreyu*, *mur'deyu*, and *mu'đeyu*) are believed to be related to Latin *\*MUTULU*. This item is listed in Table 2 in the appendix together with the older loanwords. The reason is that the etymology *\*MUTULU* is still controversial (DES 549). DES 549 acknowledges some influence from *MURTA* or *MYRTA*. Thus it might be claimed that the different Sardinian forms stem from an item with a mixed origin.

Occurrences of this item are attested in CSP and in *Carte Volgari*, with the forms *muteclu* and *mudeglu*, respectively.<sup>107</sup> The former, from Old Logudorese, is the most ancient one: it does not show lenition, while *mudeglu* does. Lacking conclusive evidence, I adopt *muteclu* from Old Logudorese as the derived form for the different Sardinian dialects. It is for this reason that I choose to report this

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<sup>105</sup> See DES 361. *Frau* is found in *Carte Volgari* at the following locations: *Carte Volgari* IX 2, 6, 10; X 3; XIV, 7, 8; and XVI, 6. In CSMB it is attested as *fabru* 46, 73, *Frau* 114, 167 (2 times), 205, and *Fraus* 205. In CSNT it is attested as *Frabile* at 46, 102, 131, and *Fravile* at 130, 300. The type *fabr-* does not occur. In CSP it is found as *frabu* at 42, 89, 227, *fravile* at 82, 89, 95, 98, 100, 102, 103 (2 times), 104 (2 times), 105, 107, 108, 111, 177, 223, 226, 341, 352, *fravile* at 2, and *fraucatore* at 386.

<sup>106</sup> DES 521.

<sup>107</sup> See DES 549. In CSP (an ancient Sardinian text from the northern area) one can find *muteclu* at 207 and *muteclariu* at 418. In *Carte Volgari*, a Southern text, *mudeglu* occurs twice in the same act at XI<sup>o</sup>, 2.

item among the old loans in the appendix. *Muteclu* may be considered as a previous step in the evolution of modern Sardinian terms for ‘cistus.’

By looking at the various Sardinian terms, it is clear that a further step took place. All modern terms stem from an intermediate form, such as *mutrecu* or *mudregu*. Both display the same structural form. The former was not affected by lenition, while the latter was.

Central Sardinian *mu'treku* is the closest to the suggested form. The items *mu'ðreku* and *mu'ðreyu* show the effects of lenition, but their structural form is still close to *mutrecu*. Southern Sardinian *mur'deyu* and *mu'ðeyu* appear lenited but were also affected by structural changes. In *mur'deyu* metathesis took place (i.e., *mutrecu* > *mudregu* > *mur'deyu*), while *mu'ðeyu* went through liquid deletion (i.e., *mutrecu* > *mu'ðreyu* > *mu'ðeyu*).

#### 4.31

##### A#70 - *allegro*

The items *al'ligru*, *al'legru*, and *al'lirgu* are borrowed from Italian *allegro* ‘cheerful’ (DES 91). Lenition is not observed and metathesis applied only to Southern Sardinian (i.e., *allegro* > *al'lirgu*).

#### 4.32

##### A#71 - *padrino*

DES cites the Southern Sardinian form for ‘godfather’ (i.e., *par'ðinu* and *pa'ðrinu*) as an Italian loanword. In fact, the original Sardinian term is 'nonnu.<sup>108</sup> In Tertenia Sardinian, younger people prefer *par'ðinu* while the elders still use 'nonnu. Thus, if in Southern Sardinian *par'ðinu* is an Italian loanword, in Tertenia Sardinian *par'ðinu* may be considered as an internal loanword from southern areas.<sup>109</sup> The steps in the evolution of this loanword are as follows: *padrino* > *pa'ðrinu* > *par'ðinu*. In the last step, metathesis took place: the liquid of the stop-plus-liquid sequence went to coda position. Lenition did not apply to this loanword.

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<sup>108</sup> See DES.

<sup>109</sup> DES reports that *par'ðinu* is widespread in the town of Cagliari and neighboring towns.



### 4.33

#### A#76 - CLAMARE

Sardinian kra'mare and la'mai 'call' are the outcomes of Latin CLAMARE.<sup>110</sup> In kra'mare the lateral of the stop-plus-liquid became a rhotic, a phenomenon widespread in Sardinian since the 15<sup>th</sup> century.<sup>111</sup> By contrast, in la'mai something peculiar happened: the velar obstruent of the stop-plus-liquid sequence was subjected to complete deletion.<sup>112</sup> Some occurrences of this item are found in CSMB and St. Sass.<sup>113</sup>

### 4.34

#### A#77 – GLANDE, GLANDINE

This section and the following ones (4.35-4.38) deal with some items that have a word-initial voiced stop which underwent complete deletion. This phenomenon is analyzed in Wagner (1941:§260-3, 271) and Viridis (1978:70). My proposal can be found in Chap. 6, Section 6.

The Sardinian terms for 'acorn' stem from GLANDE or GLANDINE. Southern Sardinian 'landiri stems from GLANDINE, while the other terms (i.e., 'lande and 'landi) from GLANDE.<sup>114</sup> In Tertenia Sardinian I found the form 'landi. The word-initial deletion affected not only the Southern and Northern Sardinian dialects but also the Central Sardinian dialects of Nuoro and Bitti. On the other hand, other central dialects resisted deletion. I am talking about the dialects of Torpé, Olzai, Ollolai, and Gavoi, which display the form 'grande. Only in these central dialects is the stop-plus-liquid sequence preserved.<sup>115</sup> In the ancient text of CSMB *glande* appears (6 times),

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<sup>110</sup> DES 279. For an overview of the Sardinian terms for the verb 'to call,' see Wagner (1928:41).

<sup>111</sup> Contini (1987:386) and Paulis (1997:135); see also Chap. 6, Sect. 6.

<sup>112</sup> See Wagner's (1941:§260) explanation and my proposal in Chap. 6, Sect. 6.

<sup>113</sup> See DES 279 and the glossary in Viridis (2002). In CSMB one can find *clamait* at 169, *clamandominde* at 100, *clamandomi* at 100, and *clamedi* at 104. In St. Sass. there are *clamatu* I, 25, 26, 133; *clamatore* I, 28, 133; *se clamen* I, 27, 29, XXXIII, 38; II, 37; *clamare* I, 28, 84, II, II, 14, 37; *clamatos* I, 28, 33, 52. 84; II, 37 (2 occurrences); and *clamaren* I, 145.

<sup>114</sup> DES 390.

<sup>115</sup> The data are from DES 390.

but interestingly there is also one occurrence with the stop already deleted (i.e., *lande*).<sup>116</sup>

#### 4.35

##### A#78 - GRANDO, -ĪNE; GRANDINARE

The remarks in 4.34 also apply to the entries #78 in the appendix, GRANDINE and GRANDINARE. The Northern and Southern outcomes of GRANDINE display the deletion of the word-initial stop with the forms 'randine and 'landiri, respectively.<sup>117</sup> Central Sardinian 'grandine still maintains the voiced stop.<sup>118</sup> The Tertenia Sardinian outcome is 'randili.

#### 4.36

##### A#79 - GLANDŪLA

Even for the outcomes of GLANDULA there is a macro-division between Central Sardinian on the one hand and Southern and Northern Sardinian on the other. Southern and Northern Sardinian display word-initial deletion (e.g., 'randula), while Central Sardinian was not subjected to this process at all (e.g., 'grandula).<sup>119</sup> Notice also that this macro-division corresponds to another macro-division between Sardinian dialects, those with lenition (i.e., Northern and Southern dialects) and those without (Central dialects).

The word 'randula shows a word-initial *r*- instead of *l*-. There may be two explanations for this: First, the word-initial stop was lost after the 15<sup>th</sup> century, when rhotacism in stop-plus-liquid had already taken place. Second, a kind of dissimilation phenomenon may be hypothesized in a word that displayed two laterals, i.e., \*'landula. This is a very common phenomenon in Sardinian (Wagner 1941:§433), and thus I am for this latter hypothesis; see also Viridis (1978:§34) for examples.

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<sup>116</sup> See also the glossary to CSMB in Viridis (2002).

<sup>117</sup> For the Southern form 'landiri, see Wagner (1941:§260, note 190); see also Viridis (1978:§34).

<sup>118</sup> Data are from DES 390.

<sup>119</sup> Data are from DES 390.

#### 4.37

##### A#80 - GRANUM

The Northern and Southern Sardinian outcome of Latin GRANUM is 'ranu, with the loss of the word-initial obstruent.<sup>120</sup> Thus, GRANUM had the same evolution of the items in Sects. 4.34-4.36. It might be interesting to note that even though this item displays (and displayed earlier on) a word-initial rhotic, this rhotic differed from the etymological ones. In Southern Sardinian word-initial rhotics were banned and re-adjusted with the insertion of a vowel; for instance, Southern Sardinian ar'rana is the outcome of Latin RANA.<sup>121</sup> However, in GRANUM> 'ranu epenthesis is not observed.

#### 4.38

##### A#81 - \*GLOMŪLUS

The Sardinian terms 'lomburu, and 'gromuru stem from \*GLOMŪLUS.<sup>122</sup> As one can expect by looking at the behavior of similar items (see Sects. 4.34-4.37), 'lomburu is from Southern and Northern Sardinian, while 'gromuru is from the central dialects.<sup>123</sup>

#### 4.39

##### A#82 - CRUX, -UCE

DES 287 lists the Sardinian outcomes of Latin CRUCEM.<sup>124</sup> Central dialects display 'ruke, while the Northern ones 'ruye. Both went through the word-initial deletion of the obstruent. By contrast, Southern Sardinian has 'grudzi; thus, the word-initial voiceless stop became voiced.

Tertenia Sardinian displays the following alternations. In intervocalic position I found 'rudzi, e.g., [sa 'rudzi]. In post-consonantal position, e.g., after the plural article *is*, variable results may be found even for the same speaker. For instance, the same

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<sup>120</sup> DES 390.

<sup>121</sup> See Wagner (1941:\$74-5) and Viridis (1978).

<sup>122</sup> DES 394.

<sup>123</sup> See DES 394 and Wagner 1928:53; see also Sects. 4.34-4.37 in this Chap.

<sup>124</sup> See also Wagner (1941:\$263).

utterance may be pronounced as [is 'krudʒizi] or [ir 'ɣrudʒizi].<sup>125</sup> Similar behavior is reported for the neighboring dialect of Perdas de Fogu (DES 287). According to DES 287, I believe that the form with the voiceless stop (available for some speakers) might be due to a reassessment in favor of Italian *croce*. In any case, it is evident that in Tertenia Sardinian the item in question still maintains a stop-plus-liquid sequence in its phonological form. In the ancient documents various occurrences of this item are attested.<sup>126</sup> Some already display the deletion of the voiceless obstruent.

#### 4.40

##### A#93 - NEBŬLA

The Sardinian terms for 'fog' are as follows: 'neula for Northern and Central Sardinian, as well as *neβiða*, 'neβiðe, and 'neβiði for the southern area. The item 'neula stems from Latin NEBŬLA. The origin of the Southern terms for 'fog' (i.e., 'neβiða, 'neβiðe, and 'neβiði) is still disputed (see DES 558).

#### 4.41

##### A#94 - DIABŬLUS

The Sardinian outcomes for DIABOLUS cited in DES 320 (i.e., ti'aulu and di'aulu) display the lenition of the voiced obstruent (i.e., complete deletion). This means that terms such as ti'aulu and di'aulu never display a stop-plus-liquid sequence in their evolution.

<sup>125</sup> The rhotacism of s is a common phenomenon in this area. It affects final s when followed by voiced obstruents or nasals. See Wagner (1941:§332ff) and Contini (1987, map 79); Tertenia Sardinian is the point of inquiry n° 211.

<sup>126</sup> In St. Sass., I found *gruche* at I, 90. In CSNT there are *cruke* (254) and *cruce* (46, 65, 79, 140, 152, 162, 179, 238, 269, 271, 330). CSMB displays *cruke* 7, *gruge* 1<sup>i</sup>, *grugi* 207<sup>67</sup>, and *ruge* 219<sup>80</sup>. Viridis (2008:42), who edited the CSMB manuscript, points out that in a few cases he reports the word *cruke* in square brackets (i.e., [*cruke*]) when the manuscript displays the simbol +: “La parola per “croce” è, nel manoscritto, riportata col segno della croce +, lascio tale segno ma aggiungo fra parentesi quadre la parola *cruke*: iurait supra s'altare et supra sa + [*cruke*] (21.9).” In CSP there are various occurrences of *gruke* (4, 10 (2 times), 28, 30, 42, 44, 46, 57, 62, 64, 65, 68, 72, 73, 74, 75, 80, 81, 89, 95, 98, 99, 100, 101, 103, 104, 105, 106, 109, 110, 120, 198 (4 times), 200, 203, 257, 271, 290 (2 times), 394, 404 (4 times), 423), while *bruke* occurs twice (404). Notice that the same act (404) displays both *bruke* and *gruke*. This might be one of the first instances of the voiced obstruent reassessment in Northern Sardinian dialects (Wagner 1941:§129).

#### 4.42

##### A#95 - FABULA

The Sardinian outcomes for FABULA are 'faula (North. and South. Sard.) and 'favula (Centr. Sard.).<sup>127</sup> As expected, in Northern and Southern Sardinian 'faula was subjected to lenition (i.e., deletion for voiced obstruents), while Central Sardinian 'favula maintained the obstruent. As in A#94, the creation of a stop-plus-liquid was not possible for the loss of the voiced obstruent.

#### 4.43

##### A#96 - TABŮLA

The item 'taula is the Sardinian outcome for TABULA.<sup>128</sup> As argued in DES 734, all Sardinian dialects display this same evolution, even Central Sardinian. Sardinian 'taula is the result of the loss of the voiced obstruent. Also in this case, a stop-plus-liquid was not available at any time.

#### 4.44

##### A#97 - TEGŮLA

The Sardinian evolution of Latin TEGŮLA is 'teula.<sup>129</sup> No difference is found between Sardinian dialects. The loss of the voiced obstruent was an ancient phenomenon, as the occurrences *teula*, *teulas*, and *teulargios* in the Northern Sardinian text of St. Sass attest.<sup>130</sup> With the loss of the obstruent, the creation of a stop-plus-liquid was not possible.

#### 4.45

##### A#98 - PARABŮLA

In Northern and Southern Sardinian, pa'raula and pe'raula are the outcomes of Latin PARABŮLA.<sup>131</sup> In these words, lenition regularly applied, and the voiced obstruent was lost. Central Sardinian dialects for the same item PARABŮLA display pa'rayula.<sup>132</sup> As for the previous entries discussed here (Sects. 4.41-4.44), a stop-plus-liquid was never

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<sup>127</sup> DES 345.

<sup>128</sup> DES 734.

<sup>129</sup> DES 741.

<sup>130</sup> The item *teula* occurs at I, 138; *teulas* at I, 138; and *teulargios* at I, 138.

<sup>131</sup> DES 591.

<sup>132</sup> DES 591.

available for the Sardinian outcomes of PARABŎLA.

#### 4.46

##### **A#99 - STABULUM**

The items s'taulu, istau'leddu, and s'tauli stem from Latin STABULUM.<sup>133</sup> DES 447 and Wagner (1928:37) acknowledge that there was probably some Catalan influence in the transmission of the Southern Sardinian form s'tauli. The only remark here is that the Sardinian evolutions for STABULUM never displayed a stop-plus-liquid sequence.

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<sup>133</sup> DES 447.

## Chapter 4

### Metathesis and Liquid Deletion in Sardinian Dialects

The present dissertation deals with the historical development of stop-plus-liquid sequences in Tertenia Sardinian. These sequences were affected by various phenomena, such as metathesis, liquid deletion, and lenition. To better address the issue in question, this chapter offers a purely descriptive overview of the different metatheses attested (either diachronically or synchronically) in Sardinian.

Even though both synchronic metatheses as well as the diachronic metathesis that applied from coda position are beyond the scope of this dissertation, a brief description of these phenomena will also be offered. The purpose of Sections 1 and 2 is to give an overview of the various Sardinian metatheses and then to focus on the diachronic metatheses which took place in Tertenia Sardinian (see Sect. 3).

Sardinian features various types of metatheses. Most of them are diachronic, and a few are synchronic. It must be kept in mind that strong diatopic variation exists among Sardinian dialects, and this also holds of metathesis. Some types of metathesis are attested in more than one dialect, while others are typical of specific areas. For most of the Sardinian dialects, metathesis is a historical process which is now inactive.

This chapter will proceed as follows: Section 1 deals with the different types of diachronic metatheses found in the Sardinian linguistic domain. Section 2 focuses on some dialects which display synchronic metathesis. Finally, Section 3 offers an overview of the different diachronic metatheses found in Tertenia Sardinian, the object of inquiry of this dissertation.

Notice that the metatheses addressed here have been extensively described in Wagner (1941, 1951, 1960-64), Viridis (1978), and Contini

(1987). Other works on Sardinian metathesis are by Geisler (1994), Bolognesi (1998), Molinu (1998, 1999), Alber (2001), and Scheer (to appear), while the evolution of liquids from Latin to Sardinian is analyzed in Frigeni (2005).

## 1. Diachronic Metathesis

Sections 1.1 to 1.3 address three different types of metathesis which affected stop-plus-liquid sequences (henceforth TRs). These metatheses will be analyzed in depth in the following chapters. Section 1.4 deals with a metathesis widespread in South-Western Sardinian which affected liquids in coda position, a metathesis that Tertenia Sardinian does not feature. Rare exceptions are attested and might be considered as very ancient metathesized words or internal loanwords, borrowed from neighboring areas.

### 1.1 Long-Distance Metathesis

By Long-Distance Metathesis (henceforth LDM) I mean a change that moved liquids from a TR cluster and re-created a new TR in word-initial position. The original TR clusters were in an intervocalic or post-consonantal position. Some examples from Wagner (1941:§417) are reported below.

- a) CASTRARE > kras'tare (Log.), kras'tai (Camp.)
- b) FEBRUARIU > fre'ardzu (Log.), fri'ardzu (Camp.)
- c) FABRU > 'frau (Camp.)

As Wagner (1941:§419) argues, LDM is attested in all Sardinian dialects. Only some Central dialects such as Bitti Sardinian are less sensitive to metathesis. In fact, if one looks at the data reported in the appendix, Bitti Sardinian is the dialect that avoided metathesis most of all.

As already noted in Wagner (1941:§417), the ancient Sardinian texts display LDM. Furthermore, there is no difference between Northern



and Southern texts with respect to LDM; both show this type of metathesis. In St. Sass., a Northern text, one can find *freargiu* <FEBRUARIU, *crastatu-os*, *crastadu-os* <CASTRARE, *intrea* <INTEGRU, *fraicare*, *fraican*, *fraicat* <FABRICARE, and several instances of *clompere* <COMPLERE.

In CSP, another Northern text, there is *frabu*, *frauile*, *fravile*, *fraicatore* <FABRU, *frabicare* <FABRICARE, and *frauica* <FABRICA. The same text also displays *intregu-a-os*, *intreu* >INTEGRU and *clonpet*, *clonpet* <COMPLERE.

CSNT, from the Northern area, has *frabile*, *fravile* <FABRU, *intregu-a-os* <INTEGRU, *frabicare* <FABRICARE, and *clonpet*, *clonperun* <COMPLERE. C. Volg., a Southern collection of legal acts, displays *frau* <FABRU, *fraigei*, *fabrigada*, *fabricarat*, *fraigarunt*, *fraigaat* <FABRICARE, and *clonpit*, *clonpit* <COMPLERE.

In the western transitional area (i.e., Arborese Sardinian), one can find *frau* <FABRU, *intregu-a*, *intreu-a-os* <INTEGRU, *frevariu* <FEBRUARIU, *fraigai*, *fraigait*, *fraigaresi*, *fraigare* <FABRICARE, *crastu* <CASTRU, and *clomp-*, *clonp-* <COMPLERE,<sup>1</sup> all from CSMB.

## 1.2 Local Metathesis

The type of metathesis in which liquids from a stop-plus-liquid have moved to coda position is labeled Local Metathesis (henceforth LM). Wagner (1941:§425) points out that this metathesis is attested in Campidanese, but not in Logudorese. Some examples are listed below; others may be found in the appendix. The following data are from Wagner (1941:§425):

- a) ACRU> 'argu
- b) PETRA> 'perda

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<sup>1</sup> Here and elsewhere some of the examples from the ancient texts can also be found in Wagner (1941), Viridis (1978, 2002), Contini (1987), Blasco Ferrer (1984, 2003), among others, and in the glossaries redacted by the respective editors of the ancient texts (see References).

- c) UTRE> 'urdi
- d) VITRUM> 'birdu
- e) PRATU> *patru*<sup>2</sup>> 'pardu
- f) CALABRICE> ka'larviyu
- g) APRILE> ar'βili
- h) VITRICU> 'birdiu

As Contini (1987:412) states, this metathesis was not particularly widespread in Sardinian dialects. He underlies that it may be found in the Arborese, Southern Barbagia, and Ogliastra dialects:

“L’aire de ce type de type de métathèse, beaucoup moins fréquente que les précédentes, s’étend en arc de cercle entre le nord du Campidano d’Oristano et l’Ogliastra, en passant par le Monte Ferru, la moyenne vallée du Tirso et la Barbagia de Belvì et de Seulo” Contini (1987:412-3).

For those unacquainted with the geography of Sardinian, LM is attested only in a small central-southern area from the western to the eastern coast. Map n° 15 in Contini (1987) and map n°6 in Geisler (1994) can be usefully consulted.

Only a few instances of LM can be found in the ancient texts. The texts in question are *C. Volg.* (a Southern collection of legal acts) and *CdL* (a text from western Sardinia, the most recent one of Medieval Sardinian documents). This scarcity can easily be explained. The Sardinian ancient texts are dated from the 11th to the 14th century. They are collections of private legal acts (e.g., property transfers, donation contracts, and litigation acts) and codes. Later the language of administration became Spanish. LM, being more recent than LDM, only occurs in the most recent texts (e.g., *CdL*). Moreover, LM was widespread only in a small Sardinian area. Thus, the lack of attestation in texts from areas other than the southern and western ones is not unexpected.

LM occurs in *C. Volg.* and *CdL*.<sup>3</sup> *C. Volg.* displays *perda* at XXI and *pardu* at XV. *Perda* is from Latin *PETRA*, while *pardu* is from *PRATU*,

<sup>2</sup> The intermediate form is mine; see Sect. 3.16, Chap. 3.

<sup>3</sup> The Southern collection of acts ‘*C. Volg.*’ is dated 11<sup>th</sup>-12<sup>th</sup>cc., but this dating is controversial. For some scholars these acts are really ancient (e.g., Solmi

the latter of which came about through the following steps: PRATU> *patru*> *padru*> *pardu* (see Chap. 3). LM occurs rarely, even in CdL. One can find *Perdu* and *pardu* (plus all derivate forms: *pardarjus*, *pardarjos*, *pardarju*, and *pardargios*).<sup>4</sup> *Perdu* ‘Peter’ is from Latin PETRU.

This metathesis is sporadically attested in some dialects of the Italian peninsula as well. Rohlfs (1966:§322) reports the following examples: *arvo* ‘(I) open’ and *farbica* ‘manufactory’ in Old Paduan, *arví* ‘(to) open’ in Ligurian and Romagnol, *ferbaru* ‘February’ in Salentino, as well as *fernesta* ‘window’ and *dortina* ‘doctrine’ in Calabrian.

### 1.3 Liquid Deletion

Liquid deletion in consonantal clusters is a typical phenomenon of the southern areas. In Wagner (1941), liquid deletion and metathesis appear to be unrelated phenomena. I believe that liquid deletion applied under the same conditions as LDM and thus might be considered a particular type of metathesis (see Chap. 6).

Wagner (1941:§256, 407-8) points out that post-consonantal TRs, such as *str*, *spr*, *scl*, *rcl*, *ncl*, etc., lost the liquid in the evolution from Latin to Southern Sardinian. In addition, he reports that a small number of TRs also lost the liquid (Wagner 1941:§408, 410). This happened in the same area, the southern one.

Tables (1) and (2) below list items with an original stop-plus-liquid sequence in which the liquid was lost. In (1) one can find post-consonantal TRs and in (2) intervocalic ones. The former are taken from Wagner (1941:§407-8), the latter from Wagner (1941:§408, 410). Data are from Southern Sardinian.

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(1905:273-280) and Zedda and Pinna (2009)), while for others (e.g., Paulis (1997:133-143) and Cau (1999)) they might be more recent. See Chap. 1, Sect. 4.1.

<sup>4</sup> See Lupinu (2010).

### (1) Liquid Deletion in Post-Consonantal TRs

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- a) MASC(U)LU> 'masku
  - b) INS(Ů)LA> 'iska
  - c) \*MINC'LA> 'mirjka
  - d) UNG(Ů)LA> 'unġa
  - e) NOSTRU> 'nostu
  - f) MAGISTRU> ma'istu
  - g) CANISTRUM> kanistedġu
  - h) COOPERC(U)LUM> ko'βerku, ko'βekku
- 

### (2) Liquid Deletion in Intervocalic TRs

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- a) FLAGRARE> fra'ġai
  - b) FEBRUARIU> fi'arzu
  - c) GENUC(U)LU> dʒe'nuyu
  - d) FENUC(Ů)LU> fe'nuyu
  - e) ORIC(Ů)LA> o'riġa
  - f) OC(Ů)LU> 'oyu
- 

Wagner's (1941:§258, 410) proposal is that COOPERC(U)LUM> ko'βerku, ko'βekku, FLAGRARE> fra'ġai, and FEBRUARIU> fi'arzu are the result of dissimilation, while the other examples are formed by analogy with internal TRs in which the liquid has moved by metathesis (Wagner 1941:§407-8). Thus, for instance, OC(Ů)LU> 'oyu was formed by analogy with items like PEDUC(Ů)LUS> pre'oyu. A closer examination of the data, however, shows some interesting patterns.

The stop-plus-liquid sequences in the above examples were of two types: secondary TRs or primary voiced TRs. As will be seen in Section 3, these same types of TR went through LDM: the liquid of secondary TRs and primary voiced TRs moved to the word-initial position to re-create a word-initial TR. For the items in (1) and (2), apart from a few examples, this was not technically possible. When LDM took place, affecting secondary TRs and primary voiced TRs, MASC(U)LU> 'masku, INS(Ů)LA> 'iska, FLAGRARE> fra'ġai, etc., had no

word-initial stop available to re-create a stop-plus-liquid, and thus the liquid deleted.

The only exceptions involve items in (1) and (2) that had a stop in word-initial position, i.e., CANISTRUM> kanistedd̥u, COOPERC(U)LUM> ko'βerku, ko'βekku, FEBRUARIU> fi'ardzu, fi'arzu, and FENUC(Ů)LU> fe'nuyu.

Consider the Tertenia Sardinian forms in (3). If one compares the Southern Sardinian forms with the Tertenia Sardinian forms, one notices that in the latter the liquid was not deleted. As expected, the liquid moved through the word-initial position.<sup>5</sup>

### (3) Liquid Deletion - Southern Sardinian vs. Tertenia Sardinian

|               | <i>Southern Sardinian</i> | <i>Tertenia Sardinian</i> |
|---------------|---------------------------|---------------------------|
| CANISTRUM     | kanistedd̥u               | kra'nista                 |
| COOPERC(U)LUM | ko'βerku, ko'βekku        | kro'βekku                 |
| FEBRUARIU     | fi'ardzu, fi'arzu         | fri'ardzu                 |
| FENUC(Ů)LU    | fe'nuyu                   | fre'nuyu                  |

In my account of the behavior of Tertenia Sardinian (Sect. 3, this Chap. as well as Chap. 6), liquids always moved to the strongest position available. If none was available, the liquid was deleted.<sup>6</sup> If one applies the same reasoning to Southern Sardinian, one should conclude that, for various reasons, at the time when LDM was an active process the word-initial position was not available to host the liquid.<sup>7</sup> This makes deletion a possibility.

