STEMS, ENDINGS AND INFLECTIONAL CLASSES IN LOGUDORESE VERB MORPHOLOGY

MICHELE LOPORCARO

ABSTRACT: This paper analyses the verb inflection system of Logudorese Sardinian, covering regular as well as (highly vs. moderately) irregular verb paradigms. Focus on moderately irregular verbs, following Pirrelli & Battista's (2000) analysis of Italian, will afford an overview of the paradigmatic organization of irregularity in Logudorese, which shows significant differences with respect to other Romance languages. Organized in this way, the Sardinian data will be brought to bear on the issue whether morphological marking – and, especially, the marking of the purely morphological contrast between different inflectional classes – is better represented as encoded in stems or endings. The evidence does not support the stem-maximizing procedure (cf. e.g. Bonami & Boyé, 2003: 125; Taylor, 2008; Spencer, 2010; Giraudo *et al.*, forthcoming: 9) adopted in much of the work in theoretical morphology on the Romance languages over the last decade or so.

KEYWORDS: Regular vs. irregular verb inflection, Sardinian, stem allomorphy

1. INTRODUCTION [*]

[*] I thank Grazia, †Forica and Antonello Porcu, Domenico Faedda, Mariangela Serra and many other Bonorvese speakers for sharing their native intuitions with me. For the Lurese data I am specially indebted to Piero Depperu. Thanks are also due to Sally Davies for improving my English, as well as to Tania Paciaroni, Davide Ricca, Anna Thornton and two anonymous reviewers for discussion of a previous draft. I am of course solely responsible for any shortcomings that may have persisted past their friendly comments. The following abbreviations are used: BS = basic stem, DO = direct object, Fr. = French, IC = inflectional class, IO = indirect object, It. = Italian, Lat. = Latin, lit. = literally, loc = locative, Log. = Logudorese, MC = (inflectional) macroclass, ME = maximize ending, MS = maximize stem, pl = plural, Pg. = Portuguese, sg = singular, Sp. = Spanish, TV = thematic vowel, VDR = vowel deletion rule. For verb tenses/moods, Leipzig-style glosses are only used when needed for clarification, and the following abbreviations are adopted: pres(ent), imp(er)f(ect),

Under an inferential-realizational approach to morphological theory (cf. Stump, 2001: 2f), a word-form's inflectional marking is conceived of as determined, via realizational rules (e.g. Aronoff, 1994: 68), by the morpho-syntactic properties which define the relevant paradigm cell. Such a theory, thus, "rejects the assumption, characteristic of lexical theories, that morpho-syntactic properties are associated with inflectional markings just as lexico-semantic properties are associated with lexemes'' (Stewart & Stump, 2007: 388). This introduces an asymmetry in status between stems and endings – traditionally seen as the main locus for morphological marking in inflecting languages like those of the Romance family –, as only the former, not the latter, are represented lexically. Thus, while endings still show up in current accounts of verb inflection in such languages, they apparently matter less.

Indeed, in much of this literature, the inferential-realizational view of morphology goes hand in hand with an analytical procedure that I shall label in what follows as "M(aximize) S(tem)". A "Stem maximization principle" has indeed been put forward, in the framework of Generalised Paradigm Function Morphology, as a part of "a simple set of universal principles to differentiate stems from endings" (Taylor, 2008: 235):

(1) Stem maximization principle: if a (partial) word form is used for more than one cell in a lexeme's paradigm treat it as a stem (Taylor, 2008: 231).

Under this view, inflections are what is left after stem maximization. To put it informally, it is as though the endings' shakier paradigmatic status tended to be reflected in their syntagmatic erosion, as stems are maximized at their cost. For instance, in Boyé & Cabredo-Hofherr's (2006) analysis of Spanish, the infinitive ending is /+r/ and conditional endings are /+rija +rijas/ etc., so that in the infinitives *cantar* 'sing' vs. *comer* 'eat' vs. *vivir* 'live', or the 1/3sg conditional inflected forms *cantaría* vs. *comería* vs. *viviría*, the inflectional class (henceforth IC) contrast is encoded through stem distinctions (i.e. *canta-* vs. *come-* vs. *vivi-*). Similarly, in Stump & Finkel's (2011) analysis, all French infinitives have a zero termination, and relatedly, conjugations (several dozens) are contrasted through stems, not endings.