Not every Sardinian dialect displays liquid deletion. As argued for in Wagner (1941:§256) and Contini (1987:410ff), the deletion of the liquid is a southern phenomenon. Sardinian dialects may be classified in three different areas with respect to liquid deletion. The areas in question, reported by Contini (1987:410ff), are as follows:

<sup>5</sup> The liquid is boldfaced.

<sup>6</sup> I believe that LDM was a systematic process which applied to every TR. As will be shown later, the picture is a little more intricate than this. For the structural conditions assumed in this dissertation, see Chaps. 5 and 6.

<sup>7</sup> One might hypothesize that the word-initial position – at least in some Southern areas – was not a strong position; see Chaps. 5 and 6.

- An area in which the liquid did not delete: Barbagia d'Ollolai, Bitti, Baronia, Marghine, Goceano, and Central Ogliastra.
- A transitional area: Barbagia di Belvì, Mandrolisai, Southern Ogliastra (e.g., Tertenia), and some villages in the area of Oristano.
- The extreme south of the island in which liquid deletion is widely attested.

Nuorese Sardinian does not display cases of liquid deletion. Nuorese was subjected to LDM, but contrary to southern areas liquid deletion is not observed.<sup>8</sup> In Nuorese (and neighboring dialects) liquids migrated only if there was a stop in word-initial position with which a stop-plus-liquid could be re-created. In the absence of an available word-initial stop, the liquid did not move. Some examples appear in (4) along with comparable forms from the Tertenia data.

#### (4) Liquid Deletion - Nuorese Sardinian vs. Tertenia Sardinian

|             | <i>Nuorese Sardinian</i> | <i>Tertenia Sardinian</i> |
|-------------|--------------------------|---------------------------|
| MASC(Ů)LU   | 'maskru                  | 'masku                    |
| NOSTRU      | 'nostru                  | 'nostu                    |
| MAGISTRU    | 'mastru                  | ma'istu                   |
| *MINC'LA    | 'miŋkra                  | 'miŋka                    |
| MANUC(Ů)LUS | ma'nukru                 | man'nuyu                  |
| OC(Ů)LU     | 'okru                    | 'oɣu                      |
| ORIC(Ů)LA   | o'rikra                  | o'riya                    |

Contini (1987:384) argues that the loss of the liquid is attested in the most ancient documents of the southern area. In fact, in C. Volg. one can find one of the earliest instances of liquid deletion: *finugu* from Latin FENUC(U)LUM, at XX<sup>o</sup>, 1. For a brief discussion about liquid deletion in the ancient documents, see Wagner (1941:\$258) and Contini (1987:384).

<sup>8</sup> Wagner (1941:\$408).

#### 1.4 Metathesis from Coda to Word-Initial Position

This last type of metathesis affected liquids in coda position.<sup>9</sup> Again, just as in LDM, liquids migrate to the word-initial position. Wagner (1941:§420) argues that most of the Sardinian dialects display at least a few words which underwent this metathesis. For example, the Sardinian outcomes of Latin TERMEN are 'trɛm(m)ene in the northern and central areas and 'trɛm(m)ini in the South (DES 760). Thus, all over the Sardinian domain this word shows metathesis. The metathesis was probably really ancient, although it must not have been a productive phenomenon. Various Sardinian dialects have words that display this type of metathesis, but the items affected were only a few and usually the same all over Sardinia.<sup>10</sup> It can be concluded that one is faced with some really ancient metathesized forms. In Molinu (1999:160) these forms are taken to be “un aboutissement pansarde,” and thus widespread in the Sardinian domain.

By contrast, it should be noted that a productive metathesis with the same characteristics is attested in the south-western area.<sup>11</sup> In this area, the items affected were not a limited set, as for the few ancient items above. On the contrary, liquids in coda position underwent metathesis systematically: they migrated to the word-initial position.<sup>12</sup> This metathesis, reported in Wagner (1941) and Viridis (1978) for south-western dialects, might be more recent than the metatheses already discussed in the previous sections.

It can be reasonably argued that this South-Western Metathesis (henceforth SWM) might be the latest among diachronic metatheses. My arguments are as follows:

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<sup>9</sup> See Chap. 6, footnote 30.

<sup>10</sup> Wagner (1941:§420) reports the following terms: drom'mire for dor'mire, kra'βone for kar'βone, 'pramma for 'parma, etc.

<sup>11</sup> Wagner (1941:§420), Viridis (1978:§37), and Contini (1987:401ff).

<sup>12</sup> Viridis (1978:§37) describes this metathesis as follows: “nei nessi R+CONS è frequente lo spostamento di r dalla posizione finale di sillaba alla posizione interna prevocalica che evita la sillaba chiusa.”

1. Recent Italian loanwords display SWM.
2. Lenition in internal sandhi was no longer active at the time when metathesis took place: lenition did not apply to the obstruent which sits in intervocalic position as a result of the liquid migration.
3. SWM also applied to items that were previously affected by LM, as one can see in the example below.<sup>13</sup>

|                         |          |        |
|-------------------------|----------|--------|
|                         | LM       | SWM    |
| SOCRU> * <i>sogru</i> > | 'soryu > | s'royu |

To better address these issues, I will look at some SWM examples. Compare the south-western forms with the Tertenia Sardinian ones listed in (5) below. The south-western data are from Wagner (1941:§420). South-western forms are given first, followed by the Tertenia Sardinian ones.

#### (5) Metathesis from Coda to Word-Initial Position

| <i>South-Western Areas</i> | <i>Tertenia Sardinian</i> |
|----------------------------|---------------------------|
| a) 'frattʃi                | 'fartʃi                   |
| b) 'druttʃi                | 'durʃi                    |
| c) 'brakka                 | 'barka                    |
| d) 'prokku                 | 'porku                    |
| e) bra'βattu               | (b)ar'βattu               |

Note that some of the examples above are recent Italian loanwords, e.g., 'frattʃi is from *falce*, while 'brakka is borrowed from Italian *barca* (see DES). Others are from Latin: 'druttʃi is the outcome of *DULCEM*, while 'prokku and bra'βattu stem from *PORCUS* and *VERVACTUM*, respectively. The fact that even recent Italian loanwords were affected suggests that this metathesis may have been very recent.<sup>14</sup>

Further evidence comes from the fact that Tertenia Sardinian and other Ogliastra dialects do not display SWM:<sup>15</sup> Ogliastra dialects (together with Southern Barbagia dialects) are considered to be the

<sup>13</sup>The example is taken from Contini (1987:402).

<sup>14</sup> Except for those few items present in the ancient documents (e.g., PALMA> 'pramma or DORMIRE> drəm'mire) which displayed this metathesis very early; see above.

<sup>15</sup> See Contini (1987:402).



most conservative dialects of the Campidanese macro-area.<sup>16</sup> As for various phenomena, they appear to display an earlier evolutionary step with respect to other Campidanese dialects, namely southern and western areas. I believe that this might be true also for this metathesis, as one can see by comparing the Tertenia examples with the south-western ones in Table (5).

Possibly the crucial piece of evidence is that the resultant intervocalic obstruent (after the liquid migration) does not display lenition. This can be considered a clue that this metathesis started when internal lenition was no longer an active phenomenon.<sup>17</sup> If the south-western forms were affected by lenition after metathesis took place, the expected forms would have been as in (6). In the first column, the previous stages for the south-western forms are reported. In the second column, one finds the south-western forms, and in the last one the expected forms if lenition took place after metathesis had applied. Thus, the double asterisks of the last column indicate forms that would be expected but are not actually found:<sup>18</sup>

**(6) Metathesis from Coda to Word-Initial Position - Expected Forms**

| <i>Previous Stage</i> | <i>Actual</i> | <i>Expected</i> |
|-----------------------|---------------|-----------------|
| a) 'fartʃi>           | 'frattʃi      | **'frazi        |
| b) 'durtʃi>           | 'druttʃi      | **'druzi        |
| c) 'barka>            | 'brakka       | **'braya        |
| d) 'porku>            | 'prokku       | **'proʝu        |
| e) (b)ar'βattu>       | bra'βattu     | **'brat'tu      |

As one can see, the modern south-western forms display a phonetic geminate in place of a voiceless obstruent, and the voiced fricative is still a voiced fricative.<sup>19</sup> If lenition had taken place after the move of

<sup>16</sup> Viridis (1978:47).

<sup>17</sup> Recall that word-internal lenition (internal sandhi) is no longer an active process in Sardinian. However, most Sardinian dialects still feature lenition at word-boundaries (external sandhi). For Sardinian lenition, see Chap. 1, Sect. 1.2.2.

<sup>18</sup> The geminates in the second column are fake geminates; see footnote 19, this Chap. and Chap. 3, footnote 34.

<sup>19</sup> The south-western data are from Wagner (1941:§420). Recall that the status of word-internal geminates in Sardinian is controversial. They are usually considered as “fake” geminates. Note also that the same examples (or analogous ones) are reported in Viridis (1978:§24) as simple segments, e.g., proku, while Contini (1987:401) prefers transcriptions with a parenthesis, e.g., prok(k)u. For further

the liquid, the expected result would have been as in the second column. Thus, a voiceless affricate such as *tʃ* would have become the fricative *ʒ*,<sup>20</sup> while a voiceless velar stop would have become a voiced fricative. As for voiced obstruents (see (6)e), the deletion of the segment would have been expected.

It is also worth pointing out that this metathesis applied to items that previously underwent LM as well. I am referring to those items which had in their etymological form a TR cluster that after LM displayed a coda-onset cluster, e.g., *SOCRU* > 'soryu. The SWM applied also to these items, re-creating a new TR cluster word-initially:<sup>21</sup> 'soryu > 'sroyu. One can conclude that SWM was probably the most recent one among the diachronic metatheses.

As shown by 'sroyu, South-Western Sardinian displays some word-initial clusters not attested in other Sardinian dialects, namely peculiar clusters such as *sr*, *tsr*, *tʃr*, *mr*, and *lr*.<sup>22</sup> Examples are listed in (7) below. Data are from Wagner (1941:§421-2) and Viridis (1978:§24, 37).<sup>23</sup> As for (5) above, compare the Southern Sardinian forms with the Tertenia ones. Tertenia still displays the liquid in coda position, while south-western dialects have moved it to the left edge of the word:

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discussion, see Wagner (1941:§428), Paulis (1984:XCVI), Contini (1987:55 note 12, 59ff, 101ff), Bolognesi (1998:158ff, 411), Ladd and Scobbie (2003), among others.

<sup>20</sup> In Southern dialects, word-internal [ʒ] is the result of the palatalization of Latin *C+i, e*. In external sandhi (i.e., at word boundaries), a synchronic lenition rule applies to intervocalic [tʃ] (and all the other obstruents) that becomes the voiced fricative [ʒ].

<sup>21</sup> See Wagner (1941:§425). The example 'soryu > 'sroyu is reported in Contini (1987:402).

<sup>22</sup> See Wagner (1941:§420) and Viridis (1978:§24, 37).

<sup>23</sup> See Wagner (1941:§420) and Viridis (1978:§24, 37). Note that in order to explain this metathesis both scholars report an intermediate form for each item (i.e., an earlier form) that is very close to the Tertenia Sardinian one. For convenience, I report the form in the dialect in question to emphasize that this type of metathesis is not attested in the Ogliastra dialects. Nevertheless, the complete data listed by the two authors are available in Wagner (1941:§421-2) and Viridis (1978:§24, 37). These peculiar clusters were also analyzed in Bolognesi (1998) and Molinu (1999).

## (7) Word-Initial Clusters in South-Western Sardinian

| <i>South-Western Sardinian</i> | <i>Tertenia Sardinian</i> |
|--------------------------------|---------------------------|
| sru'ezu                        | su'erdzu                  |
| sri'βoni                       | sir'βoni                  |
| sra'mentu                      | sar'menta                 |
| ʃro'βeddu                      | ʃer'βeddu                 |
| l'rayuzu                       | 'laryuzu                  |
| 'mramuri                       | 'marmuri                  |

To sum up, SWM involved liquids in coda position which migrated to the word-initial position. This happened also when in word-initial position the following consonants were located: *s*, *ts*, *ʃ*, *l*, and *m*. The result is a word-initial cluster typical of south-western areas which is absent in other Sardinian dialects.<sup>24</sup>

With respect to the areal distribution of this metathesis, Contini (1987:402) points out that clusters admitted word-initially vary within Southern dialects. In particular, he argues that the word-initial cluster *sr* is less widespread than *mr*.

“[...] La première [ʃsorgu > sʃroyu] prend son origine dans le golfe de Santa Caterina de Pitinuri, passe au nord de Bonarcado, de Paulilatino, de Busachi et de Neoneli [...]. Elle contourne ensuite Tonara, puis s’oriente vers le sud en évitant les ‘Barbagie’ de Belvì et de Seulo et en passant à l’est de Sadali, d’Esterzili et d’Escalaplano.

La deuxième [*mr*] atteint quelques autres localités situées plus au nord, à savoir Santu Lussurgiu, Ula Tirso, Ardauli et Sorgono mais se situe plus en retrait à l’est, où elle n’intéresse ni le Sarcidano, ni la Trexenta” Contini (1987:402).

In sum, SWM is attested only in the south-western area of the island.<sup>25</sup>

### 1.5 No Metathesis Area

As already mentioned, in Bitti Sardinian and neighboring dialects metathesis hardly occurred (Wagner 1941:§419). These dialects were

<sup>24</sup> For descriptions, analyses, and discussions I refer the reader to Wagner (1941:§420) and Viridis (1978:§24, 37).

<sup>25</sup> One can also have an idea of the distribution of SWM by looking at the map n°30 in Wagner (1928) and maps n°2 and 3 in Geisler (1994).

also the ones that avoided lenition. Thus, for these reasons they still maintain word-internal stop-plus-liquid sequences to a higher extent than any other area.

In the southern-central area (i.e., Ogliastra and Southern Barbagia dialects), however, there is another group of dialects which still display word-internal TRs for a restricted group of items. It is of interest here that, contrary to Bitti, this area was systematically affected by metathesis. Only a small TR group was not subjected at all. I refer to the Sardinian outcomes of Latin COLUBRA, CALABRICE, LABRA, CIRIBRUM, SUB(U)LA, and SUB(I)LARE.<sup>26</sup>

In Central Sardinian (i.e., the Bitti and Nuorese dialects), the above items display a voiced obstruent, as for every voiced TR.<sup>27</sup> In Northern Sardinian, as expected, the voiced obstruent went through lenition. Thus, in the north one may find forms such as ko'lɔra <COLUBRA, kala'riye <CALABRICE, 'lara <LABRA, and ki'liru <CIRIBRUM. In most of the Southern dialects, these voiced TRs were affected by lenition. The modern forms are as follows: ko'lɔra <COLUBRA, 'lara <LABRA, tʃi'liru <CIRIBRUM, and sula <SUB(U)LA.<sup>28</sup>

However, in the Ogliastra and Southern Barbagia dialects these items still display the word-internal TR. In (8) below, the Tertenia outcomes of CALABRICE, CIRIBRUM, COLUBRA, and LABRA are listed.

**(8) Outcomes of CALABRICE, CIRIBRUM, COLUBRA, LABRA**

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- a) CALABRICE> ka'lavriɣu
  - b) CIRIBRU> tʃi'livru
  - c) COLOBRA> ko'lɔvra
  - d) LABRA> 'lavra(za)
- 

Voiced obstruents in intervocalic TRs are expected to have gone through lenition (i.e., deletion of the obstruent), and the liquid, like

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<sup>26</sup> Wagner (1941:\$269).

<sup>27</sup> Nuorese Sardinian and the areas of Goceano and Marghine display a -βr- sequence, while the area of Bitti has -vr- (Wagner 1941:\$269).

<sup>28</sup> In Southern dialects other forms may also be found; see Wagner (1941:\$269) and DES.

any liquid in a TR cluster, should have moved or deleted. Compare in (9) the evolution of Latin FEBRUARIU with CALABRICU:

(9) FEBRUARIU vs. CALABRICU

---

a) FEBRUARIU > fri'ardʒu

b) CALABRICU > ka'lavriɣu

---

In spite of the presence of the same Latin sequence –BR–, fri'ardʒu went through lenition and metathesis, whereas ka'lavriɣu did not.<sup>29</sup>

CALABRICU and the other items in (8) had an anomalous evolution. The Ogliastra area as all other Campidanese sub-groups went through lenition. Thus, one expects the complete deletion of the voiced obstruent, as happened for all the other intervocalic voiced TRs (e.g., FEBRUARIU > fri'ardʒu). A further problem comes from the fact that word-internal TRs were systematically subjected to metathesis phenomena. However, as far as one can see in (8) above, the liquid is still in place.

For the sake of completeness, consider the dialects of Southern Barbagia and Ogliastra discussed in Wagner (1941:§73, 270). These dialects developed an epenthetic vowel between the obstruent and the liquid of the stop-plus-liquid sequence. For example, the dialects of Baunei, Perdàs de Fogu, and Seui display the form ko'lovuru for Latin COLOBRU (Wagner 1941:§269). This epenthetic vowel is regularly attested in Southern Barbagia as well, e.g., LABRA > 'laβaras or 'laβurus, COLOBRU > ko'lovuru, and CIRIBRU > tʃi'livuru (the epenthetic vowel is in boldface).<sup>30</sup> Notice that the epenthetic vowel is a copy of the following vowel.

The areal distribution of the Sardinian outcomes of Latin CALABRICE, LABRA, COLUBRA, and CIRIBRUM may be found in the map n° VIII in Wagner (1941). As noted also in Wagner (1941:§269), the distribution of these items is not uniform, even in Central-Southern dialects.

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<sup>29</sup> See Chap. 5, Sect. 6.

<sup>30</sup> Wagner (1941:§73, 270), Viridis (1978:39), and Contini (1987:223).

In the ancient texts, the items in (8) are not widely attested. In CSP *calabrike(s)* occurs twice at 191 and once at 290. The same text also has *labru* at 311 and *labra* at 376. In St.Sass., *lauras* from LABRA occurs at III, 5.

## 2. Synchronic Metathesis

This section deals with synchronic metathesis in Sardinian. In Section 2.1, a synchronic metathesis which occurs in the south-western areas of the island is described. Section 2.2 deals with a synchronic metathesis in Tertenia Sardinian.

### 2.1 South-Western Metathesis in Synchrony

The South-Western Metathesis in some areas is also available as a synchronic process, but it is restricted to a specific class of items. This Synchronic South-Western Metathesis (henceforth SWMS), widespread in the south-west of the island, has become widely known thanks to Bolognesi's (1998) Ph.D. dissertation on Southern Sardinian.<sup>31</sup> The first description of SWMS is from Wagner (1941:§421ff). Other well-known works that report this metathesis are Viridis (1978:76) and Contini (1987:401-2). SWMS was also analyzed in Geisler (1994), Molinu (1999), Alber (2001), and Frigeni (2005). Molinu (1999) adopts the Theory of Constraints and Repair Strategies, while the analyses by Bolognesi (1998) and Alber (2001) are within the framework of Optimality Theory. An analysis of SWMS can also be found in Frigeni's (2005) paper.

Wagner (1941:§421ff) reports different examples of SWMS, but his data are from different Southern dialects, namely Guspini, Samassi, Terralba, Domus de Maria, Laconi, Mogoro, Busachi, and Villacidro.

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<sup>31</sup> Bolognesi (1998) adopts the term Campidanian Sardinian when referring to Southern Sardinian dialects. The same term was then used by Frigeni (2005). It is an English adaptation of the Italian term *Campidanese*. In this work I prefer the geographical label Southern Sardinian for simplicity. Of interest here is that the terms Campidanian Sardinian or Campidanese Sardinian simply refer to the Sardinian dialects spoken in the southern area of the island.

Even though these dialects seem to have been affected under the same conditions, this is an empirical issue to be assessed. Thus, I report the data and analysis of Bolognesi (1998). Bolognesi's work has the advantage (contra Wagner 1941) of focusing on a single dialect, namely Sestu Sardinian,<sup>32</sup> and of reporting a wide range of data within it. This is true not only with respect to metathesis; his dissertation offers a complete phonological overview of the dialect. Other examples for Sestu, taken from Molinu (1999), will be of importance to address a different pattern which is not reported in Bolognesi (1998).

Bolognesi (1998:419) argues that “[i]n Sestu Campidanian and other related dialects, the liquid /r/ is found in coda position only in a limited set of words, all of which exhibit the same prosodic structure [...]. All these words begin with a vowel and are dissyllabic. When these words are preceded by a determiner, the final vowel of the determiner is deleted and /r/ *Metathesis* takes place.” Bolognesi's (1998:419) data are listed in (10) below:

**(10) South-Western Metathesis in Synchrony**

|        |            |
|--------|------------|
| 'orku  | s:rok:u    |
| 'arku  | kust rak:u |
| 'erba  | kus: rɛβa  |
| 'ardʒa | s: raʒa    |
| 'argu  | s: raɣu    |
| 'ordʒu | s: roʒu    |

As Bolognesi (1998:419) underlines, these words begin with a vowel. He also points out that in Southern dialects the liquid is found in coda position only in a few words. But what happens to the others words with a liquid in coda which did not begin with a vowel? As argued for in Virdis (1978), they went through metathesis, namely SWM, or were assimilated.<sup>33</sup> Thus, those liquids that did not

<sup>32</sup> Sestu is a town in the extreme south of the island, very close to the capital of Sardinia, Cagliari.

<sup>33</sup> Southern dialects avoided liquids in coda position. The solutions adopted were metathesis (e.g., BERBECE > bre'βɛi) or assimilation (e.g., FORTE > 'fɔti) (Virdis 1978:§24). Notice that Virdis does not notate the phonetic geminate that results from metathesis. Thus, even though 'fɔti is usually pronounced as 'fɔtti, Virdis

assimilate to the successive segment went through metathesis, the type of metathesis in which liquids went from coda to word-initial position (see Section 1.4).

In Bolognesi's (1998) work, SWMS seems to take place only when the word in question is preceded by a determiner. Data in Molinu's (1999) paper adds a further piece of data to consider. Molinu (1999) is a theoretical account of different Sardinian metatheses. Of interest here is that she also lists some data about the SWMS from two villages of the south, Genoni and Senorbì.<sup>34</sup>

Looking at her data one can see that SWMS in Genoni and Senorbì applies under the same conditions reported in Bolognesi (1998), except for one additional detail: it seems that SWMS may also be triggered by verbs, namely the 3<sup>rd</sup> person of 'to eat' *papat* and 'to have' *at*. The examples in question are reported below. Data are from Molinu (1999:165):

/nun tʃi at ɛrba/ → ['nun tʃa 'drɛβa]  
/pap:at ɛrba/ → ['pap:a 'drɛβa]

On the other hand, a further puzzling example reported in Bolognesi (1998:420) is that SWMS also appears to apply with the preposition *de*. This example is reported below:

|                        |                 |
|------------------------|-----------------|
| <i>Sestu Sardinian</i> | <i>Standard</i> |
| dra 'βes:i             | dɛ 'pres:i      |

Bolognesi (1998:401-2) argues, however, that [dra 'βes:i] should be considered a lexicalized form.<sup>35</sup> Nevertheless, in Genoni and Senorbì one can find a genuine example of this form, reported below. It does

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seems to consider the resultant geminate as a fake geminate. For the same metathesis, Contini (1987:401) adopts the transcription *prok(k)u*.

<sup>34</sup> For the peculiarities of these two dialects, see Molinu (1999).

<sup>35</sup> "Metathesis between words does not seem to be a productive phenomenon. Only the case which derives from *de pres:i* is attested, which suggests that it is lexicalized. The possibility of lexicalization is confirmed by the reduction of underlying /ɛ/ to [a], something which is otherwise attested only in unstressed position within words" Bolognesi (1998:420-1).



not seem to be a lexicalized form, or at least it is not reported as lexicalized. The liquid is in boldface:

/unu kundʒatu dɛ **ɛrba**/ → [ũ ɣundʒaðu dri 'ɛβa]

Thus, in Genoni and Senorbì, one can argue that SWMS also applies with the preposition *de* (see Molinu 1999:165).

SWMS is a puzzling metathesis that applies when the word is preceded by a range of arguably unrelated elements, such as determiners or verbs. The fact that the preceding word ends with a vowel or a consonant does not seem relevant for SWMS.<sup>36</sup> For further details of such metathesis, see Geisler (1994), Bolognesi (1998), Molinu (1999), and Alber (2001).

## 2.2 Tertenia Sardinian Metathesis in Synchrony

In this section I address a synchronic metathesis which is attested in Tertenia Sardinian and is presented in Scheer (to appear). First of all, it might be useful to introduce some phenomena observed in the dialect under investigation which play a role in this synchronic metathesis.

As already mentioned, Tertenia Sardinian still features lenition at word-boundaries.<sup>37</sup> This means that in external sandhi, voiced stops delete and voiceless stops become voiced fricatives. The relevant condition is the intervocalic position:

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<sup>36</sup> Molinu (1999:165) reports the following examples. In (1) /ɛrβa/ is preceded by the plural article *is*, and in (2) by the singular feminine article *sa*. As one can see, both *is* and *sa* trigger SWMS.

(1) /is ɛrba/ → [isrɛβa]

(2) /sa ɛrba/ → [srɛβa]

<sup>37</sup> Lenition in internal sandhi is no longer available in Sardinian. By contrast, lenition in external sandhi is an active phenomenon in the Campidanese and Logudorese dialects (i.e., Southern and Northern Sardinian); see Wagner (1941).

(11) **External Sandhi – Intervocalic Position**

|                                |                             |
|--------------------------------|-----------------------------|
| a) <i>Voiceless obstruents</i> | b) <i>Voiced obstruents</i> |
| /sa pɛrda/ ‘the stone’         | /su birdiu/ ‘step-father’   |
| [sa 'βɛrða]                    | [su 'irðiu]                 |

In post-consonantal position, lenition does not apply. The examples in (12) report the behavior of *pɛrda* and *birdiu* when preceded by a word ending in a consonant, namely the plural article *is*.

(12) **External Sandhi – Post-Consonantal Position**

|                                |                              |
|--------------------------------|------------------------------|
| a) <i>Voiceless obstruents</i> | b) <i>Voiced obstruents</i>  |
| /is pɛrdas/ ‘the stones’       | /is birdius/ ‘step-fathers’  |
| [is 'pɛrðaza]                  | [ir 'βirðiuzu] <sup>38</sup> |

As one can see, /p/ and /b/ in post-consonantal position surface as [p] and [β], respectively. But not every word that begins with a voiced stop goes through lenition, as for *birdiu* in (11) above. Only voiced stops from the native vocabulary display lenition. In foreign vocabulary, lenition and other external sandhi phenomena do not take place. I consider ‘foreign vocabulary’ to be Catalan, Spanish, and recent Italian loanwords, while Old Tuscan loanwords and the Sardinian outcomes from Latin are part of the native vocabulary.<sup>39</sup> Examples are listed in (13) below:<sup>40</sup>

| (13) <b>Native Vocabulary</b>            | <b>Foreign Vocabulary</b>                          |
|--|--|
| a) <i>birdiu(s)</i> (from Latin VITRICU) | b) <i>bardufula</i> (from Catalan <i>baldufa</i> ) |
| /su birdiu/ [su 'irðiu]                  | /sa bardufula/ [su bar'dufula]                     |
| /is birdius/ [ir 'βirðiuzu]              | /is bardufula/ [ir bar'dufulaza]                   |

<sup>38</sup> In Tertenia Sardinian and neighboring dialects, the rhotacism of *s* is triggered if *s* is followed by a voiced obstruent.

<sup>39</sup> Loanwords in Sardinian are discussed in Wagner (1941:§447) and Viridis (1978:77), among others. For the dialect under investigation, see Lai (2010, 2011).

<sup>40</sup> For the etymology, I refer the reader to DES; see also Wagner (1941:§447) and Viridis (1978:77).

The synchronic metathesis that affects Tertenia Sardinian applies only to words from the native vocabulary which begin with voiced stops. Only two items respond to this metathesis, the verb *dormire* and the noun *bentre*. In the former the liquid moves from coda position, while in the latter from a post-consonantal TR cluster. In both cases, the liquid migrates only if the word-initial voiced stop is in a strong position (i.e., after a word ending with a consonant). The result is a word-initial TR cluster. Consider the following data:

**(14) *dormire* - Synchronic Metathesis**

| <i>intervocalic position</i> | <i>post-consonantal position</i> |
|------------------------------|----------------------------------|
| a) <i>soi dormendu</i>       | b) <i>ses dormendu</i>           |
| [sɔi ormenu]                 | [sɛr ðrommenu]                   |

**(15) *bentre* - Synchronic Metathesis**

| <i>intervocalic position</i> | <i>post-consonantal position</i> |
|------------------------------|----------------------------------|
| a) <i>sa bentre</i>          | b) <i>is bentres</i>             |
| [s 'ɛntri]                   | [ir 'βrentizi]                   |

In (14)a and (15)a the items in question are in intervocalic position, so the voiced stop deletes. By contrast, in (14)b and (15)b they are both in post-consonantal position. The word-initial obstruent, being in a strong position, is not subjected to lenition, and thus it surfaces as a voiced fricative. It is only at this point that the liquid migrates.

I would like to emphasize again that even though nowadays this metathesis applies only to two lexical forms, the noun *bentre* and the verb *dormire* (in all their inflected forms), this metathesis is triggered by a specific phonological context. The liquid migrates only if the word-initial consonant is in a strong position (i.e., after a word ending with a consonant). If the word-initial obstruent is not in a strong position, metathesis cannot apply and the liquid stays in place, i.e., word-internally.

Several examples of these items and derived words can be produced. Notice that for words ending with a consonant, a vowel can surface after the final consonant, e.g., /paris/ → ['parizi]. This means that for

the same phonological form, e.g., /paris kantendu/, one can say [paris kan'tendu] or [parizi ɣan'tendu]. Both are perfectly grammatical. The former is used in fast speech.

Of interest here is that for the two items in question the same phonological form, e.g., /as dormiu/, can be uttered as either [ar ðrom'miu] or [azi or'miu] (the epenthetic vowel is boldfaced). Thus, the former displays metathesis, while the latter does not. In (16), further examples are listed:

**(16) Synchronic Metathesis – The Verb *dormire***

|                  | <i>post-consonantal position</i> | <i>intervocalic position</i> |
|------------------|----------------------------------|------------------------------|
| /as dormiu/      | [ar ðrommiu]                     | [azi ormiu]                  |
| /at dormiu/      | [a ðrommiu]                      | [aði ormiu]                  |
| /appu dormiu/    |                                  | [appu ormiu]                 |
| /paris dormendu/ | [parir ðrommendu]                | [parizi ormendu]             |
| /parit dormendu/ | [pari ðrommendu]                 | [pariði ormendu]             |

I argue that in the past this synchronic metathesis affected a whole range of terms (i.e., all those affected by LDM; see the appendix). There was probably a synchronic rule that applied systematically to liquids from homosyllabic TRs and re-created a word-initial TR. In fact, nowadays in Tertenia Sardinian word-internal TRs from the native lexicon are completely deleted.<sup>41</sup>

**3. Metathesis and Liquid Deletion in the Diachrony of Tertenia Sardinian**

In Tertenia Sardinian, one can find both the diachronic metatheses described in Sections 1.1-1.2 and the liquid deletion addressed in Section 1.3. As mentioned in Section 1.5, Tertenia displays some TRs in which neither metathesis nor liquid deletion applied. Notice that the data in the following sections are also analyzed in Chapter 3,

<sup>41</sup> Liquids in coda make for a more complicated picture because, unlike in the South-Western area, in Tertenia Sardinian this metathesis affected only *r+m* sequences of the *dormire* type.

Sects. 3 and 4, in which a brief discussion about their etymology and evolution has also been provided.

### 3.1 Main Facts

In Tertenia Sardinian, liquids from TR clusters underwent different kinds of metatheses. Some liquids moved to the word-initial position creating a new TR cluster (e.g., FEBRUARIU> fri'ardʒu), while others went to coda position (e.g., PETRA> 'pɛrða). As previously, I refer to the former metathesis as Long-Distance Metathesis (LDM) and to the latter as Local Metathesis (LM). LDM affected secondary voiceless TRs and primary voiced TRs in intervocalic position. Post-consonantal TRs were also subjected to this metathesis. Table (17) lists the different TRs that underwent LDM.

#### (17) LDM in Tertenia Sardinian

| <i>secondary voiceless TRs</i>                    |
|---|
| i) CONUC'LA> kran'nuxa                            |
| j) COP(U)LARE> kro'βai                            |
| k) FENUC(Ů)LU> fre'nuxu                           |
| l) PEDUC(Ů)LU> pre'uxu                            |
| <i>primary voiced TRs</i>                         |
| m) FABRICARE> frabbi'kai <sup>42</sup>            |
| n) FEBRUARIU> fri'ardʒu                           |
| o) PIGRITIA> pre'issa                             |
| <i>primary and secondary post-consonantal TRs</i> |
| p) CANISTRU> kra'nista                            |
| q) CASTRARE> kras'tai                             |
| r) CASTRU> 'krastu                                |
| s) COOPERC(U)LU> kro'βekku                        |

Another metathesis, LM, affected primary voiceless TRs, some loanwords, and some TRs of more recent formation due to syncope.

<sup>42</sup> DES 361 points out that with respect to the geminate *b* the form frabbi'kai suffered the influence of Italian. In the evolution from Latin to Sardinian, intervocalic voiced stops deleted. See Chap. 1, Sect. 1.2.2 and Chap. 2, Sect. 5.2.

As one can see from Table (18), all of these TRs had become voiced at the stage they underwent LM:

### (18) LM in Tertenia Sardinian

#### primary voiceless TRs

- a) ACER, ACRUS> \*'ayru> 'aryu
- b) PETRA> \*'peðra> 'perða
- c) APRILIS> \*a'βrili> ar'βili
- d) VITRUM> \*'biðru> m'birðu
- e) MATRICE> \*'maðri> 'marði
- f) PRATUM> \*'parðu> 'parðu
- g) \*PULLETRU> \*pu'ðredðu> pur'ðedðu
- h) PETROSELĪNUM> \*peðru'zemini> perðu'zemini
- i) PETRU> \*'peðru> 'perðu
- j) PUTRICARE> \*puðri'ai> purði'ai
- k) UTER,UTRIS> \*'uðri> 'urði
- l) VITRICUS> \*'biðriu> 'birðiu
- m) BUTRONE> \*pu'ðrɔni> pur'ðɔni
- n) SOCRUS> \*'soɣru> 'soryu
- o) CRATIC(Ū)LA> \*ka'ðriya> kar'ðiya

#### loanwords

- p) *allegro* (It.)> al'liryu
- q) *muteclu* (Old Sard.)> mur'ðeyu
- r) *padrino* (It.)> par'ðinu
- s) *petronciano* (Old It.)> peðrin'dʒanu> perðin'dʒanu

#### TRs due to syncope

- t) CENĀPURĀ> \*tʃe'naβra> tʃe'narβa
- u) SUBŪLO, -ONE> \*si'βrɔni> sir'βɔni

#### primary voiced TRs

- v) QUADRŪLA> 'parðula

Primary voiceless TRs went through lenition (e.g., *petra*> 'peðra) and then LM took place ('peðra> 'perða). TRs which were already voiced (e.g., the Italian loan *allegro*) were directly subjected to LM (*allegro*> al'liryu). LM applied also to new TRs, such as CENĀPURĀ> tʃe'narβa and SUBŪLONE> sir'βɔni. Both were TVR sequences which

underwent the syncope of the vowel, e.g., *\*subulone* > *\*sublone* > *sir'βōni*.<sup>43</sup>

Items subjected to LM also include QUADRŮLA > 'parðula. The evolution of this item and of SUBŮLONE > *sir'βōni* is anomalous. Even though they are native vocabulary, these two items were not subjected to the diachronic lenition which affected voiced obstruents in internal sandhi. In other words, they were not affected by lenition, as expected for every TR in intervocalic position. As already discussed,<sup>44</sup> Latin voiced obstruents underwent complete deletion when in intervocalic position. Intervocalic voiced TRs were not exceptions.<sup>45</sup> If *\*sublone* had been affected by lenition, the result would have been the loss of the obstruent, which was the normal evolution for Latin voiced obstruents. The same holds of QUADRULA: the voiced obstruent was not deleted. I refer the reader to Chapter 3, Sects. 3 and 4 for further discussion about the evolution of these items and their etymology.

In the database there are also some intervocalic and post-consonantal TRs in which the liquid deleted, as can be seen in Table (19).

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<sup>43</sup> See Chap. 3, Sects. 4.8, 4.11 and 4.26.

<sup>44</sup> Chap. 1, Sect. 1.2.2 and Chap. 2, Sect. 5.2.

<sup>45</sup> See Chapter 5.

### (19) Liquid Deletion in Tertenia Sardinian

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#### *secondary voiceless TRs*

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- a) MANUC(U)LU> man'nyu
  - b) OC(Ů)LUS> 'oɣu
  - c) ORIC(Ů)LA> o'riɣa
  - d) RENIC'LU> e'rriɣu
  - e) \*RET(Ů)LA>REC'LA> a'rɛɣa
  - f) ROTŮLUS> or'royu
- 

#### *primary voiced TRs*

---

- g) FLAGRARE> fra'ɣai
- 

#### *primary and secondary post-consonantal TRs*

---

- h) MASC(Ů)LUS> 'masku
  - i) MENTŮLA> MENT'LA> \*MINC'LA> 'miŋka
  - j) NOSTRU> 'nostu
  - k) MAGISTRU> ma'istu
- 

Only the items in (20) did not undergo any kind of metathesis or liquid deletion.

### (20) No Metathesis

---

- a) CALABRICU> ka'lavriɣu
  - b) CIRIBRU> tʃi'livru
  - c) COLOBRA> ko'lɔvra
  - d) LABRA> 'lavra(za)
- 

However, as mentioned in Section 1.5, they also have another peculiarity: these items, like QUADRŮLA> 'parðula and SUBŮLONE> sir'βɔni, did not lose the voiced obstruent, as expected for intervocalic voiced TRs.

### 3.2 Chronology in Tertenia Sardinian Metatheses

In this chapter the various metatheses of the Sardinian domain have been discussed. From the ancient texts one sees that LDM was the most ancient metathesis,<sup>46</sup> attested in all Sardinian dialects. On the

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<sup>46</sup> Wagner (1941:§417), Contini (1987:412), Geisler (1994:110ff), and Molinu (1999:161).



other hand, LM is more recent. In fact, the ancient text that displays the largest number of examples of LM is the most recent among Sardinian ancient texts: the CdL code (see Sect. 1.2). I conclude that LDM was the most ancient metathesis, while LM was the most recent one.<sup>47</sup>

I believe that in the past these metatheses applied systematically to every TR. At that time, they presumably responded to specific rules which might have been similar to those which appear in Sardinian synchronic metatheses nowadays.<sup>48</sup> In conclusion, I argue that Tertenia went through LDM and LM in two subsequent stages and that both metatheses applied systematically.<sup>49</sup>

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<sup>47</sup> Later, only in the south-western area but not in Tertenia or the south-eastern area, another metathesis started affecting liquids in coda position. One can infer that this metathesis must be very recent, since the affected items were previously subjected to LM; see Sect. 1.4 for further discussion.

<sup>48</sup> See also Chap. 6, Sect. 7.

<sup>49</sup> For the structural conditions of metathesis, see Chaps. 5 and 6.

## Chapter 5

### Syllabic Representations of Stop-plus-liquid Sequences

This chapter deals with obstruent liquid clusters and the syllabic identities they can assume. Section 1 focuses on *muta cum liquida* in Latin and Romance languages. Sections 2 to 4 present the different TR structures advocated for in the literature, here translated into the CVCV framework. Section 5 reports some criteria adopted in the literature to detect the syllabic identity of TRs. Section 6 concentrates on coda consonants in Sardinian. Section 7 sums up the main conclusions.

#### 1. Introduction

*Muta cum liquida*<sup>1</sup> clusters surface as a phonetic sequence of obstruent plus liquid, but their phonological identity may differ remarkably across languages and even within the same language. The syllabic identity of these clusters has long been a matter of inquiry and has attracted the attention of various scholars.

TR clusters can be syllabified at least in two ways: V.TRV or VT.RV.<sup>2</sup> The former is a branching onset, the latter a coda-onset cluster. The branching-onset option is considered to be the most standard syllabification.<sup>3</sup> The Maximal Onset Principle is the reason for this predilection. Below, the definition of Maximal Onset Principle is reported, taken from a recent glossary of phonology:

“Maximal Onset Principle - A principle which states that, where a given consonant could constitute a well-formed coda consonant in a word or equally a well-formed onset, as determined by the phonotactic constraints of the language, then it is syllabified as an onset. For example, in the English word *appraise*, the syllabification [əp.ɹeɪz] satisfies the phonotactic constraints of English, since a coda containing only a /p/ is legitimate (as in *cup*), and an onset containing only an /r/

---

<sup>1</sup> The term “*muta cum liquida*” will be used as a synonym for “obstruent plus liquid,” without referring to a particular syllabic identity.

<sup>2</sup> Here and henceforth, the dot indicates a syllable boundary.

<sup>3</sup> See Carr (1993:202), Roca (1994:144-5, 151-9), Carr (2008:98), among others.

is also legitimate (as in run). However, the branching onset /pr/ is also legitimate (as in pray), so that the syllabification [ə.pɹeɪz] is also legitimate. The principle states that, in cases such as this, it is the latter syllabification which holds, since it maximises the content of an onset” (Carr 2008:98).

This principle deals with restrictions on complex onsets. As pointed out by Carr (2008), the content of an onset should be the maximal one. Also, it is generally accepted that a complex onset must be graded on the basis of sonority.<sup>4</sup> However, not every consonant cluster can be considered a complex onset, only those clusters with rising sonority. Thus, consonant clusters such as obstruent plus liquid should occupy the onset position due to their rising sonority profile, while clusters of falling sonority are in a coda-onset configuration. In other words, an approach of this kind makes sure that an obstruent-liquid sequence will be automatically syllabified as a branching-onset instead of a coda-onset cluster only on the basis of sonority.<sup>5</sup>

Nevertheless, the literature offers several kinds of evidence for other TR syllabifications. One is the already mentioned coda-onset cluster solution. Another option is to consider TRs to be monopositional segments.<sup>6</sup>

Most of the existing literature focuses on Latin. Hill (1954:439, 440, 442), Allen (1965:83, 89ff), Timpanaro (1965), Tagliavini (1982:240-1), Vineis (1990:144, 148, 161), Lehmann (2005a, 2010), Loporcaro (2005), McCullagh (2011:90), among others, report two syllabic treatments for the sequence obstruent plus liquid. The same sequence may receive a heterosyllabic or a tautosyllabic treatment:<sup>7</sup>

“If a plosive consonant is followed by a liquid (r, l), either the group may be divided, like any other group, between the preceding and following syllables (thus for example, *păt-ris*, giving a heavy first syllable), or it may go as a whole with the following syllable (thus *pă-tris*, giving a light first syllable)” (Allen 1965:89).

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<sup>4</sup> Roca (1994:151-9).

<sup>5</sup> See Scheer (1999), Scheer (2004:60ff).

<sup>6</sup> See Section 4.

<sup>7</sup> See also Allen (1973:93ff, 155ff). On Latin syllable see e.g., Marotta (1999), Lehmann (2005a, 2005b, 2010).

In other words, in Latin a TR sequence was syllabified as a heterosyllabic cluster (i.e., coda-onset cluster) or a homosyllabic cluster<sup>8</sup> (i.e., branching onset).

By looking at some stress shift phenomena in the evolution from Latin to Romance languages, scholars such as Allen (1965:65), Timpanaro (1965), and Loporcaro (2005) argue that TR clusters changed their status in different historical phases. Early and Late Latin had heterosyllabic TRs, while Classical Latin and Romance languages had homosyllabic TRs:<sup>9</sup>

“Io credo a un prevalere ora dell’una ora dell’altra accentazione (in conseguenza di sillabazioni diverse) in diverse epoche. [...] La singolarità del latino (includendo nella nozione di latino anche le lingue romanze) consiste nell’essersi il passaggio ripetuto due volte, secondo uno schema a – b – a – b” (Timpanaro 1965:1093).

“Se si ammette dunque per il latino arcaico e tardo l’eterosillabicità, si deve riconoscere un’evoluzione in quattro fasi”:

| a. lat. arcaico | b. lat. class. | c. lat. tardo/proto-rom. | d. lingue rom. |
|-----------------|----------------|--------------------------|----------------|
| -VC.RV- >       | -V.CRV- >      | -VC.RV- >                | -V.CRV-        |

Loporcaro (2005:422)

Hill (1954:440), Allen (1965:90), Timpanaro (1965:1093), Vineis (1990:149), and Lehmann (2005a:25) make one more interesting remark. Even when the homosyllabic structure was the default, the heterosyllabic structure was still possible for some items, such as compounds:

“As is well known, clusters of this type (stop plus liquid) do not make position (*impetro, re-trahit*) in Plautus and Terence [...] except where there is a compounding seam after the stop (*ob-ruo*). In later, classical verse, however, positional length becomes optional in such words as *impetro* as well” (Hill 1954:440).

“Nei composti in cui il prefisso termina per occlusiva e il radicale comincia per *r* o *l* (tipo *abrumpo, oblino*) la scansione lunga si è mantenuta senza eccezioni. [...] la

<sup>8</sup> Note that here and elsewhere the term ‘homosyllabic’ is used as a synonym for ‘tautosyllabic’.

<sup>9</sup> For Latin through time and its different historical phases, see Clackson (2011:\$13-17) (ed.).

consapevolezza della relativa autonomia del prefisso sta alla base della sillabazione *ab-rum-po* (non *a-brum-po*)” (Timpanaro 1965:1093).

“[...] nei composti era del tutto chiara la scansione eterosillabica di muta cum liquida” (Vineis 1990:149).

“Si, enfin, le groupe contient une frontière grammaticale, c’est encore celle-ci qui conditionne la frontière de syllabe. Le caractère propre de la séquence comme ‘muta cum liquida’ n’importe plus, et celle-ci est séparée en deux syllabes” (Lehmann 2005a:25).

Thus, even in the same historical phase, two syllabic solutions for the same phonetic sequence can co-exist.<sup>10</sup>

Latin offers uncontroversial evidence for different syllabifications, but it is not the only language in which TRs had different statuses. Such possibility has also been demonstrated in a number of languages other than Latin: among ancient languages, one can find Ancient Greek and Gothic (Timpanaro 1965:1084, 1093).

The unstable situation of Latin is reflected in the Romance languages. It is generally accepted that modern Romance languages have homosyllabic TRs, but signs of a previous heterosyllabic treatment can be found in their history, at least for some items.

In Italian, stop plus lateral and voiced bilabial stop plus rhotic come out with a geminate instead of a simplex stop:<sup>11</sup>

| (1) Stop + lateral                 | Voiced bilabial stop + rhotic |
|------------------------------------|-------------------------------|
| ORIC(U)LA > <i>orecchia</i>        | LABRA > <i>labbra</i>         |
| VET(U)LU > *veclu > <i>vecchio</i> |                               |
| NEB(U)LA > <i>nebbia</i>           |                               |

from Rohlfs (1966)

Various scholars argue that, these geminate forms were the result of a heterosyllabic structure.<sup>12</sup>

<sup>10</sup> The idea of different syllabic identities for the same language in the same period is also reported in Ségéral and Scheer (2005:238, 264) for historical French.

<sup>11</sup> See Rohlfs (1966:§247, 248, 261).

Heterosyllabic TRs are also attested in the evolution of some Central and Southern dialects on the Italian peninsula, specifically in the regions of Southern Marche, Abruzzo, Molise, and Puglia.<sup>13</sup> Modern French shows the signs of various types of TR clusters in its history (see Timpanaro 1965:1096, Hill 1954:442, Ségéral and Scheer 2005). Even in modern languages, the co-existence of different types of TR clusters may be found, e.g., in Czech.<sup>14</sup>

## 2. TRs in a Strict CV Model

In the strict CV framework, TRs are discussed in Scheer (1999, 2004), Lowenstamm (2003), Ségéral and Scheer (2005), Szigetvári (2007), Marotta (2008), Brun-Trigaud and Scheer (2010), among others. Proposals and analyses may differ from one another.

Here, I especially look at the ideas in Scheer (2004), Ségéral and Scheer (2005), Brun-Trigaud and Scheer (2010). I also refer to the possibility advocated in Lowenstamm (2003) of *muta cum liquida* clusters as monopositional segments. Lowenstamm (2003) argues for the existence of two TR identities less “famous” than branching onsets. In his view *muta cum liquida* clusters can only be of two kinds: heterosyllabic clusters or monopositional segments (i.e., complex segments).

The main purpose of Lowenstamm’s paper is to demonstrate that “the behavior of *mutae cum liquida* constitutes no argument for branching-onsets.”<sup>15</sup> He accepts bipositional TRs, but only as coda-onset clusters. Evidence for his proposal comes from reduplication in Ilokoano (Austronesian) and Greek. As he shows, in these languages TRs pattern with complex segments. He also suggests an alternative account to Scheer (1996). Explaining the same Czech pattern, Scheer (1996:304ff) assumes that TRs are homosyllabic and heterosyllabic, while Lowenstamm (2003) argues that TRs are monopositional and

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<sup>12</sup> See Hill (1954:440), Timpanaro (1965:1096), Venneman (1988:46), Loporcaro (2005:427), among others.

<sup>13</sup> See Loporcaro (1996:§3.1), (2005:§6). See also Sect. 5, this Chap.

<sup>14</sup> Scheer (1996), Lowenstamm (2003).

<sup>15</sup> Lowenstamm (2003:361).

heterosyllabic.<sup>16</sup> In what follows, I will not adopt Lowenstamm's position for the whole class TRs, but I will propose that a subset of Sardinian TRs might have been monopositional.<sup>17</sup>

Arguments in favor of a branching-onset representation can be found in Scheer (2004:72ff, to appear). Other Strict CV works that report a homosyllabic structure for *muta cum liquida* are Ségéral and Scheer (2005), Marotta (2008), Brun-Trigaud and Scheer (2010). Following the ideas in Ségéral and Scheer (2005), I argue for the availability of three possible representations for *muta cum liquida*: branching-onset, coda-onset cluster, and monopositional segment.<sup>18</sup>

I refer to Brun-Trigaud and Scheer (2010) for their representation of branching onsets in CVCV. As will be seen in Section 3.1 (this Chap.), Brun-Trigaud and Scheer's paper is significant in two respects. First, the syllabic structure they propose is of theoretical importance for the analysis of metathesis here. Second, it provides new dialectological data by comparing the diachronic behavior of simplex Ts with Ts from TRs in Old French and Occitan dialects. Their results provide additional evidence for the fact that Ts in a *muta cum liquida* pattern in the same way as simplex Ts. As is well known from dialectological studies, if a language is affected by lenition, simplex Ts and Ts from TR clusters behave alike.<sup>19</sup> For example, as pointed out by Marotta (2008:236) for Tuscan Italian (a dialect affected by lenition), "stops engaged in *muta cum liquida* clusters behave exactly like their simplex intervocalic peers." One can find exactly the same situation in Roman Italian. As Loporcaro

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<sup>16</sup> See analyses in Scheer (1996:304ff) and Lowenstamm (2003).

<sup>17</sup> See Chap. 6.

<sup>18</sup> Ségéral and Scheer (2005) argue for three types of syllable structure (i.e., homosyllabic, heterosyllabic, and monopositional) even in the same language. See Section 5, this Chap.

<sup>19</sup> Romance dialectological works usually note this fact, reporting that lenition affects simple Ts as well as TRs. This identical behavior is reported both in diachronic and synchronic works. See Wagner (1941:\$267) for Old Sardinian, Brun-Trigaud and Scheer (2010) for Old French and Occitan dialects. This phenomenon is still visible in Roman Italian (Loporcaro and Bertinetto 2005:135) and Tuscan Italian (Giannelli and Savoia 1978, 1979-80, Giannelli 1976, Marotta 2008:236, 242, 262), on the Italian peninsula. Also Logudorese and Campidanese Sardinian display active lenition, but only at word boundaries (Wagner 1941, Virdis 1978, among others). Central Sardinian (i.e., the Nuorese area) is not affected (Wagner 1941, Pittau 1972).

and Bertinetto (2005:135) reported, in this dialect “non-geminated voiceless stops are lenited intervocalically (or before glide and liquid) [...]”

To better show this identical reaction to lenition, the Tuscan data is reported in Tables (2) and (3) below. Recall that in Tuscan Italian, voiceless stops became voiceless fricatives in intervocalic position. The data are from Marotta (2008:§4.2):

**(2) Simplex Stops in Tuscan Italian**

|       | <i>Standard Italian</i> | <i>Tuscan Italian</i> | <i>gloss</i> |
|-------|-------------------------|-----------------------|--------------|
| p - φ | a'pɛrto                 | a'φɛrto               | open         |
| t - θ | 'la:to                  | 'la:θo                | side         |
| k - x | bru:ko                  | bru:xo                | worm         |

**(3) Stops in TR clusters in Tuscan Italian**

|       | <i>Standard Italian</i> | <i>Tuscan Italian</i> | <i>gloss</i> |
|-------|-------------------------|-----------------------|--------------|
| p - φ | 'ka:pra                 | 'ka:φra               | goat         |
| t - θ | 'li:tro                 | 'li:θro               | liter        |
| k - x | a'kro:bata              | a'xro:βaθa            | acrobat      |

As one can easily see, the behavior of Ts from TRs is strictly identical to that shown by simplex Ts. The results are the same even at word-boundaries.<sup>20</sup>

**3. Bipositional TRs**

Bipositional TRs, such as branching-onsets and coda-onset clusters, take two syllabic slots. I use homosyllabic and heterosyllabic TRs as synonyms for the so-called “branching-onsets” and “coda-onset clusters” of more traditional approaches to syllable structure.

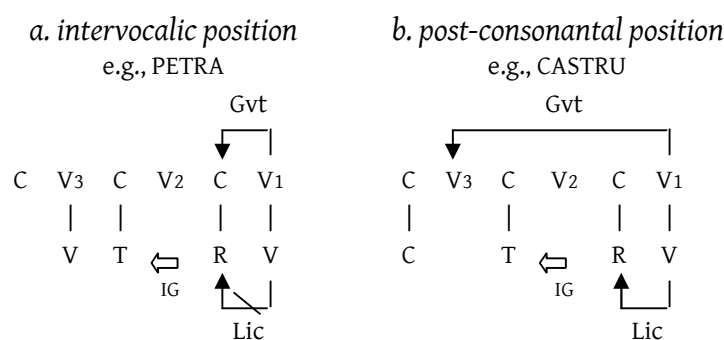
<sup>20</sup> See Giannelli and Savoia (1978, 1979-80), Giannelli (1976), Marotta (2008), among many others.