Thus, in this approach, as exemplified by much recent work on Romance verb morphology (cf. also Giraudo *et al.*, forthcoming on Italian; Bonami & Boyé, 2003, Stump & Finkel, 2008, 2011 on French), there is no sense in which ICs relate to affixal inflections (i.e. endings). Verb endings all become superstable markers (Wurzel, 1984: 139-142), encoding just person (for finite forms) and/or tense/mood, rather than being complex

---

i(ndicative), imper(ative), s(ubjunctive), ger(und), p(a)st p(ar)t(iciple). Whenever un-referenced, Sardinian data stem from my own field notes.

entities which encode at the same time (possibly through cumulative exponence) both morphosyntactic features and purely morphological ones such as IC. Actually, the consistent outcome of this procedure boils down to denying the relevance of ICs altogether, as Bonami & Boyé (2003: 126) conclude for French. A corollary of this MS stance is that thematic vowels, traditionally tied to the IC distinction, become just (unanalysed) parts of stems: "consideriamo i temi come unità fonologiche non ulteriormente scomponibili. Non attribuiamo, cioè, alcun valore morfemico specifico a quelle che sono tradizionalmente dette 'vocali tematiche'" [we regard stems as phonological units that are not further decomposable. That means, we do not attribute any specific morphemic value to what are traditionally called 'TVs'] (Giraudo *et al.*, forthcoming: 5 on Italian). Note that this analytical procedure creates somewhat of a descriptive paradox. In fact, while it is empirically undeniable that in a Romance verb's inflectional paradigm, "[t]he regular behaviour in the distribution of both theme vowels and inflectional endings […] is in sharp contrast with the extensive variability shown by processes of stem formation" (Pirrelli & Battista, 2000: 313 on Italian), an MS kind of procedure represents both regular verb morphology and irregularity (stem suppletion) in one and the same locus, viz. the stem (in the syntagmatically extensive sense seen above).

By contrast, in other analyses of Romance verb inflection (several of them within Natural Morphology) such as Dressler & Thornton (1991), Spina (2007) on Italian, Dressler *et al.* (2003: 414), Kilani-Schoch & Dressler (2005: 164-166), Spina & Dressler (2011: 508) on French, or Alcoba (1999: 4924) on Spanish, etc., one finds more traditional hyphenations such as It. *decifr-are* 'decipher' ≠ *chiud-ere* 'close' ≠ *apr-ire* 'open', or Fr. *sem-er* 'seed' ≠ *val-oir* 'be worth' ≠ *fai-re* 'do' ≠ *ven-ir* 'come'. Under this option, ICs are discriminated primarily by the form of the ending. This procedure underlies traditional accounts of IC contrasts in Latin distinguishing e.g. for the future of the four conjugations the 1sg endings *-aːbo* ≠ *-eːbo* ≠ *-am* ≠ *-iam* (Carstairs-McCarthy, 1994: 753). In saying that he "will consider only affixal inflection" in order to argue for the "principle of contrast", Carstairs-McCarthy (1994: 739) endorses such a stance, which I shall label in what follows as "M(aximize) E(nding)".