### 3.1 Homosyllabic TRs in CVCV

Recently, a revised representation for branching onsets in CVCV has been proposed (Brun-Trigaud and Scheer 2010). The classic version appears in Table (4) below, adapted from Brun-Trigaud and Scheer (2010:18).<sup>21</sup> TR clusters appear both in intervocalic and in post-consonantal position.

#### (4) Homosyllabic TR – Classic Representation



from Brun-Trigaud and Scheer (2010)

The white arrow going from R to T indicates the so-called Infrasegmental Government (IG).<sup>22</sup> In Government Phonology, the solidarity between the two TR members stems from this lateral relation (Scheer 1999, 2004). In CVCV, IG is a regressive relation that does not have any negative or positive effect on its target, unlike Government and Licensing. With respect to Standard Government Phonology, in CVCV R governs T. Thus, the liquid is considered to be the head of a TR cluster (Scheer 2004:43).

Of importance here is that IG silences the empty nucleus between T and R, which does not need to be governed by V1 (i.e., the filled nucleus to the right of the TR cluster).<sup>23</sup> As argued for in Brun-

<sup>21</sup> Table (4) follows the version 2 of the Coda Mirror (Ziková and Scheer 2010). In the previous version, intervocalic consonants were governed and licensed. In the revised version, intervocalic consonants are governed but unlicensed. See also Chap. 2.

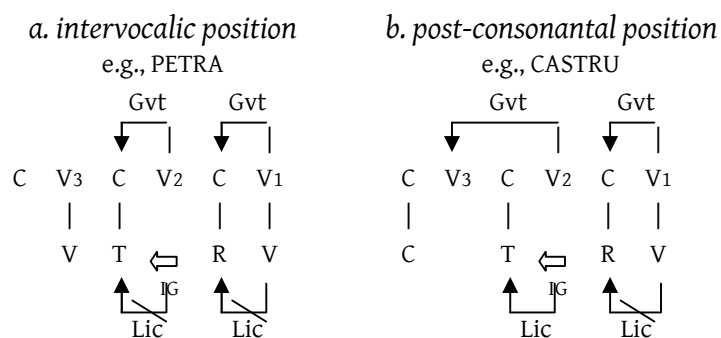
<sup>22</sup> See Kaye et al. (1990). On Infrasegmental Government in CVCV, see Scheer (1999, 2004:37, 162). See Chap. 2, Sects. 2 and 3 for a brief discussion.

<sup>23</sup> Scheer (2004:37), Brun-Trigaud and Scheer (2010).

Trigaud and Scheer (2010), this representation presents some weak points. The first is that V3 (i.e., the leftmost empty nucleus) is governed by V1. However, this relationship violates locality by trespassing V2, a category of the same kind (i.e., another empty nucleus). In the CVCV framework, the representation for branching onsets reported in (4) is the only structure that does not satisfy the requirement of locality, (Brun-Trigaud and Scheer 2010).<sup>24</sup>

Another weakness lies in the fact that the representation in question does not conform to the Coda Mirror predictions and in general with the evidence in the data: in (4) T has no status. Given the representation in (4), one is not in the position to decide which kind of lateral relations do affect T. From dialectological data it is known that TRs behave like simplex Ts.<sup>25</sup> Simplex Ts and Ts in TR clusters react in the same way to phenomena such as lenition and fortition. By keeping in mind dialectological data and the Coda Mirror predictions, it is evident that (all things being equal) the status of simplex Ts and Ts in TR clusters should coincide. For the aforementioned reasons, Brun-Trigaud and Scheer (2010) propose a revised version for homosyllabic TRs. This amended version is reported in (5) below.

**(5) Homosyllabic TR – Revised Representation**



from Brun-Trigaud and Scheer (2010)

<sup>24</sup> The notion of locality is taken from syntax (Rizzi 1990). See Chap. 2, Sect. 3. For further discussion about locality applied to branching onsets, see Brun-Trigaud and Scheer (2010:18-9).

<sup>25</sup> For Sardinian dialects, see Wagner (1941:\$267).

The advantage of the revised version is twofold. First, Locality is now respected; V2 is the governor of V3. But a problem arises in adopting this solution. V2 has no phonetic audibility; therefore, it should not be able to govern another empty nucleus. Recall from Chap. 2 that only phonetically expressed nuclei can govern, and as far as one can see V2 does not have phonetic content.<sup>26</sup> In replying to this objection, Brun-Trigaud and Scheer (2010:19) point out that “the ability of nuclei to govern and license is defined by their phonological, rather than by their phonetic properties: nuclei are lateral actors iff they are ungoverned, i.e. independently of whether they are pronounced or not.”

There is also another reason to maintain the revised version. Recall that simplex Ts and Ts from TR clusters show analogous behavior. Only the revised version is able to capture the empirical evidence. In (5), Ts contract the same lateral relations as their simplex counterparts in the same environments. In an intervocalic TR, T is governed and licensed, whereas in a post-consonantal TR, it is licensed but ungoverned, exactly like every simplex T. Therefore, if T is in a homosyllabic configuration (i.e., it is governed) one should see the lenition effect. More generally, it can be said that the revised representation perfectly fits the Coda Mirror statements.

As will be shown later, for my analysis it is also important to notice that liquids in a homosyllabic cluster are always governed.<sup>27</sup> Even in a post-consonantal TR, the liquid still is in a weak position.<sup>28</sup>

According to the reasons advocated in Brun-Trigaud and Scheer (2010), for the analysis here I adopt the revised version in (5) as the representation for homosyllabic TRs.

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<sup>26</sup> See Kaye (1990), Scheer (2004), Brun-Trigaud and Scheer (2010:19).

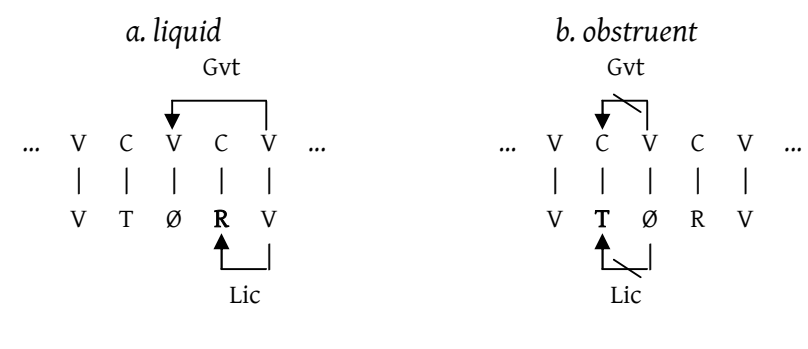
<sup>27</sup> Compare representations a. and b. in Table (5).

<sup>28</sup> See Chap. 6, Sect. 3.1.

### 3.2 Heterosyllabic TRs in CVCV

In a heterosyllabic TR, as opposed to a homosyllabic TR, T and R must be seen as independent consonants, with no consonantal interaction.<sup>29</sup> In traditional terms, T is a coda consonant and R a post-coda consonant. In CVCV, they identify as “before an empty nucleus” and “after an empty nucleus,” respectively.<sup>30</sup> Table (6) below exemplifies the lateral relations contracted by T and R. The consonants in question are boldfaced.

#### (6) Heterosyllabic T.R



Being a post-coda consonant, the liquid is in strong position. Thus, it is licensed but ungoverned. By contrast, the obstruent sits in a coda, and is thus in a weak position. Coda consonants are neither governed nor licensed.<sup>31</sup>

## 4. Monopositional TRs

For monopositional TRs or monosegmental TRs I refer to TR sequences that occupy one single slot.<sup>32</sup>

<sup>29</sup> Scheer (2004:37). See Sect. 3.2, this Chap.

<sup>30</sup> Scheer (2004:132-3).

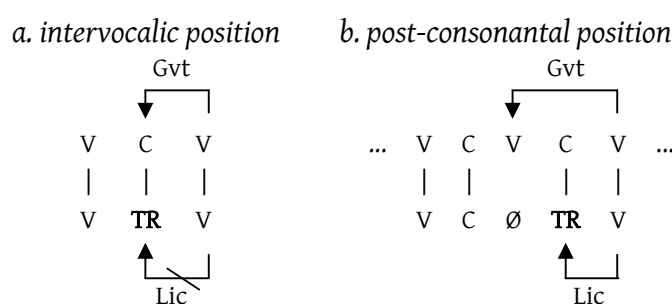
<sup>31</sup> Even though the coda position is weak, it was not affected by Sardinian lenition, unlike intervocalic obstruents (i.e., governed obstruents). See Chap. 2, Sect. 5.2 and Sect. 6., this Chap.

<sup>32</sup> On complex segments, see e.g., Hirst (1985), Sagey (1986), Lombardi (1990), and Steriade (1994). A comprehensive survey of complex segments can be found in Scheer (2012b:688ff).

#### 4.1 Monopositional TRs in CVCV

In the CVCV framework, Lowenstamm (2003) and Ségéral and Scheer (2005) advocate the existence of monopositional TRs. Being a kind of complex segment, a monopositional TR occupies one single slot. This means that when the TR in question is in intervocalic position (as in (7) a.) it is governed but unlicensed, while in b. it is ungoverned.

#### (7) Monosyllabic TR



A monopositional TR contracts the same lateral relations as a simplex consonant in the same positional conditions.

#### 5. Detecting the Syllabic Status: Some Criteria

As mentioned earlier, muta cum liquida clusters surface as a sequence of obstruent plus liquid, but their phonetic identity is not sufficient to define their phonological representation.<sup>33</sup>

The literature suggests various criteria to detect the phonological identity of TRs. In Latin, stress shift may be used as a criterion for syllable boundary. In this ancient language, the weight of a syllable determined the position of the accent. A syllable counted as heavy if the syllable in question ended with a coda or contained a long vowel. By contrast, an open syllable (i.e., a syllable with a short vowel and no coda) counted as light.

<sup>33</sup> Ségéral and Scheer (2005).

The distinction is important to assign the word accent. In Classical Latin, the accent fell on the penultimate syllable if the penultimate was a heavy syllable; on the other hand, if the penultimate syllable was light, the accent fell on the antepenultimate.<sup>34</sup> To better understand how this can be useful in order to detect the TR status, I turn to Timpanaro (1965) and Loporcaro (2005). Recall from Section 1 that they argue for a change in the treatment of obstruent-liquid sequences: Classical Latin preferred homosyllabic TRs, while Late Latin had heterosyllabic TRs. This conclusion comes about by looking at the stress shift that is still visible in some Romance languages. For example, Romance items *entero* (Sp.), *entier* (Fr.), *intiero* (It.), *intreu* (Log.), and *întreg* (Rum.) stem from Late Latin IN.TĒG.RUM instead of Classical Latin ÍN.TĔ.GRUM.<sup>35</sup> Stress shifted from the antepenultimate to the penultimate syllable because of the heterosyllabic scansion of *muta cum liquida*. The obstruent of *muta cum liquida* sitting in coda caused the penultimate syllable to become heavy and receive stress. Romance languages still maintain the latter stress, even after the TR syllabification has changed again (see Section 1, this Chapter).<sup>36</sup>

Another criterion to detect the syllabic status of a TR cluster is found in Loporcaro (1996:§3.2, 2005:§6). In some Central and Southern dialects of Italy, vowels were affected by various changes (e.g., diphthongization or coloring). Targets for these changes were vowels in an “open” syllable. Vowels in a “closed” syllable were not affected. The interesting thing is that vowels preceding obstruent-

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<sup>34</sup> On Latin stress, see Lindsay (1894:94, 164), Ward (1951:477), Hill (1954:439), Allen (1965:83, 89ff), Loporcaro (2005:421), McCullagh (2011:90), among others.

<sup>35</sup> Examples are taken from Loporcaro (2005:422). On the same topic, see also Timpanaro (1965) and Tagliavini (1982:241).

<sup>36</sup> It should be mentioned that there is a dispute whether Latin obstruent-liquid clusters had a heterosyllabic scansion or had always maintained a homosyllabic identity all the way through. The other explication argued for by many Latinists (see Loporcaro 2005:§4 for a survey and counter-arguments) is that Latin *muta cum liquida* was always a homosyllabic cluster, and the stress shift observed is due to gemination or anaptyxis (i.e., vowel epenthesis). Timpanaro (1965) and Loporcaro (2005) reject this hypothesis. For further details, see Timpanaro (1965) and Loporcaro (2005:§4-6).

liquid sequences were not at all affected, suggesting a heterosyllabic treatment for this kind of clusters.<sup>37</sup>

However, the criterion that should help the most is the lenition of stops in *muta cum liquida* clusters. As pointed out above, in a language with active lenition processes, both simplex Ts and Ts in TRs are affected. Looking at Romance languages with synchronic lenition, one can find many examples, as already seen in Section 2.<sup>38</sup>

Applying the Coda Mirror statements one can easily understand why only homosyllabic TRs are sensitive to lenition, and why heterosyllabic TRs should behave differently.

In Section 3.1 I already mentioned that governed obstruents undergo lenition; therefore, one expects that both simplex obstruents in intervocalic position and obstruents in a homosyllabic TR configuration respond to lenition. If it does not occur and the obstruent in a TR cluster is not affected, one is obliged to conclude that the obstruent in question is not in a governed configuration. This means that the TR cluster is heterosyllabic. Recall from Section 3.2 that in a heterosyllabic cluster, T is in a coda: it is neither governed nor licensed. The coda position is a weak position as well as the intervocalic one, but their effect can be quite different (Scheer 2004:120). A list of the different phenomena affecting a coda vs.

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<sup>37</sup> Data and analysis can be found in Loporcaro (1996:\$3.2; 2005:\$6). The areas in question are Abruzzo, Marche, Molise, Puglia, and Lucania. The Romance languages spoken in these regions, mostly by bilingual speakers, are not dialects of Italian, i.e., they are not regional variations of standard Italian spoken in the aforementioned areas (Maiden and Parry 1997:2). They are independent languages (with various dialectal subdivisions) that descend directly from Latin. The most classic work on Italian and the other Romance varieties spoken in the Italian peninsula is Rohlfs (1966). Modern books on historical linguistics are Grassi et al. (1997) and Loporcaro (2009), while Savoia's (1997) work deals with the geographical distribution of the dialects of Italy. For the history of the Italian language, see Lepschy and Lepschy (1977), Maiden (1995), among others. An overview of Italian and local Italian dialects (i.e., the Italian spoken in different geographical areas with different local accents) can be found in Telmon (1994) or Canepari (1980), a more phonetically oriented monograph. A comparison of Standard Italian with respect to the Italian spoken in Florence, Rome, and Milan can be found in Loporcaro and Bertinetto (2005). On the legal status of minority languages in Italy, see Savoia (2001).

<sup>38</sup> For lenition, see Chap. 1, Sect. 1.2 and Sections 4.2, 4.3, this Chap.

intervocalic position may be found in Ségéral and Scheer (1999:24), which is reported in (8) below.<sup>39</sup>

**(8) Processes Affecting Codas and Intervocalic Consonants**

|  | <i>Coda</i>          | <i>V_V</i>           |
|--|----------------------|----------------------|
| devoicing  | typical              | highly<br>improbable |
| deaspiration ( $C^h \rightarrow C$ )                           | typical              | highly<br>improbable |
| velarisation ( $l, n \rightarrow \text{ɫ}, \text{ŋ}$ )         | typical              | highly<br>improbable |
| s-debuccalisation ( $s \rightarrow h$ )                        | typical              | highly<br>improbable |
| liquid gliding ( $r, l \rightarrow j$ )                        | typical              | highly<br>improbable |
| depalatalisation ( $\text{ɲ} \rightarrow n$ )                  | typical              | highly<br>improbable |
| l-vocalisation ( $\text{ɫ} \rightarrow w/o$ )                  | typical              | highly<br>improbable |
| r-vocalisation/loss ([kaad] ‘card’)                            | typical              | highly<br>improbable |
| [NC] <sub>hom</sub> : homorganisation of nasals                | typical              | highly<br>improbable |
| spirantisation ( $b, d, g \rightarrow \beta, \delta, \gamma$ ) | highly<br>improbable | typical              |
| voicing ( $t \rightarrow d$ )                                  | highly<br>improbable | typical              |
| rhotacism ( $s, z \rightarrow r$ )                             | highly<br>improbable | typical              |

from Ségéral and Scheer (1999:24)

An analysis of the two sites in terms of lateral relations is found in Ziková and Scheer (2010). The main goal of their article is to propose a revised version of the Coda Mirror (as previously discussed in Ségéral and Scheer (2001)) by arguing that Government and Licensing cannot be considered equal forces. In order to avoid the

<sup>39</sup> See Harris (1997:§2), Scheer (2004:142ff). See also Chap. 2, Sect. 5.



simultaneous application of both forces, the establishment of a hierarchy is needed: Government applies over Licensing.<sup>40</sup> In (9) below I repeat this principle, as reported by Ziková and Scheer (2010:§4.2).

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**(9) Government over Licensing**

“No constituent can be governed and licensed at the same time. In case a constituent can potentially be subjected to both lateral forces, it will be governed.”

The idea that Government must be applied over Licensing impacts with the representation of intervocalic consonants as they appear in the Coda Mirror v.1. The implication for the Coda Mirror of such a statement is that intervocalic consonants cannot be at the same time governed and licensed. Thus, in the Coda Mirror v.2, intervocalic consonants are governed but unlicensed.<sup>41</sup>

Another consequence is that in light of (9), intervocalic consonants are weaker than codas.<sup>42</sup> As will be seen in the next section, this conclusion perfectly fits with the Sardinian situation: lenition applied to intervocalic stops, while stops in a coda were not subjected<sup>43</sup>.

**6. Obstruents in Coda: The Case of C+j Sequences.**

As already pointed out in Chap. 2, Sect. 5 intervocalic obstruents (i.e., governed obstruents) are the targets of Sardinian lenition. The aim of this section is to establish if coda obstruents were subjected to the same weakening processes that affected intervocalic obstruents<sup>44</sup>.

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<sup>40</sup> For further details on the topic, see Harris (1997), Ségéral and Scheer (1999), Ségéral and Scheer (2001), Ziková and Scheer (2010), and the Cyran's (2006) review of Scheer (2004).

<sup>41</sup> Ziková and Scheer (2010:§4.3). See also Chap. 2, Sect. 5.

<sup>42</sup> Ziková and Scheer (2010:§4.3).

<sup>43</sup> See Chap. 2, Sects. 5 and 6.

<sup>44</sup> For coda consonants in CVCV see Scheer (2004:78ff). See also Chap. 2, Sect. 5.

In modern Sardinian, stops do not occur in coda position. The only coda-consonants are *s*, *r*, *n*, *m*, and the first part of a geminate.<sup>45</sup> Diachronically the situation might have been different. A signal comes from the historical evolution of Latin consonants + yod (i.e., the palatal glide [j]).

The Romance reflexes of Latin consonant + yod clusters suggest that these sequences might have been heterosyllabic, and thus coda-onset clusters.<sup>46</sup> This means that the consonant sat in a coda while the yod sat in a strong position. The effects of the strong position on the palatal glide may be easily seen in Sardinian.<sup>47</sup> Table (10) below lists some examples from Tertenia Sardinian; etymological forms are from DES.

**(10) Consonant + yod in Tertenia Sardinian**

|            |            |
|------------|------------|
| CALCANEU>  | kar'kandʒu |
| FEBRUARIU> | fri'ardʒu  |

Here, I will focus on the stop of stop plus yod sequences. The development of stop plus yod sequences in Sardinian is quite intricate.<sup>48</sup> First, there is an important diatopic variation among modern Sardinian dialects. Second, successive assimilatory processes applied to the reflexes of various stops plus yod. Third, from the ancient texts there is no clear indication, and the interpretation of the digraphs is controversial.<sup>49</sup> For these reasons it is not easy to reconstruct the relevant diachronic patterns.

Wagner (1941:§225-6) and Viridis (1978:64) list some Latin items that contained -T-, -C-, -B- + yod sequences. In Table (11), the translation of their data in Tertenia Sardinian is provided:

<sup>45</sup> Wagner (1941).

<sup>46</sup> Scheer and Ségéral (2001).

<sup>47</sup> On the evolution of yod in strong position, see Scheer and Ségéral (2001), Brandão de Carvalho (2008), among others.

<sup>48</sup> Sequences of consonant plus yod in Sardinian have been discussed in Wagner (1941:§223ff), Viridis (1978:64ff), Paulis (1984:LXXIVff), Blasco Ferrer (1984:§76-79), Contini (1987:230-241), Viridis (2003a:30), among others.

<sup>49</sup> See Wagner (1941:§166-169).

### (11) Stop + yod in Tertenia Sardinian

|        |                                      |           |
|--------|--------------------------------------|-----------|
| -T- +j | PLATEAM>                             | 'prassa   |
| -C- +j | LAQUEUM> *LACEUM>                    | 'lassu    |
| -B- +j | RUBEUM> <i>rubiu</i> <sup>50</sup> > | or 'ruβiu |

By looking at the data above it is clear that the Sardinian outcomes in (11) stem from a heterosyllabic sequence (with the stop in coda position). If the stop of the C+j sequences in (11) was in intervocalic position, the expected evolution would have been different. Compare the data in (11) with those in (12) below.

Table (12) reports the evolution of the same Latin consonants in (11) (i.e., -T-, -C-, -B-) but from a different structural position, the intervocalic one.

### (12) Intervocalic Stops in Tertenia Sardinian

|        |         |         |
|--------|---------|---------|
| -T- +V | NEPOTE> | ne'βɔði |
| -C- +V | FOCU>   | 'foɣu   |
| -B- +V | FABULA> | 'faula  |

As one can see, voiceless stops became voiced fricatives, while voiced stops deleted.<sup>51</sup>

For the items in (11) the situation is completely different. Latin -T-, -C- +j merged in [ssi] while -B- +j came out as [βi]. Thus, these stops were not in the structural conditions to undergo intervocalic lenition.

Even though the data set in (11) is not exhaustive,<sup>52</sup> it is significant in two respects. First, the processes underwent by coda stops were not of the same kind as intervocalic stops. Second, it provides evidence for the fact that even coda obstruents were subjected to changes (as expected from consonants in weak position).

<sup>50</sup> The ancient Sardinian texts display *rubiu* or *ruviu*; see Wagner (1941:234).

<sup>51</sup> See Chap. 1, sect. 1.2 and Chap. 2, Sect. 5.2.

<sup>52</sup> The set of data Wagner (1941:§225-6) and Viridis (1978:64) report is quite limited in size in order to understand the processes underwent by obstruents plus yod. For -B-, -V- +j they report three Latin words: RUBEUM, OBVIARE, JOVIA. For -P- +j sequences, only two items are listed: \*PROPEANUS and APIARIUM.

The only problematic result is the outcome of Latin bilabial stop plus yod. When looking at the data reported in Wagner (1941:§225) and Viridis (1978:64), one should conclude that -P- plus yod and -P- in intervocalic position both came out with a voiced bilabial fricative. It should also be underlined that Wagner (1941) and Viridis (1978) list only the same two examples for -P- plus yod sequences: \*PROPEANUS and APIARIUM. In Tertenia Sardinian there are no reflexes for these items.<sup>53</sup> But let me briefly concentrate on these Latin words and their outcomes in the main Sardinian dialects.

In Tables (13) and (14) below, there is a list of the Sardinian reflexes for APIARIUM (a -P- plus yod sequence) and the word from which APIARIUM stems, the name APEM, with -P- in intervocalic position. Data are from Wagner (1941:§225) and DES.

**(13) -P- in a -P- +j configuration**

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APIARIUM      aβi'arzu, aβi'ardzu (Camp.)

**(14) -P- in intervocalic position**

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APEM            'aβe (Log.), 'aβi (Camp.)

The Sardinian outcomes in (13) display exactly the expected evolution for intervocalic bilabial stops in Campidanese (i.e., the intervocalic stop went through lenition). My conclusion is that the two words reported in Wagner (1941) and Viridis (1978) did not have a heterosyllabic cluster. -P- in PROPEANUS and APIARIUM behaves as an intervocalic consonant because in both contexts it must have been in an intervocalic position and not in a coda (i.e., in a heterosyllabic structure). Further examples would be necessary to check the real behavior of -P- in coda.

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<sup>53</sup> \*PROPEANUS> proβi'anu (with the meaning of 'close' usually for a village), and APIARIUM> aβi'ardzu, aβi'arzu (with the meanings of 'beekeeper' or 'swarm of bees' – it depends on the dialect) do not have reflexes in the Sardinian dialect in question. The Tertenia Sardinian words with the corresponding meaning stem from Latin words other than \*PROPEANUS and APIARIUM. For example, in Tertenia Sardinian the vocabulary of beekeeping stems from QUASILLUM (see DES and Wagner 1928:52).

By looking at the C+j sequences listed in (11), one might conclude that the processes affecting the obstruents in a coda were not of the same kind as intervocalic lenition. Coda obstruents went through weakening processes but displayed a more stable situation of intervocalic consonants affected by lenition. By keeping in mind the evolution of RUBEU> *rub.iu*> or *'ruβiu* vs. FABULA> *'faula*, one can also conclude that coda consonants were stronger than intervocalic consonants.<sup>54</sup>

The evolution of C+j sequences is unfortunately beyond the scope of this work. Nevertheless, it should be noted that the data found in classical Sardinian works are not sufficient to address this issue in a conclusive way. Even if some texts (e.g., Wagner 1941, Contini 1987) provide a few examples from ancient documents, systematic research in all the ancient texts would be necessary to check the intermediate forms for a remarkable C+j word list. The data obtained should be analyzed with the understanding that different syllabifications must have had different repercussions on the obstruent, and these effects must be visible. In other words, this is an interesting topic that would need a multi-discipline approach (i.e., philological, dialectological, and theoretical) to be fully understood.

## 7. Summary

In this last section, I briefly summarize the most relevant points discussed in this chapter before addressing the analysis and data in Chapter 6.

Obstruent-liquid sequences can be of three kinds: homosyllabic clusters, heterosyllabic clusters, and complex segments. TRs differ in terms of syllabic slots: homosyllabic and heterosyllabic TRs are bipositional, while complex segments occupy one single slot.

They may also differ with respect to the lateral relations they contract on the basis of their syllabic identity. For the sake of clarity,

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<sup>54</sup> The Sardinian situation fits with the Coda Mirror statement that intervocalic consonants are weaker than codas; see Ziková and Scheer (2010:\$4.3).

the following tables summarize these relations. Tables (15) and (16) deal with homosyllabic and heterosyllabic TRs, respectively, while Table (17) deals with monosyllabic ones.

**(15) Homosyllabic TRs**

|   | <i>intervocalic position</i> | <i>post-consonantal position</i> |
|---|------------------------------|----------------------------------|
| T | governed but unlicensed      | licensed but ungoverned          |
| R | governed but unlicensed      | governed but unlicensed          |

**(16) Heterosyllabic TRs**

|   |                               |
|---|-------------------------------|
| T | neither governed nor licensed |
| R | licensed but ungoverned       |

**(17) Monopositional TRs**

|    | <i>intervocalic position</i> | <i>post-consonantal position</i> |
|----|------------------------------|----------------------------------|
| TR | governed but unlicensed      | licensed but ungoverned          |

According to the Coda Mirror, the strength of a consonant depends on the lateral relations it contracts. A segment in post-consonantal and word-initial position should display the “maximal segmental integrity” (Ségéral and Scheer 1999:§6), due to the fact that it escapes government effects. By contrast, the coda and the intervocalic position have a weakening effect.<sup>55</sup>

I believe that in a TR cluster this must be true not only of T, as demonstrated in Brun-Trigaud and Scheer (2010), but even of R. The configuration of a TR cluster should have reflexes on both members of the cluster.

In the next chapter this line of reasoning will be applied to diachronic data to check the identity of TR clusters and to make sense of changes affecting liquids, such as metathesis and deletion.

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<sup>55</sup> See Sect. 5.

## Chapter 6

### Structural Conditions for Metathesis

In Chapter 4 it was shown that Tertenia Sardinian TRs went through a few structural changes. The puzzle to be solved is why (all things being equal) obstruent-liquid clusters evolved in different ways with respect to both T and R.

Recall from Chapter 1 and Chapter 2 (Sect. 5.2) that Tertenia Sardinian was affected by lenition. As argued for in the linguistic literature on Romance languages, intervocalic lenition affects simplex obstruents and TR clusters indifferently.<sup>1</sup> In Tertenia Sardinian, lenition affected all intervocalic obstruents, although some TRs were not subjected to this change at all. As can be seen in (1) below, there are contrastive effects for exactly the same obstruent-liquid sequences. The Latin cluster in question is boldfaced.

#### (1) Contrastive Solutions for TRs

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- a) FEB**RU**ARIU> fri'ardʒu
- b) CALAB**RI**CU> ka'lavriju

In a) the voiced obstruent lenited to zero, as expected for every voiced T in intervocalic position (and voiced TRs in the same structural conditions), whereas in b) there is an anomalous result, a voiced fricative.

An analogous situation can be noticed for liquids. Liquids from the same obstruent-liquid sequences went through different outputs. They generally moved to different structural positions (word-initial position or coda), but in a few examples they did not move: specifically, liquids did not migrate in TRs that avoided lenition (e.g., CALAB**RI**CU> ka'lavriju).<sup>2</sup>

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<sup>1</sup> Brun-Trigaud and Scheer (2010).

<sup>2</sup> On Sardinian lenition see Chap. 2, Sect. 5.2.

In order to account for this contrasting behavior, I argue for different TR structures which had different effects on the evolution of liquids.<sup>3</sup>

The chapter is structured as follows. In Section 1, TRs are classified with regard to their respective response to different kinds of metathesis. TRs that underwent LDM and those with liquid deletion are classified under the same group by arguing that LDM and liquid deletion must be considered as part of the same phenomenon. In Section 2, I check for the syllabic status of different TR groups at the time they were subjected to metathesis, the response of T to lenition being the relevant criterion.<sup>4</sup> The syllabic status of liquids will be discussed in Section 3: I propose that a homosyllabic status for TR clusters is a good input structure for the migration of liquids, while a heterosyllabic status safeguards liquids from structural changes. Section 4 deals with the evolution of the different TR groups. Section 5 focuses on the structural properties of landing sites of liquids: specifically, I argue that liquids always moved to the strongest position available. Section 6 provides independent evidence for this analysis, while in Section 7 I speculate on how syllabic structures evolved over time.

## 1. TR groups

As for the behavior of liquids, TRs will be classified into three main groups: The *Long Distance Metathesis* group (LDM group) includes TRs whose liquid recreated another TR in word-initial position. The *Local Metathesis* group (LM group) includes those TRs whose liquid went to coda. The *No Metathesis* group (NM group) includes TRs with neither metathesis nor deletion.

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<sup>3</sup> Different scholars argue for this kind of solution for various languages; see Chap. 5, Sect. 1.

<sup>4</sup> See Chap. 5, Sect. 5.



## 1.1 LDM group

Recall from Chapter 4 (Sects. 1.1 and 3) that TRs subjected to LDM were of three types: secondary voiceless TRs (e.g., FENUC(Ū)LU> fre'nuyu), primary voiced TRs (e.g., FEBRUARIU> fri'ardzu), and post-consonantal TRs (e.g., COOPERC(U)LU> kro'βekku). Examples from Chapter 4 are repeated for convenience in (2) below.

### (2) Long Distance Metathesis (LDM)

---

| <i>secondary voiceless TRs</i> |
|--------------------------------|
| a) CONUC'LA> kran'nuya         |
| b) COP(U)LARE> kro'βai         |
| c) FENUC(Ū)LU> fre'nuyu        |
| d) PEDUC(Ū)LU> pre'uɣu         |

---

| <i>primary voiced TRs</i>             |
|---------------------------------------|
| e) FABRICARE> frabbi'kai <sup>5</sup> |
| f) FEBRUARIU> fri'ardzu               |
| g) PIGRITIA> pre'issa                 |

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| <i>primary and secondary post-consonantal TRs</i> |
|---|
| h) CANISTRU> kra'nista                            |
| i) CASTRARE> kras'tai                             |
| j) CASTRU> 'krastu                                |
| k) COOPERC(U)LU> kro'βekku                        |

---

In each case, the output was a new TR cluster in word-initial position.

I also consider some items that underwent liquid deletion to be part of the LDM group. The reason for this choice is due to the observation that items affected by deletion had exactly the same input as LDM items: secondary voiceless TRs, primary voiced TRs, and post-consonantal TRs, as can be seen in (3) below:

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<sup>5</sup> The form frabbi'kai suffered the influence of Italian. In the evolution from Latin to Sardinian, intervocalic voiced stops deleted (DES 361).

### (3) Liquid Deletion

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*secondary voiceless TRs*

---

- a) MANUC(U)LU> man'nuyu
  - b) OC(Ů)LU>'oyu
  - c) ORIC(Ů)LA> o'riya
  - d) RENIC'LU> e'rriyu
  - e) \*RET(Ů)LA> REC'LA> a'reya
  - f) ROTŮLU> or'royu
- 

*primary voiced TRs*

---

- g) FLAGRARE> fra'yai
- 

*primary and secondary post-consonantal TRs*

---

- h) MASC(Ů)LU>'masku
  - i) MENTŮLA> MENT'LA> \*MINC'LA> 'miŋka
  - j) NOSTRU>'nostu
  - k) MAGISTRU> ma'istu
- 

This choice is also based on another observation. The only difference between (2) and (3) is related to the presence of an available landing site for liquids in word-initial position.

As can be seen in Table (3), some items had a vowel in word-initial position, while others had consonants other than obstruents. Thus, in word-initial position there was not a proper consonant (i.e., an obstruent) to host the liquid and to create a TR cluster. In g) the situation was slightly different: the landing site was already taken. In other words, in those TRs that went through liquid deletion the word-initial position was not an appropriate landing site for liquid migration, and thus the liquid fell.<sup>6</sup> For these reasons I consider liquid deletion as a sub-case of LDM.

A remarkable fact to notice is that no difference is found between post-consonantal and intervocalic TRs with regard to liquids.<sup>7</sup>

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<sup>6</sup> The liquid landing site will be discussed in Sects. 5 and 6.

<sup>7</sup> I will address this issue in Sect. 3.1. See also Chap. 5, Sect. 3.

## 1.2 LM group

In the LM group one finds the following: voiceless TRs (e.g., PETRA> 'pɛrð̥a), some voiceless or voiced TRs from loanwords (e.g., *petronciano* (Old It.)> pɛrð̥in'dʒanu, *allegro* (It.)> al'lirɣu), a few TRs due to syncope<sup>8</sup> (e.g., CENĀPURĀ> tʃe'narβa, SUBŪLONE> sir'βɔni), and an item already voiced (i.e., QUADRŪLA> 'parð̥ula).

At a certain point all voiceless TRs must have become voiced TRs for lenition processes. It is from the resultant voiced TRs that LM applied. Loanwords with voiceless TRs (e.g., *petronciano*> pɛrð̥in'dʒanu) were no exceptions: voiceless TRs from loanwords were affected by lenition just like any other voiceless TR.

The obliged stages must have been as follows:<sup>9</sup>

### (4) LM Stages

|                             | 1 <sup>st</sup> Stage                      | 2 <sup>nd</sup> Stage                   | 3 <sup>rd</sup> Stage    |
|-----------------------------|--|---|--------------------------|
|                             | <i>intervocalic</i><br><i>voiceless TR</i> | <i>intervocalic</i><br><i>voiced TR</i> | <i>coda-cluster</i>      |
| PETRA<br><i>petronciano</i> | *'pɛtra<br>*pɛtrin'dʒanu                   | *'pɛð̥ra<br>*pɛð̥rin'dʒanu              | 'pɛrð̥a<br>pɛrð̥in'dʒanu |

<sup>8</sup> The syncope that affected CENĀPURĀ and SUBŪLONE should not be confused with the syncope that affected Latin CVL and TVL sequences (see Chap. 3, Sect. 3). Compared to the latter, the syncope in CENĀPURĀ and SUBŪLONE is much later.

Note also that not all Sardinian dialects display syncopated forms for CENĀPURĀ and SUBŪLONE and that medieval texts still display the fuller form, e.g., CENAPURA> *kenapura* while the Sardinian outcomes of VETULU, OC(U)LU COOPERC(U)LU, MASC(U)LU etc. usually appear in the syncopated form: VETULU> *becla*, *beglu*, *begla*, OC(U)LU> *oclu*, *oclos*, COOPERC(U)LU> *coperclu*, *coperclata(s)*. Rare exceptions can be found, e.g., MASC(U)LU> *masculos*. Further discussions on CENĀPURĀ and SUBŪLONE can be found in Chap. 3, Sects. 4.8 and 4.11.

<sup>9</sup> An alternative hypothesis may be a kind of lenition in coda (i.e., a coda position effect): 'pɛtra> 'pɛrta> 'pɛrð̥a. I consider this hypothesis as not possible for various reasons. First, the evolution into a voiced fricative is the expected result for a voiceless intervocalic obstruent that went through lenition. Second, in the ancient documents one can find various instances of *pedra* (C. Volg. I, II\*, XV, XXI, CSMB 34, 161, 176, 207), evidence of the fact that -t- became fricative from an intervocalic environment. Third, a voiced dental fricative was not a possible evolution for a voiceless dental stop in coda position (see Chap. 5, Sect. 6).

An anomalous behavior may be noted for all TRs that were already voiced: they were not sensitive to lenition processes. Table (5) lists LM items with voiced TRs. Some are Italian loanwords, others became TRs after syncope,<sup>10</sup> while QUADRŮLA already had a voiced TR in its etymological form.

**(5) LM group – voiced TRs**

|                                       |
|---------------------------------------|
| a)                                    |
| <i>allegro</i> (It.)> al'liryu        |
| <i>padrino</i> (It.)> par'ðinu        |
| b)                                    |
| SUBŮLONE> * <i>sublone</i> > sir'βɔni |
| QUADRŮLA> * <i>padrula</i> > 'parðula |

Looking at these items, one can make some general observations. It was previously mentioned that intervocalic lenition was still active at the time of LM, even in loanwords, but the items in (5) were not affected. Recall also that lenition for a voiced stop means complete deletion (see Chap. 1). To explain these results it could be hypothesized that voiced Ts from loanwords had a peculiar treatment<sup>11</sup> and did not respond to lenition, but this hypothesis will not fit for the traditional lexicon: Tertenia Sardinian reflexes from Latin SUBŮLONE and QUADRŮLA did not go through lenition. Evidently these items, at least for a certain time, had a peculiar TR structure in which lenition could not apply.<sup>12</sup>

### 1.3 NM group

This group shows some similarities with the few items defined as anomalous in the LM group. With regard to lenition, the NM group patterns with the items in (5). The NM group is formed by the following four items only, and all TRs were voiced labial TRs:

<sup>10</sup> See Chap. 3, Sects. 4.8 and 4.11.

<sup>11</sup> On Pisan, Catalan and Spanish loanwords see Chap. 1, note 46.

<sup>12</sup> See Chap. 3, Sects. 4.8 and 4.11.

**(6) NM group**

---

|            |            |
|------------|------------|
| CALABRICU> | ka'lavriyu |
| COLOBRA>   | ko'lɔvra   |
| CIRIBRU>   | tʃi'livru  |
| LABRA>     | 'lavraza   |

---

The most interesting point to note is that these TRs were the only ones that underwent neither lenition (i.e., stop deletion) nor liquid metathesis. Both T and R passed through centuries without structural changes.

## 2. Structural Conditions for Lenition

In the previous Section I categorize the behavior of the various groups. Here the focus is on the obstruent in the cluster in order to look at how it patterned in the different groups. More precisely, I check the TR status, adopting lenition as a criterion.<sup>13</sup>

Recall from Chapter 5 (Section 3) that lenition applies only to governed obstruents. This means that, apart from simplex Ts in intervocalic position, lenition applies to stops in homosyllabic (and intervocalic) TRs (Brun-Trigaud and Scheer 2010). By contrast, heterosyllabic TRs do not satisfy the required condition because the stop is a coda consonant (i.e., neither governed nor licensed). Therefore, only Ts in a homosyllabic syllabification contract the same lateral relations of simplex Ts.<sup>14</sup>

I claim that the contrasting behavior found in the different groups may be understood by arguing for different TR structures in the same language. I argue that the response to lenition may be the most viable criterion to detect the syllabic status of TRs at the time metathesis took place. By keeping in mind that only homosyllabic TRs are sensitive to lenition (Brun-Trigaud and Scheer 2010), the syllabic structure of different TR groups and consequently the status of liquids can be derived.

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<sup>13</sup> See Chap. 5, Sect. 5.

<sup>14</sup> See Brun-Trigaud and Scheer (2010).

I will concentrate on the LDM group. The reflexes of the LDM items in Modern Sardinian show the effects of lenition. Consequently, one could conclude that by the time LDM took place these items were in the condition to undergo lenition. Nevertheless, I am not in a position to say if the stop went through lenition before or after metathesis. In other words, it is important to understand whether lenition applied to TR clusters or to simplex Ts (i.e., when R had already disappeared by metathesis).

However, paying attention to the geographically closer texts (Southern texts and texts from the Western transitional area), one can convincingly argue that the LDM items were sensitive to lenition before metathesis applied<sup>15</sup> (e.g., ROTULU> \*roclu> *orrogli* at C.Volg. XIII, 7; FABRICARE> *fraigei* at C. Volg. IX 5).<sup>16</sup> This means that the obstruents of the LDM group were in a governed condition. This allows one to identify the TR status in which the governed T was located, which could only be homosyllabic.

Further evidence from the ancient texts is not needed to detect the syllabic configuration of the LM group. One can convincingly account for a homosyllabic structure simply by looking at the modern evolution: if at the time LM took place, TRs were not already affected by lenition, the modern forms would have a voiceless obstruent, e.g., PETRA> 'pɛtra> \*'pɛrta instead of PETRA> 'pɛtra> 'pɛðra> 'pɛrða.

---

<sup>15</sup> In Old Logudorese the situation was slightly different. In Northern texts many items show metathesis before lenition (e.g., COPULARE> *clopatas* CSNT 100, *clopa* CSP 214, *clopatos* CSP 190, 311, *clopatas* CSP 404). However, one also finds some items in which TRs were affected by lenition. This is true especially for voiced stops (e.g., FEBRUARIU> *freargiu* St. Sass. I; CXLVII, CXLIX, CLVIII, FABRICA> *frauica* CSP 31). This simply means that in Northern Sardinian lenition started later with respect to Southern and Western Sardinian and that the lenition criterion cannot be used to detect the TR status in Northern Sardinian dialects.

<sup>16</sup> It seems that – at least in the Southern texts (i.e., Carte Volgari) – the lenition-metathesis relationship was very strong; for instance, compare FABRICARE> *fraigei* IX 5, *fraigarunt* IV\*, 2; *fraigaat* XIV, 4; (lenition and metathesis) with *fabrigada* 5, *fabricarat* IV\*, 1 (no lenition and no metathesis).

The LM items listed in (5) and the NM items were the only TRs not affected by lenition. They are repeated in (7) below for convenience.<sup>17</sup>

### (7) No Lenition Items

---

#### LM group

---

*allegro* (It.)> al'lirɣu  
*padrino* (It.)> par'ðinu  
 SUBŪLONE> sir'βɔni  
 QUADRŪLA> 'parðula

---

#### NM group

---

CALABRICU> ka'lavriɣu  
 COLOBRA> ko'lɔvra  
 CIRIBRU> tʃi'livru  
 LABRA> 'lavraza

---

In my view, these TRs were the only ones that had a heterosyllabic status by the time lenition was an active process. T, being a coda consonant, was not affected by lenition processes. This structural status lasted at least until word-internal lenition was an active process.<sup>18</sup>

In modern Sardinian dialects (i.e., Campidanese and Logudorese outside the Nuorese area), lenition is still active only at word-boundaries (i.e., external sandhi). Word-internally (i.e., internal sandhi) the process does not apply anymore, as one can see from recent loanwords.<sup>19</sup>

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<sup>17</sup> For the LM items with no lenition, see Sect. 4.

<sup>18</sup> See Sect. 4, this Chap.

<sup>19</sup> For instance, *computer*> kompjutter, *capitano*> kappit'tanu, instead of \*kompjuđer and \*kaβi'ðanu, respectively (examples are from Lai 2010:§6). In Modern Sardinian, consonant length is not distinctive within words. Distinctive consonant length is restricted only to certain consonants. The fact that voiceless stops usually occur geminated (as reported in the phonetic transcription above) does not imply that they are 'true' geminates. They are simplex consonants that are usually pronounced 'long'. Nevertheless, a given speaker may produce variable results for the same consonant. For instance, *computer* is usually pronounced kompjutter, but kompjuter is also possible. In any case, lenition does not apply anymore: \*kompjuđer is not acceptable for my native speaker intuition. On Sardinian geminates, see Wagner (1941:§428), Contini (1987), Bolognesi (1998), Ladd and Scobbie (2003), among others.

### 3. Structural Conditions for Metathesis and Liquid Deletion

In Section 2 I have identified the TR status of the different groups. Looking at the response to lenition, the LDM and LM groups are classified as homosyllabic, while the NM group and a few items from the LM group are classified as heterosyllabic clusters.<sup>20</sup> This means that in the LDM and LM groups the liquid was in a weak position, i.e., governed but unlicensed, while in the NM group the liquid was in a strong position, i.e., ungoverned and licensed.

Following the CVCV model and the Coda Mirror, a segment subjected to Government is expected to be unstable and prone to changes, while a segment that escapes Government and receives Licensing is in a (more) stable structural position. If so, I expect that metathesis applies only to homosyllabic TRs (i.e., to governed liquids).

From the data one can see that only liquids in heterosyllabic TRs were preserved from changes, while the homosyllabic ones went through metathesis. This confirms the hypothesis that only governed liquids were in the structural condition to undergo metathesis or deletion. A few examples are listed in (8) below:

#### (8) Positional Effects on Liquids

---

##### a) Homosyllabic TRs

---

|                      |            |
|----------------------|------------|
| FEBRUARIU> fri'ardzu | metathesis |
| OC(Ů)LU> 'oyu        | deletion   |

---

##### b) Heterosyllabic TRs

---

|                       |               |
|-----------------------|---------------|
| CALABRICU> ka'lavriyu | no metathesis |
| LABRA> 'lavra(za)     |               |

---

I argue that metathesis is the consequence of a governed status on liquids. More generally, I believe that both metathesis and lenition are the result of the positional effects on liquids and stops. The

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<sup>20</sup> For the LM items with no lenition, see Sect. 4.

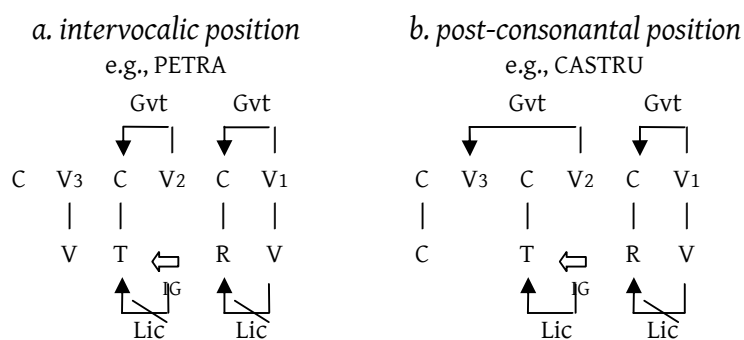


structural conditions required for these processes to apply is related to the TR cluster in which T and R are located. Both processes are the realization of the Government effect.

### 3.1 Liquids in post-consonantal TRs

In Section 1.1 I said that no differences were found between post-consonantal TRs (henceforth, CTRs) and intervocalic TRs (VTRs) with regard to liquids. In the LDM group (the only group with CTRs), liquids from CTRs patterned with the others with respect to metathesis and liquid deletion. This behavior fits perfectly with the branching onset representation discussed in Chapter 2 and Chapter 5 (Brun-Trigaud and Scheer 2010), and repeated for convenience in (9) below:

#### (9) Homosyllabic TR



adapted from Brun-Trigaud and Scheer (2010)

As one can see from this representation, liquids are always governed, regardless of whether they sit in an intervocalic TR or a CTR. It is for this reason that LDM applied to every homosyllabic TR, with no distinction between VTRs and CTRs.

#### 4. The Evolution of the Three Groups

It was already mentioned that metathesis applies to homosyllabic TRs. This means that by the time LDM occurred, TRs of this group were homosyllabic, while TRs of the LM and NM group were in a heterosyllabic conformation. The heterosyllabic status preserved the LM and NM group from both LDM and lenition, which was still active at that time.<sup>21</sup>

Only later did the LM group shift from heterosyllabic to homosyllabic status, a process which occurred in two stages and created a subdivision in the group. In the first stage, part of the LM items became homosyllabic when word-internal lenition was still a productive process. The results are evolutions such as PETRA > *pedra* > *'pɛrða*, which first went through lenition and then were affected by the LM.<sup>22</sup> In the second stage, when lenition was no longer an active process, other TRs became homosyllabic and followed the LM group; I refer to the items in Section 1.2, Table (5). Some were “new” TR sequences due to syncope, e.g., SUBULONE > *sir'βɔni*, while others were loanwords from Italian, e.g., *allegro* > *al'liryu*. They shifted to the homosyllabic status too late to be affected by lenition, and they went directly through the kind of metathesis active at that time: LM.

In (10) I report the LM stages from Table (4) joined by the items not affected by lenition.

(10) LM Stages – Complete Version

|  | 1 <sup>st</sup> Stage                | 2 <sup>nd</sup> Stage               | 3 <sup>rd</sup> Stage            |
|--|--------------------------------------|-------------------------------------|----------------------------------|
|  | <i>intervocalic<br/>voiceless TR</i> | <i>intervocalic<br/>voiced TR</i>   | <i>coda-cluster</i>              |
| PETRA<br><i>petronciano</i><br>(It.)         | *'pɛtra<br>*petrin'dʒanu             | *'pɛðra<br>*peðrin'dʒanu            | 'pɛrða<br>perðin'dʒanu           |
| SUBŪLONE<br>QUADRŪLA<br><i>allegro</i> (It.) | -<br>-<br>-                          | *si'βrɔni<br>*'paðrula<br>*al'liryu | sir'βɔni<br>'parðula<br>al'liryu |

<sup>21</sup> See Sect. 1.2, this Chap.

<sup>22</sup> LM started later with respect to LDM; see Chap. 4, Sect. 3.

The NM group was the only group that passed through centuries without structural damages. The obstruent was not affected by intervocalic lenition (i.e., the obstruent was never lost), while the liquid is still in its place, insensitive to the different metatheses that affected the history of Sardinian. In my view, the NM group must have kept a heterosyllabic status all the way through. The anomalous evolution of the obstruent (e.g., LABRU> 'lavraza) is the result of a weakening due to the coda position.<sup>23</sup> Similarly, the liquid did not move because it was in a strong position and therefore protected from Government effects.

### 5. The Landing Site of the Liquid

Both LDM and later LM had the same input. They applied to governed liquids. But if the nature of the input is clear, the different output adopted by LDM and LM is still to be explained. The output of LDM was a word-initial TR, whereas the output of LM was a coda-onset cluster. It is known that LDM is the oldest metathesis, while LD is the most recent one.<sup>24</sup> Thus, the puzzle to be solved is why one and the same input (i.e., a homosyllabic TR) developed different outputs at different times. During LDM, the word initial position was able to attract the liquid. Then something happened, and liquids moved from the intervocalic position to coda.

The coda position, as well as the intervocalic one, is a weak position, but its structural conditions differ. Codas are neither governed nor licensed, while intervocalic consonants are governed but unlicensed. According to Ziková and Scheer (2010), codas are stronger than intervocalic consonants: an intervocalic consonant is subjected to the damaging effect of Government, while a coda consonant is not.<sup>25</sup>

Their claim perfectly fits the Sardinian situation. Recall from Chapter 5 that coda consonants in Sardinian went through different

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<sup>23</sup> For an analysis of coda consonants in Sardinian see Chap. 2, Sect. 5.2 and Chap. 5, Sect. 6.

<sup>24</sup> See Chap. 3, Sect. 3.

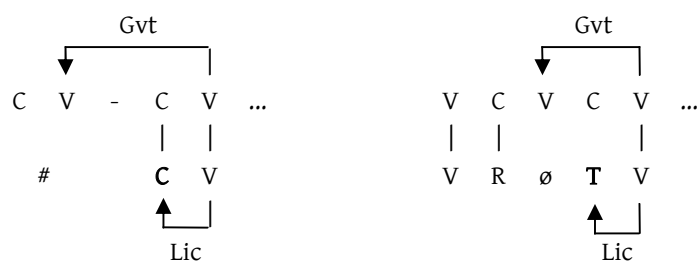
<sup>25</sup> Ziková and Scheer (2010:\$4.3). See Chap. 2, Sect. 5.1 and Chap. 5, Sect. 5.

processes. Certainly they were not affected by lenition and were stronger than intervocalic consonants, e.g., RUB.EU> or 'ruβiu vs. FA.BU.LA> 'faula.<sup>26</sup>

A way to account for the behavior of liquids is to assume a change in the status of the word-initial landing site. According to Lowenstamm (1999), languages have an empty CV unit at the left edge of words. The presence of this empty CV is in parametric variation among languages (Scheer 2000, 2012:190ff). When this empty unit is present, the word-initial position is a strong position, along with the post-consonantal one. As one can see from the representation in (11), consonants in a strong position occur after an empty nucleus; thus, both positions are licensed but ungoverned (Ségéral and Scheer 2001).

**(11) Word-Initial Consonant with Initial CV      Post-Coda Consonant**

---



from Scheer (2004:140)

In a language with an empty CV, word-initial consonants should pattern with strong consonants, and weakening should not be observed.<sup>27</sup>

On the contrary, in a language without initial CV, word-initial consonants are in a weak position. As depicted under (12), they are governed but unlicensed,<sup>28</sup> similar to intervocalic consonants.

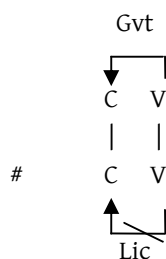
<sup>26</sup> See Chap. 2, Sect. 5.2 and Chap. 5, Sect. 6.

<sup>27</sup> Scheer (2012:190ff). See also Chap. 2, Sects. 4 and 5.

<sup>28</sup> See Ségéral and Scheer (2001), Ziková and Scheer (2010), Scheer (2000, 2012).

## (12) Word-initial Consonant without Initial CV

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---

Adapted from Ziková and Scheer (2010)

Thus, a word-initial consonant without the initial CV site should be subjected to weakening, as with consonants in a weak position.

I believe that the liquid behavior may be understood in light of a change in the status of the word-initial landing site. I claim that the landing site of the liquid was always the strongest position available at the time.<sup>29</sup> The difference between LDM and LM, then, is that only in the period of the former the word-initial position was strong and hence a proper landing site for the liquid. During LDM, the language possessed an initial CV which was lost by the LM period. This means that in the LM period, the initial position was not strong anymore. The consequence of this loss was that the word-initial position ceases to be an appropriate landing site for liquid migration. Thus, when the LM group shifted from heterosyllabic to homosyllabic status, liquids went to the strongest position available at that time: the coda position (e.g., *pedra* > *perda*). Following this line of reasoning, I argue that the result of LDM was a monopositional TR, the only TR structure in which R is in strong position (i.e., after the empty CV site).