In this paper I intend to compare the MS vs. ME procedures in the light of data from Logudorese Sardinian. To do this, I shall first develop a synchronic sketch of verb inflection in one Logudorese dialect. The Sardinian facts will show that, while at times the two procedures seem to yield equally economical analyses, some tenses/moods provide arguments in favour of ME, since the best account of the data seems to be one in which a) the locus for IC distinctions is affixal morphology, rather than (unanalysed)

stems, and b) the locus for irregularity (allomorphy) is the stem without a theme vowel (i.e., the stem in the restrictive ME sense). The paper is organized as follows. In §2 I give some background information on Sardinian, in §3 I describe Logudorese verb inflection, discussing regular (§3.1) and irregular verbs (§§3.2-3). This description yields a classification of the paradigmatic organization of stem allomorphy in the language (§3.3.4). Elaborating on this, I finally (§4) compare pros and cons of an ME vs. MS analysis of the data.

2. SARDINIAN

Logudorese is the traditional label for the dialect subdivision encompassing the central-northern dialects of Sardinian.[1] While there is a rich array of descriptive studies on Sardinian verb inflection (cf. e.g. Wagner, 1938-39; Pittau, 1972; Blasco Ferrer, 1984, 1986; Iliescu & Mourin, 1991; Molinu, 1999; Pisano, 2004-06, 2008, 2010), most of these studies are not comparable with work on other Romance languages mentioned in §1, as they show an asymmetric coverage of regular vs. irregular verb inflection. Thus, in Wagner's (1938-39: 25) seminal paper, one finds extensive discussion of regular paradigms, followed by a listing of irregularities which spans all the Sardinian dialect groups (Logudorese and Campidanese). For example, one learns that the pst_pt of *ténner* 'hold' has different forms across Logudorese varieties (*téntu* or *ténnidu*), but no full paradigm of this irregular verb is provided for any specific dialect.[2] Thus, the reader is not told that there are dialects in which only one of the forms occurs (e.g. only *téntu* in the Western Logudorese dialect of Bonorva, province of Sassari), whereas in others *téntu*/*ténnidu* are in free variation (e.g. in the Northern Logudorese dialect of Luras, province of Olbia-Tempio). In sum, compared with current work on other Romance languages like e.g. Pirrelli (2000), Pirrelli & Battista (2000), Giraudo *et al.* (forthcoming), on Italian, or the further studies mentioned in §1, the available literature on Sardinian verb morphology falls crucially short of systematically investigating the paradigmatic organization of irregularity, for any specific variety as a whole.

To fill in this gap, in §3 I provide a sketch of verb inflection in the

[1] I shall use this term extensively here (like e.g. Pellegrini, 1977), including also Nuorese (with the surrounding central-eastern dialects) under this label.

[2] A similar procedure is followed by Pisano (2004-06), and the same non-systematic coverage of irregularity is found in studies devoted to one dialect, such as Pittau (1972) on Nuorese. An exception, in this respect, is Molinu (1999: 134-135), who does provide a list of irregular verbs, ordered by number of stems, for the Logudorese dialect of Buddusò

Western Logudorese dialect of Bonorva.[3] The choice is arbitrary: in the absence of a standardized variety of Logudorese, what is important is to describe *one* system in its entirety, to begin with.[4] Reference to other Logudorese dialects will be made, mostly in footnotes, whenever differences between these and Bonorvese are relevant to the argument.

3. LOGUDORESE VERB INFLECTION

3.1 Regular verbs

Compared with other Romance languages, a Sardinian verb's synthetic paradigm is less complex. While Italian has 12 non-periphrastic tenses/moods (indicative: present, future, imperfect, preterite; conditional; subjunctive: present, imperfect; participle: present, past; gerund; infinitive) and Spanish has 14 (since the subjunctive mood includes, in addition, a future and a second imperfect), the Sardinian system only encompasses 8 distinct tenses/moods, as exemplified in Table 1 with a regular first class verb:[5]

---

[3] Bonorva (about 5,000 inhabitants, many of whom – in the younger generations – no longer speak Logudorese) lies in the southern part of the province of Sassari. Its dialect belongs to the Northern Logudorese subdivision according to Wagner (1941: 261ff; 1950: 387ff). However, this classification is particularly infelicitous for verb morphology, as several properties Wagner (1938-39) ascribes to NLog verb inflection (for example, the gerund being based on the subjunctive stem: Wagner, 1938-39: 10; e.g. *kelzénde* from *kérrer* 'want' in Luras) do not apply to Bonorvese (cf. *kerínne* 'wanting'). Thus, this variety is more appropriately classified as 'common Logudorese' (Spano, 1840), while the label 'Western' is merely descriptive, in geographical terms, and is non-committal as to dialect classification.