---

<sup>29</sup> The same reasoning fits perfectly with another Sardinian metathesis that is not dealt with here but which is widespread in Southern Sardinian (Wagner 1941:\$285). Liquids from coda position went to word-initial position; compare, e.g., Tertenia Sardinian 'porku <PORCUM with Southern Sardinian 'prokku <PORCUM. The Southern Sardinian example is from Wagner (1941:\$285). Thus, the input was the other weak position (coda) and the output a strong position (the word-initial position).

## 6. The Word-initial Position

A structural change in word-initial position might seem like an *ad hoc* solution; however, there is independent evidence in support of the claim that the word-initial position at a certain time became a weak position.

As already noted by Wagner (1941) and Viridis (1978), weakening in word-initial position is an attested phenomenon in Sardinian, even for TR sequences.<sup>30</sup> Some word-initial TRs at a certain time lost the obstruent.<sup>31</sup> This obstruent could be of two types: a voiced or a voiceless velar stop. A common explanation one can find in dialectological studies is that the consonant deletion must have been an ancient process which happened because of the pre-Latin substrate.<sup>32</sup>

I believe that this phenomenon might benefit from a different explanation without substrate theories. Consider the evolution of some word-initial TR clusters listed in the appendix,<sup>33</sup> repeated for convenience in (13) below:

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<sup>30</sup> Wagner (1941:§260), Viridis (1978:69), among others. See also Wagner (1941:§374-5). Wagner's explanation may be found in Wagner (1941:§260).

<sup>31</sup> Wagner (1941:§260), Viridis (1978:69), among others.

<sup>32</sup> "Qualora la consonante che precede la -L- sia una velare, questa può cadere e la l (che diventa così iniziale) rimane inalterata [...]. Tale fenomeno è certamente antico, si tratterebbe di una reazione etnica di sostrato [...]" Viridis (1978:69).

<sup>33</sup> One can find almost exactly the same evolution in Southern and Northern dialects. Central Sardinian (i.e., Nuorese dialects) still maintains the TR clusters. See the data from DES reported in the Appendix. For more details about etymological forms and diatopic distribution, see DES.

(13) Tertenia Sardinian - Consonant Deletion in Word-initial  
Position

Voiceless TRs

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- a) COP(Ů)LA> *clopa*<sup>34</sup>> 'lɔβa
- b) COP(Ů)LUM> *clɔpu*> 'loβu
- c) COMPLERE> *clompere*<sup>35</sup>> 'lɔmpiri
- d) CLAMARE> la'mai

Voiced TRs

---

- e) GLANDE> 'landi, su 'landi<sup>36</sup>
- f) GRANDINE> 'randili
- g) GRANUM> 'ranu
- h) \*GLOMŮLU> 'lomburu

The items listed above display the same kind of weakening that one can find in the historical evolution of intervocalic velar stops. Voiced velar stops were lost (compare, e.g., NIGELLU> ni'edɟu with GLANDE> 'landi), while the voiceless ones became voiced fricatives, although in certain cases the loss of the voiceless stop is also found (compare, e.g., NATICA> 'naɟia with CLAMARE> la'mai).<sup>37</sup> Thus, the evolution of word-initial Ts in (13) is exactly the evolution that one can expect from any governed velar stop. This fits with the hypothesis of a word-initial position without initial CV. Only in a language without initial CV is the word-initial consonant governed and able to go through weakening.<sup>38</sup>

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<sup>34</sup> In the ancient texts (CSNT, CSP), various reflexes of COP(U)LA and COP(U)LARE with LDM are attested. See the entries for “COP(U)LA” and “COP(U)LARE” in the appendix.

<sup>35</sup> *Clompere* is attested in all of the ancient texts (see the entry for “COMPLERE” in the Appendix). I also found two TRs that display consonant deletion in word-initial position: *lande* <GLANDE (CSMB 34) and *lompēt*, 3<sup>rd</sup> person of *lompere* <*clompere* <COMPLERE (CdL - incunabile A, *lompēt* is reported in Lupinu 2010:126, note 1), a further indication that the word-initial deletion is not as ancient as it is believed to be (Contra Viridis 1978:69). On COMPLERE and its Sardinian reflexes, see also Wagner (1941:§260).

<sup>36</sup> See Contini (1987:374, note 79a).

<sup>37</sup> See Wagner (1941:§260, 375) and Viridis (1978:§36) for weakening phenomena in word-initial position. See Contini (1987:374, note 79) for the evolution of Latin GL- in word-initial position and Viridis (1978:44) for an account of word-internal deletion of voiceless stops.

<sup>38</sup> See Scheer (2012).

To sum up, the word-initial position went through two subsequent stages. First, the language had a word-initial CV site. This made the word-initial position strong and able to attract and host the liquid (e.g., COMPLERE > *clompere*). Later, this empty structure was lost. Word-initial consonants became weak along with intervocalic consonants and weakening became possible (e.g., *clompere* > 'lɔmpiri).

During the second stage, the word-initial position was no longer a proper landing site for the liquid, and liquids moved to the coda, the strongest position available (e.g., 'pɛðra > 'pɛrða).

**(14) Word-initial Position Stages**

|          | presence of initial CV | loss of initial CV |
|----------|------------------------|--------------------|
| COP(Ū)LA | <i>clopa</i>           | 'lɔβa              |
| COPŪLUM  | <i>clopu</i>           | 'lɔβu              |
| COMPLERE | <i>clompere</i>        | 'lɔmpiri           |

Items in (14) are especially relevant also in dating the loss of initial CV. As noted by Contini (1987:386) and Paulis (1997:135), after the 15<sup>th</sup> century laterals in TR clusters became rhotics (e.g., kl > kr) in Southern Sardinian dialects:

“XVe siècle – Début de l’évolution de l > r et l > j (respectivement dans l’espace méridional et dans l’extrême nord) dans les groupes initiaux” (Contini 1987:386).

By looking at the items in (14) (e.g., COMPLERE > *clompere* > 'lɔmpiri), one sees that the fall of the obstruent occurred before the rhotacization of laterals in TR clusters (i.e., before the 15<sup>th</sup> century). Otherwise a form with a word-initial rhotic (e.g., \*'rɔmpiri or \*or'rɔmpiri instead of 'lɔmpiri) would be expected.<sup>39</sup>

<sup>39</sup> Notice that the same remark may be found in Contini (1987) for the evolution of Latin GL-. “Chronologiquement la chute de cette consonne après voyelle, en phonétique syntaxique, a dû précéder le passage l>r dans les groupes consonantiques, sans quoi, dans la zone qui connaît ce traitement on aurait eu des formes comme \*[rãŋðe] ou comme \*[rèa]” (Contini (1987:374, note 79a). I believe that the same reasoning may be applied to the items in (14). On epenthetic vowels before /r/ in Ogliastra dialects, see Wagner (1941:\$74-5) and Viridis (1978).



The loss of the empty CV site, which makes the fall of the word-initial obstruent possible, has to be dated after the LDM period (i.e., because of COMPLERE> *clompere*) but before the 15<sup>th</sup> century. This means that, as hypothesized, the initial position should have become weak approximately at the time when LM started.<sup>40</sup> In other words, LM is simply the consequence of a change in the status of the word-initial landing site. The loss of the initial CV made the word-initial position unsuitable to host the liquid, and thus liquids moved to the coda position.

Further evidence for this hypothesis comes from Nuorese, a neighboring dialect north of Tertenia. Nuorese and other Central Sardinian dialects do not display LM.<sup>41</sup> Consider examples (15) a) and b) below. As one can see, for the same item PETRA> *pedra* Nuorese applied LDM while Tertenia Sardinian applied LM.

#### **(15) Outcomes of PETRA – Nuorese vs. Tertenia Sardinian**

---

a) 'preða (Nuorese) – LDM

b) 'perða (Tertenia) – LM

---

Following the above reasoning, one should note that at the time Tertenia Sardinian lost the initial CV, Nuorese maintained it.<sup>42</sup> To prove this hypothesis, it is necessary to check if Nuorese had cases of word-initial weakening. As Wagner (1941:§260-3, 271) points out, word-initial consonants in Nuorese and neighboring dialects did not delete. Word-initial weakening is attested only for Southern and Northern dialects.

Now I will turn to the items in (13), which display consonant deletion in word-initial position. The Central Sardinian reflexes for the same items are as follows:

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<sup>40</sup> See Chap. 4, Sect. 3.2.

<sup>41</sup> Contini (1987:412-3), Contini (1987, maps n°15).

<sup>42</sup> For further details, see Contini (1987:374, note 79a).

## (16) Word-initial position in Central Sardinian<sup>43</sup>

### Voiceless TRs

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- a) COP(Ů)LA> *clopa*> 'krɔppa<sup>44</sup> (Centr. Sard.)
- b) COPŮLUM> *clɔpu*> 'kroppu (Centr. Sard.)
- c) COMPLERE> *clompere*> 'krɔmpere (Nuoro)
- d) CLAMARE> *kra'mata* (Bitti)

### Voiced TRs

---

- e) GLANS, -ANDE> 'lande (Bitti, Nuoro, Orgosolo, Oliena)
- f) GRANDO, -ĪNE> 'grandine (Centr. Sard.)
- g) GRANUM> -
- h) \*GLOMŮLUS> 'gromuru (Centr. Sard.), gromo'redɖu (Nuoro)

As can be seen in Table (16), Central Sardinian does not display weakening in word-initial position.<sup>45</sup>

The only exception seems to be GLANDE> 'lande, but it may be a loanword from neighboring dialects. In fact, for the same item, both Logudorese and Campidanese show consonant deletion.<sup>46</sup> The absence of weakening phenomena in word-initial position indicates that in Central Sardinian dialects the word-initial position was always strong. This means that there is no need for LM in a language with an initial CV site. LM was the obliged consequence only in a language in which the word-initial position was no longer strong.

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<sup>43</sup> That is, Nuorese Sardinian and other Central Sardinian dialects (see Wagner (1941), Pittau (1972), among others).

<sup>44</sup> The Central Sardinian and Nuorese examples are from DES. On Sardinian geminates, see Chap. 3, footnote 34.

<sup>45</sup> Contini (1987:374, note 79a): "La consonne initiale est conservée uniquement dans quelques parlers du centre [grànde] (Gavoi), [krèva] (Nuoro)."

<sup>46</sup> Logudorese display 'lande, while Campidanese 'landiri. Examples are from DES 87. See Chap. 3, Sect. 4.34.

## 7. Diachronic Dynamics

In the preceding sections I have proposed that the historical distribution of different kinds of metatheses is the result of changes in syllable structure. Lenition was used as a diagnostic, as it has been independently argued that lenition in TRs is due to a homosyllabic structure (Brun-Trigaud and Scheer 2010). In this section I would like to address some conceptual issues concerning the dynamics of diachrony. It was shown in Section 2 that – at least in the South<sup>47</sup> – for each TR class affected by a given kind of metathesis, lenition was observed before metathesis (that is, in a historically prior phase). On these grounds, I argued that TRs in the relevant class had an underlying homosyllabic status at that time. The following scenario of how metathesis was adopted by a speech community may be hypothesized.

Suppose that in a given community of speakers, TRs are prevalently realized as lenited. This means that a synchronic rule of word-internal lenition is active in this community.<sup>48</sup> Since lenition can only affect homosyllabic clusters (Brun-Trigaud and Scheer 2010),<sup>49</sup> children take lenition as evidence for a homosyllabic structure of TRs of a certain lexical class, by contrasting the latter class with other classes of items whose TRs are intact in the primary input. These speakers will acquire lenited TRs as homosyllabic, and non-lenited TRs as heterosyllabic. Rs in homosyllabic TRs are in weak positions, while Rs in heterosyllabic TRs are in strong positions. Speakers of a later generation may introduce a rule of metathesis that moves Rs from weak positions to stronger positions. At this point, a synchronic metathesis is active in (a sub-group of) the community.

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<sup>47</sup> In Northern Sardinian, lenition started later. This means that in Northern dialects (or in those dialects that never displayed weakening phenomena) lenition cannot be used as a diagnostic of the TR status.

<sup>48</sup> In Old Sardinian there was probably a synchronic rule of word-internal lenition that applied systematically to every intervocalic obstruent. In this respect, Old Sardinian behaved just as modern Tuscan dialects. In Tuscan dialects “stops engaged in complex onsets lenite and behave exactly as those in simple onsets” (Marotta 2008:265). It can be said that lenition applied to every governed obstruent. See also Chap. 1, Sect. 1.2.2.

<sup>49</sup> See Chap. 5, Sect. 3.

It must be emphasized that certain kinds of synchronic metathesis have existed in some Sardinian dialects, as testified by the fact that synchronic metathesis is still active in a few Southern dialects today (see Chap. 4, Sect. 2).<sup>50</sup> Eventually, a further generation of speakers is exposed to primary input that includes many forms with metathesis. If in some of the primary input metathesized forms are overwhelmingly prevalent, children do not have any evidence for assuming a homosyllabic word-internal TR subjected to synchronic metathesis. They will thus acquire the relevant items in the metathesized forms.

This looks to me like a reasonable reconstruction of the historical development that brought about the existence of metathesized forms in the lexicon of the dialects under scrutiny. Why changes should have occurred in a given community at a given time, rather than in another community at a different time (what is known as the actuation problem after Weinreich et al. 1968), is a major issue on which I have no conclusive arguments to offer.

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<sup>50</sup> Further evidence comes from the ancient texts. As already mentioned in Chap. 4, it is worth noticing that forms with and without metathesis alternate in the same acts, sometimes even in the same paragraph, e.g., C. Volg. displays both *fabricarat* (no metathesis) and *fraigarunt* (with metathesis) in the same act, at IV. C. Volg. also shows *pedra* (no metathesis) and *perda* (with metathesis) in the same act, at XXI. In CSMB one also observes some peculiar forms with a double TR, such as *clomplere* (5 occurrences) for *complere* ~ *clomperere*, thus forms that show both the starting and the ending TR. If one must assume that such conflicting forms come from one and the same writer, it must be that such a speaker had homosyllabic forms and two synchronic rules of lenition and metathesis that alternated freely.

## Conclusive Remarks

In the preceding chapters I have shown how well-described phenomena of historical Sardinian may be interpreted in light of positional effects.

Old Sardinian obstruents went through various types of weakening, while liquids were highly susceptible to deletion and metathesis. Obstruents were affected by weakening in various positions: in intervocalic position, in coda, and in word-initial position. In the literature on Old Sardinian, the most well-known among these phenomena is intervocalic lenition, a kind of weakening that according to Brun-Trigaud and Scheer (2010) affects governed obstruents, thus intervocalic obstruents and obstruents in intervocalic TRs.

The obstruents in intervocalic TRs in which lenition did not apply were classified as coda consonants, such as obstruents in stop plus yod clusters (see Chap. 5, Sect. 6). The kind of weakening that affected coda obstruents is different from intervocalic weakening. When focusing on voiced obstruents, one can see that intervocalic obstruents deleted while codas did not. This confirms the Coda Mirror v.2 statement that intervocalic consonants are weaker than codas.

Another type of weakening is word-initial weakening. Dialectological studies credit this phenomenon to a pre-Latin substrate (see Chap. 6, Sect. 6). My explanation is that weakening in word-initial position may be related to a peculiar condition of the word-initial consonants. Recall that Old Sardinian was a language with active lenition processes that affected governed obstruents. According to Scheer (2012), the word-initial position in Romance languages is protected from weakening because of the presence of an initial CV structure that makes the word-initial consonant strong. But what happens if a language with active lenition processes loses the word-initial CV? Word-initial consonants became governed like all intervocalic consonants, and lenition could apply even in word-

initial position. This is what happened in the Campidanese and Logudorese dialects. Central dialects (e.g., Nuorese) never had lenition processes and at the same time word-initial weakening is not attested.

This cannot be a coincidence. One can interpret these data in one of two ways:

a) One possibility is that Nuorese never lost its initial CV, and thus the word-initial position was always strong and weakening was not technically possible. This is the reason why Central dialects preferred LDM (see Chap. 6, Sect. 6).

b) Another possibility is that, similar to the other dialects, Central dialects lost the initial CV at some point when metathesis was no longer active.

If (b) is the case, one can conclude that the absence of the word-initial CV is not in itself a sufficient condition for a language to have word-initial weakening: active lenition processes that affect governed obstruents are also needed.

Old Sardinian was also subjected to various metatheses and liquid deletion which I have classified as a manifestation of the same phenomenon. The main purpose of this thesis was to identify the structural conditions that govern syllabic changes of liquids in TR clusters. By focusing both on philological and dialectological data, I have argued that metathesis and liquid deletion apply only to governed liquids, while ungoverned liquids are preserved from structural changes.

Metathesis is a simple consequence of the Government effect on liquids, while lenition is the consequence of the same forces on obstruents. Lenition and metathesis apply under the same structural conditions. Metathesis can thus be seen as a form of lenition that applies to liquids.

## Appendix

Some of the items in the appendix have already been reported in Wagner (1941, 1950, 1960-64), Viridis (1978), Contini (1987), Paulis (1997), Blasco Ferrer (2003), as well as in the glossaries or introductions in Guarnerio (1892-1894), Bonazzi (1900), Solmi (1905a), Merci (2001), Viridis (2002), and Lupinu (2010). For discussion, see the critical introductions and glossaries of the respective editors.

Note also that the reference numbers reported in Wagner (1941, 1950, 1960-64) may differ with respect to the newer editions of CSMB and CSNT which I have used as a reference.

**Table 1. ETYMOLOGICAL TRs**

|  | TERTENIA<br>SARDINIAN | CENTRAL SARDINIAN<br>(incl. NUORESE) | LOGUDORESE<br>SARDINIAN         | CAMPIDANESE<br>SARDINIAN                                | ANCIENT DOCUMENTS  |
|--|-----------------------|--------------------------------------|---------------------------------|---|--|
| 1) Voiceless TvRs                                |                       |                                      |                                 |   |  |
| a. VTvRV   |                       |                                      |                                 |   |  |
| 1. COP(Ů)LA -<br>*CLOPPA<br>DES 286 (REW 2209)   | 'lɔβa                 | 'krɔppa (centr.) DES                 | 'krɔβa, 'lɔβa (log.)<br>DES     | 'krɔβa, 'lɔβa<br>(camp.) DES                            |  |
| 2. COPULARE -<br>*CLOPPARE<br>DES 286 (REW 2210) | kro'βai               | krop'pare (centr.) DES               | kro'βare, lo'βare<br>(log.) DES | (ak)kro'βai (camp.<br>rust.), kro'βai<br>(Sarrabus) DES | CSNT= <i>clopatas</i><br>CSMB= <i>colbadas</i> (although<br>Wagner 1941:§249 has<br><i>cobladas</i> )<br>CSP= <i>clopa, clopatos, clopatas</i> |

|  |           |  |                                   |                           |   |
|--|-----------|--|-----------------------------------|---------------------------|---|
| 3. COPŪLUM -<br>*CLOPUM<br>DES 287 (REW 2211)  | 'loβu     | 'kroppu (centr.) DES   | 'kroβu, 'loβu (log.)<br>DES       | -                         |   |
| 4. CONUC'LA<br>DES 286   | kran'nuya | kro'nuka (centr.),<br>kran'nuka (Nuoro),<br>ku'nukra (Bitti) DES             | kan'nuyra, kan'nuya<br>(log.) DES | kan'nuya (camp.)<br>DES   |   |
| 5. FENUC(Ū)LUM<br>DES 346  | fre'nuyu  | fe'nukru (centr.),<br>fre'nuku (Nuoro), su<br>e'nukru (Bitti) DES            | fe'nuyru, fre'nuyu<br>(log.) DES  | fe'nuyu (camp.)<br>DES    | C. Volg. XX* = <i>finugu</i>                            |
| 6. PEDUC(Ū)LUS<br>DES 640  | pre'uyu   | pri'δuku, (Nuoro),<br>pi'δukru (Ollolai),<br>pri'uku, (Bitti, Orosei)<br>DES | pri'oju (log. sett.)<br>DES       | pre'oju (Cagliari)<br>DES |   |
| 7. SPEC(Ū)LUM<br>(Bitti, Orosei),<br>*SPICŪLUM<br>(Nuoro, log.,<br>camp.)<br>DES 444 | s'priju   | is'preku (Bitti, Orosei)<br>DES  | is'priju (log. gen.)<br>DES       | s'priju (camp.) DES       |   |
| 8. VETŪLUS><br>VEC'LUS<br>DES 159  | -         | 'bekru (centr.), 'breku<br>(Nuoro) DES                                       | 'beyru, 'eyru (log.)<br>DES       | -                         | CSMB= <i>Beglu, Begla-s, Vegla</i><br>CSP= <i>Becla</i> |
| 9. ROTŪLUS<br>DES 674  | or'roju   | 'rukru (centr.) DES  | 'rujru, (log.) DES                | a'rroju (camp.)<br>DES    | C. Volg. XIII= <i>Orroglu</i>                           |
| 10. *RET(Ū)LA>REC'L<br>A LLS 84  | a'reja    | 'reja (Nuoro, Dorgali,<br>Orune, Nule) DES                                   | -                                 | a'rreja (camp.) DES       |   |



|   |            |  |                              |                                   |  |
|---|------------|--|------------------------------|-----------------------------------|--|
| REG(Ů)LA<br>REW 7177, DES 664                           |            |  |                              |                                   |  |
| 11. FLAC'LA ><br>*FLACCA<br>DES 362<br>FLACCUA REW 3137 | 'frakka    | 'frakka (Fonni) DES                        | -                            | 'frakka (camp.) DES               |  |
| 12. MANUCŮLUS<br>DES 503                                | man'nuyu   | ma'nukru (centr.) DES                      | ma'n(n)uyu (log.)<br>DES     | ma'n(n)uyu<br>(camp.) DES         |  |
| 13. AURIC(Ů)LA ><br>ORIC(Ů)LA<br>REW 793, DES 574       | o'riya     | o'rikra, u'rika (centr.)<br>DES            | o'riya, u'riya (log.)<br>DES | o'riya, u'riya<br>(camp.) DES     | St. Sass.= <i>Oricla, oriclas, horigia, orighia, origia</i><br>CdL= <i>origa, origha, horiga, origla</i>   |
| 14. OC(Ů)LUS<br>DES 569                                 | 'oyu       | 'okru (centr.) DES                         | 'oyu (log.) DES              | 'oyu (camp.) DES                  | CSP= <i>Ocli</i><br>CSMB= <i>iscodoglare</i> (this is controversial; see DES and Virdis 2002)<br>St.Sass.= <i>oclu, oclos</i><br>CSNT= <i>Oglospintos</i> (name)<br>CdL= <i>hogu</i> |
| 15. GENUC(U)LUM<br>DES 383                              | (dʒ)e'nuyu | gre'nuku (Bitti),<br>bre'nuku (Nuoro), DES | bre'nuyu (Planargia)<br>DES  | dʒa'nuyu, dʒi'nuyu<br>(camp.) DES |  |
| 16. CRATIC(Ů)LA<br>DES 234                              | kar'ðiya   | kra'ðika (Nuoro), ka'trika<br>(Orosei) DES | ka'ðriya (log.) DES          | kar'diya (camp.)<br>DES           | CSP= <i>catriclas</i>  |
| 17. UMBRAC(Ů)LUM<br>DES 787                             | m'brayu    | um'brake (Nuoro) DES                       | um'brayu (log.) DES          | um'brayu (camp.)<br>DES           |  |
| 18. RENIC'LU  | e'rriyu    | -  | -                            | a'rriyu (camp.) DES               |  |

|   |           |  |                                   |   |   |
|---|-----------|--|-----------------------------------|---|---|
| DES 121   |           |  |                                   |   |   |
| 19. MONTIC(U)LUS<br>DES 535                     | -         | mon'tikru (centr.) DES                     | mon'tiyru, mon'tiyu<br>(log.) DES | -   | CSMB= <i>Monticlu</i> (4),<br><i>montiglu</i> (3)<br>CSNT= <i>monticlu</i><br>CSP= <i>monticlu</i>  |
| -----   |           |  |                                   |   |   |
| 20. CENĀPURĀ<br>DES 239                         | tʃe'narβa | ke'napura (centr.) DES                     | ke'naβura, ke'naura<br>(log.) DES | tʃe'naβura,<br>tʃe'naβara (camp.)<br>DES                      | St.Sass.= <i>kenapura</i>   |
| <b>b. CTvRV</b>                                 |           |  |                                   |   |   |
| 21. MASC(Ů)LUS<br>DES 511                       | 'masku    | 'maskru (centr.) DES                       | 'maskru (log.) DES                | 'masku (camp.)<br>DES   | C. Volg.= <i>masclu</i><br>CSMB= <i>masculos, masclos</i><br>CdL= <i>mascho, maschus</i><br>St.Sass= <i>masclos, masclu,</i><br><i>maschiu</i><br>CSP= <i>masclu, masclos</i> |
| 22. MENTŮLA ><br>MENT'LA<br>*MINC'LA<br>DES 529 | 'miŋka    | 'miŋkra (centr.) DES                       | 'miŋka (log.) DES                 | 'miŋka (camp.) DES  |   |
| 23. COOPERC'LU<br>DES 267                       | kro'βekku | ko'perku (Nuoro),<br>kro'pekku (Bitti) DES | -                                 | ko'βerku,<br>ko'βekku (camp.),<br>kro'βekku<br>(Sarrabus) DES | CSP= <i>coperclata,</i><br><i>coperclatas</i><br>St.Sass= <i>coperclu</i>   |
| -----   |           |  |                                   |   |   |

|  |          |  |                             |   |  |
|--|----------|--|-----------------------------|---|--|
| 24. INS(Ů)LA > iscla<br>DES 433        | 'iskra   | 'iskra (centr.) (Nuoro,<br>Oliena) DES                   | 'iskra, (log.) DES          | iskra, 'iska (camp.)<br>DES                                   | C.Volg.=iscla, II*, XI*, XIV,<br>XV, XX*, yscla XX*<br>CSNT=iscla<br>CSP=iscla<br>CSMB=iscla |
| <b>2) Voiced TVRs</b>                  |          |  |                             |   |  |
| <b>a. VTRV~VTvRV</b>                   |          |  |                             |   |  |
| 25. SUBŮLO, -ONE<br>DES 719            | sir'βōni | sir'vōne, sir'βōne (centr.)<br>DES                       | su'lōne (log.) DES          | sir'βōni, sir'βōne,<br>sri'βōi (camp.) DES                    |  |
| 26. SUBŮLA<br>DES 721                  | -        | 'surβa (centr.)<br>(Nuoro), 'surva (Bitti,<br>Fonni) DES | 'surβa, 'sula (log.)<br>DES | 'sula (camp.) DES   |  |
| 27. SIBILARE ><br>*SUBILARE<br>DES 721 | su'lai   | sur'βare (Nuoro) DES                                     | su'lare (log.) DES          | su'lai (camp.) DES  |  |
| <b>a. CTvRV</b>                        |          |  |                             |   |  |
| 28. UNGŮLA<br>DES 789                  | 'uŋgra   | 'uŋgra (centr.) DES                                      | 'uŋgra (log.) DES           | 'uŋga (camp.),<br>'uŋgara (Gairo) DES<br>'uŋgula (Jerzu) fld. | St.Sass.=unglas, unгла<br>CSP= unгла (name)  |
| 29. *ANG(U)LONE<br>DES 100             | uŋ'grōni | aŋ'grōni (centr.)<br>uŋ'grōne (Fonni, Dorgali)<br>DES    | -                           | uŋ'grōne<br>(Villagrande),<br>uŋ'grōni (Gairo)<br>DES         |  |
| <b>3) Voiceless TRs</b>                |          |  |                             |   |  |
| <b>a. VTRV</b>                         |          |  |                             |   |  |
| 30. CAPRA                              | 'kraβa   | 'krapa (centr.) DES                                      | 'kraβa (log.) DES           | 'kraβa (camp.) DES  | C. Volg. III*, VI*, XVI,   |

|  |         |   |                                |  |  |
|--|---------|---|--------------------------------|--|--|
| DES 279<br>(CAPRILE DES 280,<br>CAPREOLUS DES 278) |         |   |                                |  | XVII= <i>cabra(s)</i><br>CSNT= <i>Capra(s), capro(s), caprinas (name), capruficu, caprinu</i><br>CSMB= <i>Capras, Capra (name), Cabras (name), caprina, Capriles (name)</i><br>CdL= <i>Cabra, cabras, craba</i><br>CSP= <i>Capras, Caprinu (name), Capriles (name), Capra (name)</i><br>St.Sass.= <i>capra, capriolu, capros, cabras, Cabra (name)</i> |
| 31. ACER, ACRUS<br>DES 79                          | 'aryu   | 'akru (centr.) DES                          | 'ayru (log.) DES               | 'ayru (camp.), 'argu (camp. rust.) DES |  |
| 32. PETRA<br>DES 610                               | 'perða  | 'petra (centr.), DES<br>'preða (Nuoro) fld. | 'peðra, 'preða (log)<br>DES    | 'perda (camp.) DES                     | C.Volg.= <i>pedra I, II*, XV, XXI, pedrosa XIV, perda XXI</i><br>CSMB= <i>petra (24), pedra-s (6), Pedronia (4) (name)</i><br>CSNT= <i>petra-s</i><br>CDL= <i>pedra</i><br>CSP= <i>petra-s</i><br>St.Sass.= <i>petras</i>  |
| 33. APRILIS<br>DES 109                             | ar'βili | a'prile (centr.) DES                        | a'βrile, ar'βile (log.)<br>DES | a'βrili, ar'βili (camp.) DES           |  |

|  |           |  |  |   |  |
|--|-----------|--|--|---|--|
| 34. VITRUM<br>DES 167  | im'birðu  | 'briðu (Nuoro), 'vriðu<br>(Bitti, Fonni) DES   | 'biðu (log.) DES                                 | 'birdu<br>(Baunei),um'biðu<br>(Sarrabus),<br>um'birdu (Isili) DES |  |
| 35. MATRICE<br>DES 514   | 'marði    | -  | -  | 'mardi, 'maðri,<br>(camp.) 'maðrie<br>(Baunei) DES                | C.Volg.=matrige I, <i>madrii</i><br>XVII,<br><i>madriedu</i> XIII<br>CSMB= <i>matrikes, matrige,</i><br><i>madrigues, matricas, matrici,</i><br><i>matrikis</i>  |
| 36. PRATUM<br>DES 639  | 'parðu    | 'pratu (centr.) DES  | 'praðu (log.) DES                                | 'parðu (camp.) DES  | C.Volg.=padru(s) I, XI*, XIV,<br>XV, XIX, <i>pardu</i> XV,<br>CSMB= <i>pratu</i> (2), <i>pradu</i> (2),<br><i>patru</i> (4), <i>padru</i> (10)<br>CSNT= <i>pratu</i><br>CdL= <i>padru, padrargios,</i><br><i>pardu, pardarjus, pardarjos,</i><br><i>pardarju, pardargios</i><br>CSP= <i>pratu, patru</i> |
| 37. *PULLETRU or<br>with the suffix -<br>ĪCU for some<br>villages<br>DES 647 | pur'ðeđđu | puđ'ðetru (Orosei) DES,<br>pruđ'ðeđu (Fonni) DES,<br>pur'ðeđđu (Nuoro) DES,<br>MA puđ'ðeriku (Nuoro)<br>fld. | pur'deđđu,<br>pru'ðeđđu,<br>pu'ðređđu (log.) DES | pur'deđđu,<br>pru'ðeđđu,<br>pu'ðređđu (camp.)<br>DES              | C.Volg.=pulledrus C. Volg.<br>XV, (Aleo 1670-1684 has<br><i>purdeddus</i> , see Solmi<br>1905:325).<br>CSNT= <i>pulletru, pulletros,</i><br><i>putrellu, pullericu</i><br>CSP= <i>pulletru</i>   |

|                                       |              |   |   |  |  |
|---------------------------------------|--------------|---|---|--|--|
| 38. PETROSELĪNUM<br>DES 611           | perðu'zɛmini | preðu'zimula (Nuoro),<br>petru'zimula (Bitti) DES   | preðu'zimula,<br>peðru'zimulu (log.)<br>DES | perdu'zɛmini<br>(camp.) DES                    | -  |
| 39. PETRU                             | 'perðu       | 'preðu (Nuoro) fld.   | 'peðru                                      | 'perðu (Desulo) fld.                           | C.Volg.=Petru, Pedru<br>CSMB=Petru (265), Pedru<br>(25)<br>CSNT=Petru<br>CdL=Perdu, Pedro<br>(hispanicism?)<br>St.Sass.=Petru<br>CSP=Petru |
| 40. PUTRICARE<br>DES 654              | purði'ai     | putri'kare (Bitti), DES<br>impruði'are (Nuoro) DES,<br>pruði'kare (Nuoro) fld.                              | puðri'ɣare, (log.)<br>DES                   | purði'ai (camp.)<br>DES                        | -  |
| 41. UTER,UTRIS<br>REW 9102, DES 786   | 'urði        | 'udre (centr.) (Olzai) DES  | -   | 'urdi (camp.) DES                              | CSNT=Utre (name)   |
| 42. VITRICUS<br>DES 800               | 'birðiu      | 'vitriku (centr.), 'briðiku<br>(Nuoro), 'vritiku (Orosei)<br>DES  | 'biðriɣu (log.) DES                         | 'biðriu, 'birdiu<br>(camp.) DES                | -  |
| 43. BOTRYONE or<br>BUTRONE<br>DES 192 | pur'dəni     | brut'təne (Bitti),<br>bu'drəne, bur'dəne<br>(nuor.) DES,<br>pur'dəne (Nuoro) fld.,<br>bur'dəne (Nuoro) fld. | bu'drəne, bur'dəne<br>(log.) DES            | bu'drəni, bur'dəni,<br>gur'dəni (camp.)<br>DES | CSNT=Butrone (name)  |
| 44. SOCRUS, SOCRA<br>DES 708          | 'soɣu        | 'sokru (centr.) DES   | 'soɣru (log.) DES                           | 'soɣru, 'sorgu<br>(camp.) DES                  | C.Volg.XIII=sogra<br>CSMB=socra  |

|                            |           |   |  |                         |   |
|----------------------------|-----------|---|--|-------------------------|---|
|                            |           |   |  |                         | CSNT= <i>socroniu, socra, socru</i><br>CSP= <i>socru, socroniu</i>  |
| 16. CRATIC(Ŭ)LA<br>DES 234 | kar'ðiya  | kra'ðika (Nuoro), ka'trika<br>(Orosei) DES  | ka'ðriya (log.) DES                        | kar'diya (camp.)<br>DES | <i>catriclas</i> CSP  |
| <b>b. CTRV</b>             |           |   |  |                         |   |
| 45. COMPLERE<br>DES 286    | 'lɔmpiri  | 'krɔmpere (Nuoro) DES                       | 'lɔmpere (log.) DES                        | 'lɔmpiri (camp.)<br>DES | C.Volg.= <i>clonpit/clompit, clonpilli(s)/clompilli(s)</i><br>CSMB= <i>Clomp-, clompl-, Compl-, clonp-</i><br>CSNT= <i>Clonpet, clonperun</i><br>(any <i>compl-</i> or <i>conpl-</i> )<br>CSP= <i>Clompit, clonpet</i><br>CdL= <i>Conpl-, compl-</i><br>(although the incunable A of CdL has <i>lompit</i> see Lupinu 2010:126).<br>St.Sass.= <i>clomper, complimentu, clompimentu, clomper, clompitu, clonpitos, clompitas, clompita</i> |
| 46. CANISTRUM<br>DES 213   | kra'nista | kra'nista (Nuoro) fld.                      | kanis'teɖɖa,<br>kanis'treɖɖu (log.)<br>DES | -                       |   |
| 47. TEMPLA<br>TEMPLUM      | 'trɛmpa   | 'trɛmpa (Bitti),<br>DES'trɛmpa (Nuoro) fld. | 'trɛmpa (log.) DES                         | 'trɛmpa (camp.)<br>DES  | CSMB= <i>Templa</i> (name)<br>St.Sass.= <i>templa</i>   |

|  |                           |   |                      |                                   |   |
|--|---------------------------|---|----------------------|-----------------------------------|---|
| DES 760  |                           |   |                      |                                   |   |
| 48. CASTRARE<br>DES 280  | kras'tai                  | kras'tare (Nuoro) fld.                      | kras'tare (log.) DES | kras'tai, kres'tai<br>(camp.) DES | St. Sass.= <i>crastatos, crastatu, crastados, crastadu</i>  |
| 49. CASTRUM<br>DES 232   | 'krastu                   | 'krastu (Nuoro) DES<br>'krastu (Nuoro) fld. | 'krastu (log.) DES   | 'krastu (camp.) DES               | CSMB= <i>castru</i> (11), <i>castro-s</i> (2), <i>crastu</i> (8)<br>CSNT= <i>castru</i> (any <i>crastu</i> )<br>CSP= <i>castru</i> (any <i>crastu</i> )                                   |
| 50. VENTER<br>DES 161  | 's entri~ ir<br>'βrentizi | 'brēnte (centr.) DES                        | 'bēntre (log.) DES   | 'brēnti (camp.) DES               | St.Sass.= <i>bentre</i>   |
| 51. NOSTER,<br>NOSTRU<br>DES 562                                       | 'nostu                    | 'nostru (centr.)                            | 'nostru (log.) DES   | 'nostu (camp.) DES                | C. Volg.= <i>nostru-a-s</i><br>CSMB= <i>nostras-os</i><br>CSNT= <i>nostru-a</i><br>CdL= <i>nostru-a-s</i><br>CSP= <i>nostru-a-s</i>   |
| 52. MAGISTER<br>DES 512  | ma'istu                   | 'mastru (Nuoro) fld.                        | 'mastru (log.) DES   | ma'istu (camp.)<br>DES            | C.Volg.= <i>maistru(s)</i><br>CSNT= <i>masstro, mastro, mastru, maistru</i><br>CSMB= <i>maystru, maistru</i><br>CSP= <i>mastru, magistru, mastriu</i><br>St.Sass.= <i>mastru, mastros</i> |
| 53. <i>rastrē</i> (cat.)<br><i>rastro</i> (cat.)<br>RASTRUM<br>DES 659 | a'rраста                  | -   | -                    | a'rrastu (camp.)<br>DES           |   |



| 4) Voiced TRs                               |                    |   |   |  |   |
|---|--------------------|---|---|--|---|
| a. VTRV                                     |                    |   |   |  |   |
| 54. CALABRIX, -ICE<br>CALABRICUS<br>DES 203 | ka'lavriyu         | ka'laβrike (Nuoro),<br>ka'lavrike (Bitti) DES | kala'riye (Macomer,<br>Ploaghe) DES         | ka'laβriu, ko'arviu,<br>ko'aviyu (camp.<br>rust.) DES  | CSP= <i>calabrike</i> (name),<br><i>calabrikes</i> (name)   |
| 55. COLUBRA><br>COLOBRA<br>DES 261          | ko'lɔvra, ko'lovru | ko'lɔvra, ko'lovru<br>(centr.) DES            | ko'lɔra, ko'loru,<br>(log.) DES             | ko'lɔra, ko'loru,<br>(camp.) DES                       |   |
| 56. CIRIBRUM<br>DES 244                     | tʃi'livru          | ki'liβru (Bitti, Nuoro,<br>Orosei) DES        | ki'liru (log.) DES                          | tʃi'liru (camp.) DES                                   |   |
| 57. LABRUM, LABRA<br>DES 472                | 'lavra(za)         | 'lavra, 'laβra, 'larva<br>(centr.) DES        | 'lavra, 'laβra, 'larva,<br>'lara (log.) DES | 'lavra, 'laβra,<br>'larva, 'lavru, 'lau<br>(camp.) DES | St.Sass.= <i>lauras</i>   |
| 58. QUADRŪLA<br>DES 592                     | 'parðula           |   |   |  |   |
| 59. FABRICARE,<br>FABRICA<br>DES 361        | frabbi'kai         | fraβi'kare (Nuoro),<br>frai'kare (Bitti) DES  | frai'ɣare (log.) DES                        | fabbrikai (camp.)<br>DES                               | C.Volg. IX= <i>fraigei</i> ,<br><i>fabrigada</i> , C.Volg.<br>IV*= <i>fabricarat</i><br>C. Volg. IV*= <i>fraigarunt</i><br>C.Volg. XIV= <i>fraigaat</i><br><br>CSNT=FABRICA> <i>Frabica(s)</i><br>(name), <i>fravicas</i> (name), |

|                             |           |  |                        |   |   |
|-----------------------------|-----------|--|------------------------|---|---|
|                             |           |  |                        |   | FABRICARE> <i>frabricare</i><br>CSMB= <i>fraigai, fraigait, fraigaresi, fraigare</i><br>CSP= <i>frabricare, frauica</i><br>St.Sass.= <i>fraicare, fraican, fraicat</i>                              |
| 60. FEBRUARIUS<br>DES 365   | fri'ardzu | fre'βariu (Nuoro) DES                    | fre'ardzu (log.) DES   | fri'ardzu, fri'azu (camp.) DES                                  | <i>frevariu</i> CSMB.<br><i>freargiu</i> St.Sass.   |
| 61. PIGRITIA<br>DES 641     | pre'issa  | pre'iθθia, 'priθθia, (centr.) DES        | pre'ittia (log.) DES   | pre'ittsa (camp.) DES   |   |
| 62. INTEGER<br>DES 421      | in'treu   | in'treyu (centr.), (Nuoro),              | in'treu (log.) DES     | -   | CSMB= <i>intregu-a (4), intreu-a-os (5)</i><br>CSNT= <i>intregu-a-os, integru-a integra, intrega, intregu</i><br>CSP= <i>intregu-a-os, intreu</i><br>St.Sass.= <i>intrea, integra, integramente</i> |
| 63. FLAGRARE<br>DES 362     | fra'γai   | fra'kkare (centr.) DES                   | fra'γare (log.) DES    | fra'γai (camp.) DES   |   |
| 64. FABER, FABRU<br>DES 361 | -         | fraβi'lardzu, (Nuoro) - ferréri cat. DES | frai'lardzu (log.) DES | 'frau (camp. rust.: Escalaplano, Villacidro) - ferréri cat. DES | C. Volg. IX, X, XIV, XVI= <i>frau</i><br>CSMB= <i>fabru (2), frau (5) (name)</i><br>CSP= <i>frabu, frauile (name), fravile (name), fraucatore,</i><br>CSNT= <i>frabile (name), fravile</i>          |

|  |   |   |                           |   |                     |
|--|---|---|---------------------------|---|---------------------|
|  |   |   |                           |   | (name)              |
| 65. AGRESTIS<br>DES 85                     | a'rɛsti                                   | a'ɣrɛste (centr.) (Bitti,<br>Nuoro) DES | a'rɛste (log.) DES        | a'rɛsti (camp.) DES                     | CdL= <i>agresta</i> |
| 66. MELA GRANATA<br>or GRANATUM<br>DES 112 | are'naða                                  | -                                       | melare'naða (log.)<br>DES | melare'naða,<br>are'naða (camp.)<br>DES |                     |
| <b>b. CTRV</b>                             |   |   |                           |   |                     |
| 17. UMBRAC(Ů)LUM<br>DES 787                | m'braɣu                                   | um'brake (Nuoro) DES                    | um'braɣu (log.) DES       | um'braɣu (camp.)<br>DES                 |                     |
| 67. UMBRA<br>DES 787                       | 'umbra, 'umbara<br>(Seulo, Aritzo)<br>DES | 'umbra (centr.) DES                     | 'umbra (log.) DES         | 'umbra, (camp.)<br>DES                  |                     |

**Table 2. OLD LOANWORDS**

|   |              |  |                     |   |   |
|---|--------------|--|---------------------|---|---|
| 68. petronciano,<br>petronciano (Old<br>It.)<br>DES 521 | perðin'dʒanu | preðin'dzanu (Nuoro,<br>Dorgali) DES       | -                   | perdin'dʒanu,<br>peðrin'dʒanu,<br>(camp.) DES |   |
| 69. muteclu (Old<br>Sardinian)<br><*MUTULU<br>DES 549   | mur'ðeɣu     | mu'treku (Orosei),<br>mu'ðreku (Fonni) DES | mu'ðreɣu (log.) DES | mur'deɣu, mu'ðeɣu<br>(camp.) DES              | C. Volg. XI* = <i>mudeglu</i><br>(Aleo 1670-1684 has<br><i>murdegu</i> )<br>CSP= <i>muteclu, muteclariu</i> |
| 70. allegro (It.)                                       | al'lirɣu     | al'ligru (Nuoro) DES                       | al'legru (log.) DES | al'lirɣu (camp.) DES                          |   |

|                          |   |   |   |                                   |  |
|--------------------------|---|---|---|-----------------------------------|--|
| DES 91                   |   |   |   |                                   |  |
| 71. padrino (It.)<br>DES | par'đinu<br>(loanword from<br>Cagliari) (nonnu) | - | - | par'đinu, pa'đrinu<br>(camp.) DES |  |

Table 3. TRs DUE TO SYNCOPE

|                                 | TERTENIA<br>SARDINIAN                                   | CENTRAL SARDINIAN<br>(incl. NUORESE) | LOGUDORESE<br>SARDINIAN   | CAMPIDANESE<br>SARDINIAN         | ANCIENT DOCUMENTS   |
|---------------------------------|---|--------------------------------------|---------------------------|----------------------------------|---|
| 72. SEMPER<br>DES 696           | 'sɛmpri   | 'sɛmpere (centr.) DES                | 'sɛmpere (log.) DES       | 'sɛmpiri, 'sɛmpri<br>(camp.) DES | C. Volg. XI <sup>*</sup> = <i>sempiri</i><br>St.Sass.= <i>semper</i>  |
| 73. atro (Old Pisan)<br>DES 133 | 'attru-a, but<br>“s'attur'annu”<br>/ssu atturu<br>annu/ | 'atteru-a (centr.) DES               | 'atteru-a (log.) DES      | 'atteru-a (camp.)<br>DES         | C. Volg. IX, XI <sup>*</sup> , XIII, XIV,<br>XVII, XVIII, XIX, XX <sup>*</sup> ,<br>XXI= <i>ateru-a</i><br>C. Volg. X= <i>atara</i><br>CSNT= <i>atteru-a, ateru-a</i><br>St. Sass.= <i>atteru, atteros,</i><br><i>ater, atteras, ateramente,</i><br><i>ateru, atheras, attheros,</i><br><i>atheru</i><br>CSMB= <i>alteru-a-s</i><br>CSP= <i>ateru-a, atteru-a-s</i> |
| 74. COMPARARE<br>DES 262        | komp'o'rai<br>~kom'prai                                 | komp'o'rare (centr.) DES             | komp'o'rare (log.)<br>DES | komp'a'rai (camp.)<br>DES        | C.Volg.= <i>conpora(s)/compor</i><br><i>a(s), comporada(s) conporei,</i><br><i>conporeilli/comporeilli</i>  |

|                        |         |                        |                      |                       |  |
|------------------------|---------|------------------------|----------------------|-----------------------|--|
|                        |         |                        |                      |                       | <i>comporeillis/comporeillis, comporeilloi/comporeilloi</i><br>CSNT= <i>comporare, comporai, comporarelis, comporara(t)/conporara(t) comporaili/conporaili</i><br>St.Sass.= <i>Comporare</i> |
| 75. LITTĒRA<br>DES 481 | 'littra | 'littera, (centr.) DES | 'littera, (log.) DES | 'littera, (camp.) DES | C. Volg. III*= <i>Littera</i> (as a name)<br>CSNT= <i>littera, Litera</i> (name)   |

**Table 4. WORD-INITIAL DELETION IN TR CLUSTERS**

|                                     | <b>TERTENIA<br/>SARDINIAN</b> | <b>CENTRAL SARDINIAN<br/>(incl. NUORESE)</b> | <b>LOGUDORESE<br/>SARDINIAN</b> | <b>CAMPIDANESE<br/>SARDINIAN</b> | <b>ANCIENT DOCUMENTS</b>  |
|-------------------------------------|-------------------------------|--|---------------------------------|----------------------------------|---|
| 76. CLAMARE<br>DES 279              | la'mai                        | kra'mata (Bitti) DES                         | kra'mare (log.) DES             | kra'mai, la'mai<br>(camp.) DES   | St.Sass.= <i>clamatu, clamat, clamatores, se clamen, clamare, clamatos, clamaren</i><br>CSMB= <i>clamait, clamandominde, clamandomi, clamedi.</i> |
| 77. GLANS, -ANDE<br>(for grande and | 'landi, su 'landi             | 'lande (Bitti, Nuoro, Orgosolo, Oliena) DES  | 'lande (log.) DES               | 'landiri (camp.) DES             | CSMB= <i>glande, lande</i>  |

|   |                            |  |                                  |                          |   |
|---|----------------------------|--|----------------------------------|--------------------------|---|
| lande-i)<br>GLANDIS, -ĪNE (for<br>landiri)<br>DES 390 |                            |  |                                  |                          |   |
| 78. GRANDO, -ĪNE<br>GRANDINARE<br>DES 390             | su 'randili,<br>grandi'lai | 'grandine (centr.) DES                           | 'randine (log.) DES              | 'landiri (camp.) DES     |   |
| 79. GLANDŪLA<br>DES 390                               | sa 'randula,               | 'grandula (centr.) DES                           | 'randula (log.) DES              | 'randula (camp.)<br>DES  |   |
| 80. GRANUM<br>DES 390                                 | su 'ranu                   | -  | 'ranu (log.) DES                 | 'ranu (camp.) DES        |   |
| 81. *GLOMŪLUS<br>DES 394                              | 'lomburu                   | 'gromuru (centr.),<br>gromo'ređđu (Nuoro)<br>DES | 'lomburu, 'lomberu<br>(log.) DES | 'lomburu, (camp.)<br>DES |   |
| 82. CRUX, -UCE<br>DES 287                             | is 'krudžizi, sa<br>'rudži | 'ruke (centr.) DES                               | 'ruye (log.) DES                 | 'grudži (camp.) DES      | CV= <i>ruġi</i><br>CSMB= <i>cruke, gruge, grugi,</i><br><i>ruġe.</i><br>CSNT= <i>cruke, cruce</i><br>CSP= <i>gruke, bruke</i><br>St. Sass.= <i>gruche</i> |

Table 5. VOWEL INSERTION IN TR CLUSTERS FROM LOANWORDS

|   | TERTENIA<br>SARDINIAN | CENTRAL SARDINIAN<br>(incl. NUORESE) | LOGUDORESE<br>SARDINIAN                     | CAMPIDANESE<br>SARDINIAN                                    | ANCIENT DOCUMENTS                 |
|---|-----------------------|--------------------------------------|---|---|-----------------------------------|
| 83. libbra (it)<br>DES 477                      | 'libbra               | -                                    | 'libbera, (log.)                            | 'libbra,<br>'libba,(camp.) DES                              | St. Sass.=libras<br>CSNT=libra(s) |
| 84. libro (it.) DES 477<br>Wagner (1941:§69-73) | 'libru                | 'libru (centr.) DES                  | 'libru,<br>'lib(b)eru,'lib(b)aru,<br>(log.) | 'libbru, 'lib(b)uru,<br>(camp.) DES                         | St.Sass.=libru                    |
| 85. lucro (It.)                                 |                       |                                      | 'lukuru (Log.)                              |   |                                   |
| 86. xucla (Cat.)                                |                       |                                      |   | 'ɸukkara (Camp.)  |                                   |
| 87. gronda (It.)                                |                       |                                      |   | go'ronda (Camp.)  |                                   |
| 88. trulla (?)                                  |                       | tu'ruɖɖa (Log.), ti'ruɖɖa            |   |   |                                   |
| 89. mangra (Cat.)                               |                       |                                      |   | 'mangara (Camp.)  |                                   |
| 90. latrina (It.)                               |                       |                                      |   | lat'tarina (Italian<br>spoken at Cagliari -<br>cagl. volg.) |                                   |
| 91. litro (It.)                                 |                       |                                      |   | 'lituru (Camp.)   |                                   |
| 92. catre (Sp.)                                 |                       |                                      |   | 'kattiri (Camp.)  |                                   |

Table 6. VTVRV~VTVRV SOME TVR SEQUENCES THAT NEVER BECAME TR SEQUENCES

|  |         |  |                                  |                                   |   |
|--|---------|--|----------------------------------|-----------------------------------|---|
| 93. NEBŮLA – νέφος <sup>1</sup><br>DES 558 | 'neβiða | 'neula (centr.) DES                              | 'neula (log.) DES                | 'neβiða-e-i (camp.)<br>DES        |   |
| 94. DIABŮLUS<br>DES 320                    | ti'aulu | -  | ti'aulu, di'aulu (log.)<br>DES   | ti'aulu, di'aulu<br>(camp.) DES   |   |
| 95. FABULA<br>DES 345                      | 'faula  | 'favula (centr.) DES                             | 'faula (log.) DES                | 'faula (camp.) DES                | CSP= <i>fauula</i>  |
| 96. TABŮLA<br>DES 734                      | 'taula  | 'taula (centr.) DES                              | 'taula (log.) DES                | 'taula (camp.) DES                |   |
| 97. TEGŮLA<br>DES 741                      | 'teula  | -  | 'teula (log.) DES                | 'teula (camp.) DES                | St.Sass.= <i>teula, teulas,<br/>teulargios</i>  |
| 98. PARABŮLA<br>DES 591                    | -       | pa'rayula (centr.), (Bitti,<br>Orune, Nuoro) DES | pa'raula, pe'raula<br>(log.) DES | pa'raula, pe'raula<br>(camp.) DES | C.Volg.= <i>paraula</i> XVIII, XIV<br>CSP= <i>paragula</i><br>CSMB= <i>paraula</i><br>St.Sass.= <i>paraula, paraulas,<br/>peraula</i><br>CdL= <i>paraula, paraula</i> |
| 99. STABULUM<br>DES 447                    | s'taulu | istau'leḡ:u (Fonni) DES                          | -                                | s'tauli (camp.) DES               |   |

<sup>1</sup> Wagner argues that 'neβiða-e-i stems from Gr. νέφος, while 'neula stems from NEBULA.



\* This item occurs in a section of C. Volg., the dating of which is controversial (Paulis 1997).

\* This item occurs in a section of C. Volg., the dating of which is controversial (Cau 1999).

## Conventions

**C. Volg.** = Carte Volgari dell'Archivio arcivescovile di Cagliari

**CdL** = Carta de Logu dell'Arborea

**CSMB** = Condaghe di Santa Maria di Bonarcado

**CSNT** = Condaghe di San Nicola di Trullas

**CSP** = Condaghe di San Pietro di Silki

**St.Sass.** = Gli Statuti della Repubblica Sassarese

**T** = voiceless obstruent

**D** = voiced obstruent

**R** = any liquid

**V** = any vowel

**C** = any consonant

**TR** = branching onset

**T.R** = heterosyllabic cluster

'krastu (Nuoro) = ITEM (PLACE)

## References

- Adams, James Noel 2007. *The Regional Diversification of Latin 200 BC-AD 600*. Cambridge, Cambridge University Press.
- Alber, Birgit 2001. "Maximizing First Positions". In Féry C., Green A., Van De Vijver R. (eds.) *Linguistics in Potsdam 12. Proceedings of HILP 5*, Universität Potsdam, Potsdam, pp. 1-19.
- Allen, W. Sidney 1965. *Vox Latina. A Guide to the Pronunciation of Classical Latin*. Cambridge, Cambridge University Press.
- Allen, W. Sidney 1973. *Accent and Rhythm, Prosodic Features of Latin and Greek: a Study in Theory and Reconstruction*. Cambridge, Cambridge University Press.
- Ascoli, Graziadio Isaia 1882-85. "L'Italia dialettale", *Archivio glottologico italiano* vol. 8, pp. 98-128.
- Bafile, Laura 1997. "La spirantizzazione toscana nell'ambito della teoria degli elementi". *Studi linguistici offerti a G. Giacomelli dagli amici e dagli allievi*. A. Catagnoli (ed.), Padova, Unipress, pp. 27-38.
- Blasco Ferrer, Eduardo 1984. *Storia linguistica della Sardegna*. Tübingen, Max Niemeyer.
- Blasco Ferrer, Eduardo 1988. "Sardisch: Externe Sprachgeschichte" in Holtus, G. et al. (eds.) [1988, pp. 884-897].
- Blasco Ferrer, Eduardo 2003. *Crestomazia sarda dei primi secoli*. Officina Linguistica IV, 4. Nuoro, Ilisso.
- Blasco Ferrer, Eduardo & Michele, Contini 1988. "Sardisch: Interne Sprachgeschichte I. Grammatik", in Holtus, G. et al. (eds.) [1988, pp. 836-853].

- Bolognesi, Roberto 1998. *The Phonology of Campidanian Sardinian*, Ph.D. dissertation, University of Amsterdam.
- Bolognesi, Roberto 2005. "Quanti luoghi comuni nella lingua sarda". *L'Unione Sarda*, lunedì 13 giugno, p. 21. Available at [http://www.regione.sardegna.it/documenti/1\\_26\\_20050613093647.pdf](http://www.regione.sardegna.it/documenti/1_26_20050613093647.pdf)
- Bolognesi, Roberto & Wilbert, Heeringa 2005. *Sardegna fra tante lingue. Il contatto linguistico in Sardegna dal Medioevo a oggi*, Cagliari, Condaghes.
- Bonazzi, Giuliano (ed.) 1997 [1900]. *Condaghe di San Pietro di Silki. Testo logudorese inedito dei secoli XI-XIII*. Sassari, Libreria Dessì Editrice.
- Bottiglioni, Gino 1919. *Saggio di fonetica sarda. Gli esiti di L (R, S) + cons. e di j nei dialetti di Sassari e della Gallura, di Nuoro e del Logudoro*. Perugia, Unione Tipografica Cooperativa.
- Brandão de Carvalho, Joaquim 2008. "Western Romance". In *Lenition and Fortition*, Joaquim Brandão de Carvalho, Tobias Scheer and Philippe Ségéral (eds.). Berlin, Mouton de Gruyter, pp. 207-234.
- Brun-Trigaud, Guylaine & Tobias, Scheer 2010. "Lenition in branching onsets in French and in ALF dialects". *Development of Language through the Lens of Formal Linguistics*, P. Karlík (ed.), Munich, Lincom, pp. 15-28.
- Campbell, Lyle & William J. Poser 2008. *Language Classification: History and Method*. Cambridge, Cambridge University Press.
- Canepari, Luciano 1980. *Italiano standard e pronunce regionali*, Padova, CLEUP.
- Carr, Philip 1993. *Phonology*. London, The Macmillan press.
- Carr, Philip 2008. *A Glossary of Phonology*. Edinburgh, Edinburgh University Press Ltd.
- Castellani, Arrigo 1960. "Precisazioni sulla gorgia toscana", *Boletim de filologia*, 19, pp. 241-262.

- Cau, Ettore 1989. "Il falso nel documento privato tra XII e XIII secolo" in *Civiltà Comunale: libro, scrittura, documento. Atti della Società ligure di Storia Patria* n.s. 29/2, pp. 215-277.
- Cau, Ettore 1999. "Sospetti antichi e recenti sulle carte volgari di Cagliari". *Scrineum* 1. Available at [scrineum.unipv.it](http://scrineum.unipv.it)
- Charette, Monik 1990. "License to Govern". *Phonology* 7, pp. 233-253.
- Charette, Monik 1991. *Conditions on Phonological Government*, Cambridge, Cambridge University Press.
- Clackson, James (ed.) 2011. *A Companion to the Latin Language*. Blackwell Publishing.
- Contini, Michele 1987. *Etude de Géographie Phonétique et de Phonétique Instrumentale du Sarde*. Alessandria, Dell'Orso, 2 vols.
- Contini, Gianfranco 1960. "Per un'interpretazione strutturale della cosiddetta 'gorgia toscana'". *Boletim de filologia*, 19, pp. 263-281.
- Cravens, Thomas, D. 1984. "Intervocalic consonant weakening in a phonetic-based strength phonology: foleyan hierarchies and the gorgia toscana". *Theoretical linguistics*, vol. 11, number 3.
- Cyran, Eugeniusz 2006. "Book review: A Lateral Theory of Phonology, by Tobias Scheer". *The Linguistic Review* 23, pp. 505-542.
- Dalbera-Stefanaggi, Marie-José 1991. *Unité et diversité des parlers corses*. Ed. Dell'Orso.
- Delogu, Ignazio 1997. "Introduzione" in Bonazzi [1997, pp. 9-52].
- De Mauro, Tullio 2011 [1963]. *Storia linguistica dell'Italia unita*. Roma-Bari, Laterza.
- Frigeni, Chiara 2005. "The development of liquids from Latin to Campidanian Sardinian, the role of contrast and structural similarity". In *Romance*

- Languages and Linguistic Theory 2003*, T. Geerts, I. van Ginneken, H. Jacobs (eds.) Amsterdam, Benjamins, pp. 81-96.
- Geisler, Hans 1994. "Metathese im Sardischen", *Vox Romanica* 53, pp. 106-137.
- Giannelli, Luciano 1976. *Toscana. Profilo dei dialetti italiani* 9. Pisa, Pacini.
- Giannelli, Luciano & Leonardo, M., Savoia 1978. "L'indebolimento consonantico in Toscana", I. *Rivista italiana di dialettologia*, 2, pp. 23-58.
- Giannelli, Luciano & Leonardo, M., Savoia 1979-80. "L'indebolimento consonantico in Toscana", II. *Rivista italiana di dialettologia*, 3-4, pp. 39-101.
- Grassi, Corrado, Alberto, A., Sobrero & Tullio, Telmon 1997. *Fondamenti di dialettologia italiana*, Roma-Bari, Laterza.
- Guarnerio, Pier Enea 1892-1894. "Gli Statuti della Repubblica Sassarese, testo logudorese del secolo XIV, nuovamente edito d'in sul codice e annotato". *Archivio Glottologico Italiano* 13, pp. 1-124.
- Harris, Martin & Nigel Vincent (eds.) 1988. *The Romance Languages*, London, Routledge.
- Harris, Martin 1988. "The Romance languages", in Harris and Vincent [1988, pp. 1-25].
- Harris, John 1990. "Segmental Complexity and Phonological Government", *Phonology* 7, pp. 255-300.
- Harris, John 1997. "Licensing Inheritance: an integrated theory of neutralisation". *Phonology*, 14, pp. 315-370.
- Herman, József & Roger Wright 2000. *Vulgar Latin*. Pennsylvania State University Press.
- Hill, Archibald, A. 1954. "Juncture and Syllable Division in Latin". *Language*, vol. 30, No. 4 (Oct. - Dec., 1954), pp. 439-447.

- Hirst, Daniel 1985. "Linearisation and the Single-Segment Hypothesis". In Jacqueline Guéron, Hans Obenauer & Jean-Yves Pollock (eds.), *Grammatical representation*. Dordrecht, Foris, pp. 87–100.
- Holtus, Günter, Michael, Metzeltin & Christian, Schmitt (eds.) 1988. *Lexikon der Romanistischen Linguistik. IV. Italienisch, Korsisch, Sardisch*, Tübingen, Max Niemeyer Verlag.
- Kaye, Jonathan, Lowenstamm, Jean & Jean-Roger Vergnaud 1985. "The internal structure of phonological elements: a theory of charm and government". *Phonology Yearbook 2*, pp. 305–328.
- Kaye, Jonathan, Lowenstamm, Jean & Jean-Roger Vergnaud 1990. "Constituent structure and government in phonology". *Phonology 7*, pp.193-231.
- Jones, Michael, A. 1997. "Sardinia" in Maiden & Parry (eds.) [1997, pp. 376-384].
- Jones, Michael, A. 1988. "Sardinia" in Harris & Vincent (eds.) [1988, pp. 314-350].
- Ladd, D. Robert & James Scobbie 2003. "External sandhi as gestural overlap? Counter-evidence from Sardinian". *Phonetic Interpretation: Papers in Laboratory Phonology VI*. Cambridge, Cambridge University Press, pp. 162-180.
- Lai, Rosangela 2010. "Gradi di forza nelle occlusive di una sotto-varietà campidanese dell'Ogliastra". *Rivista Italiana di Dialettologia*, vol. 33. Bologna, Clueb. pp. 85-100.
- Lai, Rosangela 2011. "Peculiarità fonologiche dei prestiti in Sardo Campidanese". *Le nuove forme del dialetto. Quaderni di Dialettologia n. 16. Atti del Convegno di Sappada/Plodn 25-30 giugno 2010*, G. Marcato (ed.), Padova, Unipress, pp. 117-122.

- Lehmann, Christian 2005a. “La structure de la syllabe latine”, *Essais de phonologie latine. Actes de l'atelier d'Aix-en-Provence 12-13 avril 2002*, Ch. Touratier (ed.), Aix-en-Provence, Publications de l'Université de Provence, pp. 157-206.
- Lehmann, Christian 2005b. “Latin syllable structure in typological perspective”, in *Papers on Grammar IX.1. Proceedings of the Twelfth International Colloquium on Latin Linguistics (Bologna, 9 - 14 June 2003)*, Gualtiero Calboli (ed.), Roma, Herder, pp. 127-147.
- Lehmann, Christian 2010. “On complex syllable onsets in Latin”. *Studies in classical linguistics in honor of Philip Baldi, Amsterdam Studies in Classical Philology* 17, Page, Richard & Rubin, Aaron D. (eds.), Leiden, E.J. Brill. pp. 47-55.
- Lepschy, Anna Laura & Giulio Lepschy 1977. *The Italian Language Today*, London, Hutchinson.
- Lindsay, Wallace, Martin 1894. *The Latin Language. An Historical Account of Latin Sounds, Stems, and Flexions*. Oxford, Clarendon Press.
- Loi Corvetto, Ines 1988. “Sardisch: Interne Sprachgeschichte II. Lexik”, in Holtus, G. et al. (eds.) [1988, pp. 854-867].
- Loi Corvetto, Ines 1992. “La Sardegna”, in *L'Italiano nelle regioni. Lingua nazionale e identità regionali*, Francesco Bruni (ed.) Torino, UTET.
- Loi Corvetto, Ines 1993. “La Sardegna”, in Loi Corvetto & Nesi (eds.) [1993, pp. 3-205]
- Loi Corvetto, Ines & Annalisa Nesi (eds.) 1993. *La Sardegna e la Corsica*. Torino, UTET.
- Lombardi, Linda 1990. “The nonlinear organization of the affricate”. *Natural Language & Linguistic Theory* 8, pp. 375-425.

- Loporcaro, Michele 1996. "On the analysis of geminates in Standard Italian and Italian dialects". *Natural Phonology: The State of the Art*, B., Hurch, R., Rhodes (eds.), Berlin, New York, Mouton de Gruyter, pp. 153-187.
- Loporcaro, Michele 2005. "La sillabazione di «muta cum liquida» dal latino al romanzo". In *Latin et langues romanes: Études de linguistique offertes à József Herman à l'occasion de son 80ème anniversaire*, S., Kiss, L., Mondin, G., Salvi (eds.), Tübingen, Walter de Gruyter, pp. 419-430.
- Loporcaro, Michele 2005b. "Typological remarks on Sardinian: 1. Vowel harmony 2. Sardinian in a correlative typology of the Romance languages". *Sprachtypologie und Universalienforschung*, 58(2-3), pp. 210-227.
- Loporcaro, Michele 2009. *Profilo linguistico dei dialetti italiani*. Bari, Laterza.
- Loporcaro, Michele & Pier, Marco, Bertinetto 2005. "The sound pattern of Standard Italian, as compared with the varieties spoken in Florence, Milan and Rome". *Journal of the International Phonetic Association*, 35, pp. 131-151.
- Lórinzi, Marinella 2007. "Ideologia linguistica e fondamenti di storia della lingua sarda". Ms. available at <http://people.unica.it/mlorinzi/ideologia-linguistica-lingua-sarda/>
- Lowenstamm, Jean 1996. "CV as the Only Syllable Type", *Current Trends in Phonology Models and Methods*, J., Durand (ed.), European Studies Research Institute, University of Salford, pp. 419-442.
- Lowenstamm, Jean 1999. "The beginning of the Word", J., R., Renison & K., Kühnammer (eds), *Phonologica 1996, Syllables !?*, The Hague, Thesus, pp. 153-166.
- Lowenstamm, Jean 2003. "Remarks on Mutae cum Liquida and Branching Onsets", in *Living on the Edge, 28 Papers in Honour of Jonathan Kaye*, S. Ploch (ed.), Berlin, Mouton de Gruyter, pp. 339-363.



- Lupinu, Giovanni 2000. *Latino epigrafico della Sardegna*, "Officina linguistica" III, 3, Nuoro, Ilisso.
- Lupinu, Giovanni (ed.) 2010. *Carta de Logu dell'Arborea. Nuova edizione critica secondo il manoscritto di Cagliari* (BUC 211). Oristano, S'Alvure.
- Maiden, Martin 1995. *A Linguistic History of Italian*. New York, Longman.
- Maiden, Martin 1997. "Vowel systems" in Maiden & Parry (eds.) [1997, pp. 7-14].
- Maiden, Martin & Mair Parry (eds.) 1997. *The Dialects of Italy*. London-New York, Routledge.
- Maninchedda, Paolo 1987. "Il sardo arborense nel Condaghe di S. Chiara", *Biblioteca francescana sarda*, I, 2, pp. 365-391.
- Marotta, Giovanna 1999. "The Latin syllable", in H. van der Hulst e N.A. Ritter (eds.), *The Syllable: Views and Facts*, Berlin-New York, Mouton de Gruyter, pp. 285-310.
- Marotta, Giovanna 2006. "An OT account of Tuscan Spirantization". *Lingue e linguaggio* n. 2/06, Bologna, Il Mulino.
- Marotta, Giovanna 2008. "Lenition in Tuscan Italian (Gorgia Toscana)". In *Lenition and Fortition*, Joaquim Brandão de Carvalho, Tobias Scheer and Philippe Ségéral (eds.). Berlin, Mouton de Gruyter, pp. 235-272.
- Maxia, Mauro 1999. *Studi storici sui dialetti della Sardegna Settentrionale*. Sassari, Studium ADF.
- McCullagh, Matthew 2011. "The Sounds of Latin: Phonology", in *A Companion to the Latin Language* in Clackson [2011, pp. 83-91].
- Meyer-Lübke, Wilhelm 1901. *Einführung in das Studium der romanischen Sprachwissenschaft*. Heidelberg, Winter.

- Meyer-Lübke, Wilhelm 1911. *Romanisches etymologisches Wörterbuch*, Heidelberg, C. Winter. [=REW].
- Mensching, Guido 1994. *Einführung in die Sardische Sprache*. Bonn, Romanistischer Verlag.
- Merci, Paolo 1982. “Le origini della scrittura volgare” in *La Sardegna*, M. Brigaglia (ed), Ed. della Torre vol. I/3, pp. 11-24.
- Merci, Paolo (ed.) 2001. *Il condaghe di San Nicola di Trullas*. Nuoro, Ilisso.
- Molinu, Lucia 1998. *La syllabe en sarde*. Ph.D. dissertation, Université de Grenoble.
- Molinu, Lucia 1999. “Métathèse et variation en sarde”, *Cahiers de Grammaire* 24, pp. 153-181.
- Moseley, Christopher (ed.) 2007. *Encyclopedia of the World's Endangered Languages*. London-New York, Routledge.
- Moseley, Christopher (ed.) 2010. *Atlas of the World's Languages in Danger*. UNESCO Publishing, Paris. Online version: <http://www.unesco.org/culture/en/endangeredlanguages/atlas>
- Nesi, Annalisa 1988. “Korsisch: Interne Sprachgeschichte” in Holtus, G. et al. (eds.) [1988, pp. 799-808].
- Nesi, Annalisa 1993. “La Corsica” in Loi Corvetto & Nesi (eds.) [1993, pp. 209-292]
- Nevins, Andrew 2008. Review of Tobias Scheer's “A Lateral Theory of Phonology: What is CVCV and why should it be”. *Lingua* 118(3), pp. 425-434.
- Oppo, Anna (ed.) 2007. *Le lingue dei sardi. Una ricerca sociolinguistica*. Regione Autonoma della Sardegna.
- Ortu, Gian Giacomo 2005. *La Sardegna dei giudici*. Nuoro, Il Maestrale.

- Paulis, Giulio 1984. "Introduzione" in Wagner [1984, pp. VII-CVIII].
- Paulis, Giulio 1997. *Studi sul sardo medievale*. Officina linguistica I, 1. Nuoro, Ilisso.
- Pittau, Massimo 1972. *Grammatica del sardo nuorese. Il più conservativo dei parlari neolatini*. Bologna, Pàtron.
- Roca, Iggy 1994. *Generative Phonology*. London – New York, Routledge.
- Rindler Schjerve, Rosita 1993. "Sardinian: Italian", in *Trends in Romance Linguistics and Philology* 5, R. Posner and J. Green (eds.). Berlin-New York-Amsterdam, Mouton de Gruyter, pp. 271-294.
- Rindler Schjerve, Rosita 1998. "An indicator for language shift? Evidence from Sardinian-Italian Bilingualism" in R. Jakobson (ed.), *Code switching Worldwide*, pp. 137-143.
- Rizzi, Luigi 1990. *Relativized Minimality. Linguistic Inquiry Monograph* 16. Cambridge, Mass. MIT Press.
- Rohlf, Gerhard 1966. *Grammatica storica della lingua italiana e dei suoi dialetti. I: Fonetica*. Torino, Einaudi.
- Sagey, Elizabeth Caroline 1986. *The representation of features and relations in nonlinear phonology*. Ph.D. dissertation, MIT.
- Sanna, Antonio 1957. *Introduzione agli studi di linguistica sarda*. Cagliari, Regione Autonoma della Sardegna.
- Savoia, Leonardo M. 1997. "The geographical distribution of the dialects" in Maiden & Parry (eds.) [1997, pp. 225-236]
- Savoia, Leonardo M. 2001. "La legge 482 sulle minoranze linguistiche storiche. Le lingue di minoranza e le varietà non standard in Italia". *Rivista Italiana di Dialettologia*, vol. 25. Bologna, Clueb, pp. 7-50.

- Scheer, Tobias 1996. *Une théorie de l'interaction directe entre consonnes*. Ph.D. dissertation, Université Paris 7.
- Scheer, Tobias 1999. "A theory of consonantal interaction". *Folia Linguistica* 32, pp. 201-237.
- Scheer, Tobias 2004. *A Lateral Theory of Phonology. What is CVCV and Why Should it be?* Berlin, Mouton de Gruyter.
- Scheer, Tobias 2000. *De la localité, de la morphologie et de la phonologie en phonologie. Habilitation à diriger les recherches*. University of Nice.
- Scheer, Tobias 2012a. *Direct Interface and One-Channel Translation. A Non Diacritic Theory of the Morphosyntax-Phonology Interface*. Berlin, Mouton de Gruyter.
- Scheer, Tobias 2012b. "Invariant syllable skeleton, complex segments and word edges", review of San Duanmu's "Syllable Structure: The Limits of Variation" *Journal of Linguistics* 48, pp. 685-726.
- Scheer, Tobias to appear. "Muta cum Liquida in the Light of Tertenia Sardinian Metathesis and Compensatory Lengthening Lat. tr - Old French Vrr". LSRL 41, M., H., Côté & E., Mathieu (eds.) Amsterdam, Benjamins.
- Scheer, Tobias & Philippe Ségéral 2001. "Les séquences consonne + yod en gallo-roman". *Recherches Linguistiques de Vincennes* 30, pp. 87-120.
- Seigneur-Froli, Delphine 2003. "Diachronic consonant lenition and exotic word-initial clusters in Greek: a unified account". In *Studies in Greek Linguistics. Proceedings of the 23rd annual meeting of the department of linguistics*, M. Stavrou-Sifaki and A. Fliatouras (eds.), pp. 345-357. Thessaloniki, University of Thessaloniki.
- Seigneur-Froli, Delphine 2006. *Le Statut phonologique du début de mot grec. Lénitions consonantiques et libertés phonotactiques initiales dans la diachronie de la langue commune et dans le dialecte de Lesbos*. Ph.D dissertation, University of Nice.

- Ségéral, Philippe & Tobias, Scheer 1999. "The Coda Mirror". Ms.
- Ségéral, Philippe & Tobias, Scheer 2001. "Coda-Miroir" *Bulletin de la Société de Linguistique de Paris* 96, pp. 107-152.
- Ségéral, Philippe & Tobias, Scheer 2005. "What lenition and fortition tells us about Gallo-Romance Muta cum Liquida". In *Romance Languages and Linguistic Theory 2003*, T. Geerts, I. van Ginneken, H. Jacobs (eds.) Amsterdam, Benjamins, pp. 235-267.
- Ségéral, Philippe & Tobias, Scheer 2008a. "Positional factors in lenition and fortition". In *Lenition and Fortition*, Joaquim Brandão de Carvalho, Tobias Scheer and Philippe Ségéral (eds.). Berlin, Mouton de Gruyter, pp. 131-172.
- Ségéral, Philippe & Tobias, Scheer 2008b. "The Coda Mirror, stress and positional parameters". In *Lenition and Fortition*, Joaquim Brandão de Carvalho, Tobias Scheer and Philippe Ségéral (eds.). Berlin, Mouton de Gruyter, pp. 483-518.
- Ségéral, Philippe & Tobias Scheer. *forth*. "Phonétique Historique". *Grande Grammaire Historique du Français*, Christiane Marchello-Nizia, Bernard Combettes, Sophie Prévost & Tobias Scheer (eds.).
- Solmi, Arrigo (ed.) 1905a. "Le carte volgari dell'Archivio arcivescovile di Cagliari. Testi Campidanesi dei secoli XI-XII". *Archivio Storico Italiano* 35, pp. 273-330.
- Solmi, Arrigo 1905b. "Le carte volgari dell'Archivio arcivescovile di Cagliari. Note Illustrative". *Archivio Storico Italiano* 36, pp. 3-65.
- Solmi, Arrigo 2001 [1917]. *Studi storici sulle istituzioni della Sardegna nel Medioevo*. Nuoro, Ilisso.
- Solodow, Joseph, B. 2010. *Latin Alive. The Survival of Latin in English and the Romance Languages*. Cambridge University Press.

- Steriade, Donca 1994. "Complex onsets as single segments: The Mazateco pattern". In Jennifer Cole & Charles Kisseberth (eds.), *Perspectives in phonology*, Stanford, CA: CSLI Publications, pp. 203–291.
- Strinna, Giovanni 2010. "Il manoscritto BUC 211" in Lupinu, G. (ed.) [2010, pp. 27-46].
- Szigetvári, Péter 2007. "Branching onsets and syncope in English". *Language Sciences* 29, pp. 408-425.
- Tagliavini, Carlo 1982. *Le origini delle lingue neolatine*. Bologna, Pàtron editore.
- Telmon, Tullio 1994. "Gli italiani regionali contemporanei", in *Storia della lingua italiana*, L. Serianni & P. Trifone (eds.), Torino, Einaudi, pp. 597-626.
- Timpanaro, Salvatore 1965. "Muta cum liquida in poesia latina e nel latino volgare", *Rivista di cultura classica e medioevale*, pp. 1075-1103.
- Vennemann, Theo 1988. *Preference laws for syllable structure and the explanation of sound change*. Berlin, New York, Amsterdam, Mouton de Gruyter.
- Vineis, Edoardo 1990. "Ancora sul problema di muta cum liquida (e preliminari a un'indagine sulla positio)", in R. Danese, F. Gori & C. Questa (eds.), *Metrica classica e linguistica*, Urbino, QuattroVenti, pp. 143-194.
- Viridis, Maurizio 1978. *Fonetica del dialetto sardo campidanese*. Cagliari, Ed. Della Torre.
- Viridis, Maurizio 1988. "Sardisch: Areallinguistik" in Holtus, G. et al. (eds.) [1988, pp. 897-913].
- Viridis, Maurizio (ed.) 2002. *Condaghe di Santa Maria di Bonarcado*, Cagliari, Centro di Studi Filologici Sardi CUEC.
- Viridis, Maurizio (ed.) 2003a. *Condaghe di Santa Maria di Bonarcado*. Nuoro, Ilisso.

- Viridis, Maurizio 2003b. “Tipologia e collocazione del sardo tra le lingue romanze”, IANUA 4.
- Wagner, Max, Leopold 1920. “Sardisch kenáßura Freitag”. *Zeitschrift für romanische Philologie*, Vol. 40. Tübingen, Max Niemeyer Verlag, pp. 619-621.
- Wagner, Max, Leopold 1928. “La stratificazione del lessico sardo” *Revue de linguistique romane* IV, pp. 1-61.
- Wagner, Max, Leopold 1984 [1941]. *Fonetica storica del Sardo* [*Historische Lautlehre des Sardischen*], introduzione traduzione e appendice di G. Paulis, Trois.
- Wagner, Max, Leopold 1996 [1921]. *La vita rustica della Sardegna riflessa nella lingua*, [*Das ländliche Leben Sardiniens im Spiegel der Sprache*].
- Wagner, Max, Leopold 1997 [1950]. *La lingua sarda, Storia spirito e forma*, Nuoro, Ilisso.
- Wagner, Max, Leopold 2008 [1960-64]. *Dizionario Etimologico Sardo (DES)*, G. Paulis (ed.), Nuoro, Ilisso.
- Ward, Ralph, L. 1951. “Stop Plus Liquid and the Position of the Latin Accent”. *Language*, Vol. 27, No. 4 (Oct. - Dec., 1951), pp. 477-484.
- Weinreich, Uriel, Labov, William, & Marvin I. Herzog 1968. “Empirical foundations for a theory of language change”. In Winfred P. Lehmann and Yakov Malkiel, (eds.) *Directions for Historical Linguistics: A Symposium*. Austin TX, University of Texas Press, pp. 95-195.
- Wescher, Karl & Louis, Blancard 1874. “Charte sarde de l'abbaye de Saint-Victor de Marseille écrite en caractères grecs”. *Bibliothèque de l'École des chartes* 35, pp. 255-265.
- Wright, Roger 2011. “Romance Languages as a Source for Spoken Latin”, in Clackson [2011, pp. 59-79].

- Zedda, Corrado & Raimondo, Pinna 2007. “La nascita dei giudicati, proposta per lo scioglimento di un enigma storiografico” in *Archivio Storico e Giuridico Sardo di Sassari*, Nuova serie, n° 12, pp. 27-118.
- Zedda, Corrado & Raimondo, Pinna 2009. *La Carta del giudice cagliaritano Orzocco Torchitorio, prova dell'attuazione del progetto gregoriano di riorganizzazione della giurisdizione ecclesiastica della Sardegna*. Sassari, Todini.
- Ziková, Markéta & Tobias Scheer 2010. “The Coda Mirror v2”. *Acta Linguistica Hungarica* 57.4, pp. 411-431.