[4] The standardization issue is thorny, and cannot be addressed here. Suffice it to say that the standardized variety (*Limba Sarda Comuna*) launched in 2005 with the institutional support of the Regione Sardegna spans the whole Sardinian domain and mixes Logudorese and Campidanese features, much like Rumantsch Grischun. If this eventually becomes established, it will of course represent a legitimate object of analysis (morphological or other) for future researchers, which however, obviously does not exempt us from studying Logudorese and Campidanese traditional varieties.

[5] The order in which tenses/moods are listed depends on the distribution of verb stems, to be illustrated in Table 9 below. Since the focus of this paper is not on phonetics, I give verb forms/paradigms, adopting orthographic conventions which are common, even in the absence of a generally accepted standard (cf. fn. 4): *z* = [d:z] and *tz* = [t:s] (both long between vowels); palato-alveolar affricates are rendered with diacritic *i* and (voiced) velars before *e/i* with diacritic *h*, like in Italian. For the sake of readability, I depart from these conventions and use *k* for [k], and double consonants word initially for stops which resist lenition (see directly). I also always mark stress with an acute. Two phonological processes must be mentioned, in order to allow the reader to figure out the actual pronunciation of the Logudorese verb forms, viz. metaphony – whereby all mid vowels preceding high vowels and glides are raised, while

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*kantére*[6]	*kantéres*	*kantéret*	*kanterémus*	*kanterézis*[7]	*kantéren*
	pres_s	*kánte*	*kántes*	*kántet*	*kantémus*	*kantédas*[8]	*kánten*
	imper		*kánta*		*kantámos*	*kantáde*	
	pres_i	*kánto*	*kántas*	*kántat*	*kantámos*	*kantádes*	*kántan*
	impf_i	*kantaía/-o*[9]	*kantaías*	*kantaíat*	*kantaímis*	*kantaízis*	*kantaían*
non-finite	ger	*kanténne*					
	infin	*kantáre*					
	pst_pt	*kantádu*					

Table 1. First class regular verbs (*kantáre* 'sing')

The Romance synthetic future and conditional did not arise in Sardinian, whereas the inherited preterite, still occurring in Old Sardinian (Wagner, 1938-39:11-21), was lost in most varieties. Furthermore, the imperfect subjunctive has also been lost or is in the process of being demised across generations in most dialects (cf. Pisano, 2004-06: 197-199 for an overview). This also applies to Bonorvese younger speakers (born approximately after 1960). However, since this verb tense still occurs in the older speakers I have studied, it is included in my description.

Like all Romance languages, Sardinian has inherited, with some changes, the Latin system of verb inflection classes, whose number reduced to three. Tables 2-3 illustrate the paradigm of the 2nd and 3rd conjugations respectively.

---

they are realized as [ɛ ɔ] elsewhere – and vowel epithesis, whereby the vowel preceding a final consonant is regularly copied when the word is uttered prepausally: e.g. [ˈkantaza], [ˈkantaða], [ˈkantana] ('sing' pres_i, 2sg, 3sg, 3pl). Note that (underlyingly) word-final voiceless obstruents are lenited as they become intervocalic through epithesis. On the other hand, whenever quoting whole phrases rather than isolated forms, I use IPA transcriptions in square brackets, since such examples are adduced, among other things, in order to illustrate sandhi phenomena which are obscured by the orthography.

[6] The vowel in the final syllable in the sg and the 3pl persons may be either *-e,* as displayed in Table 1, or *-a*, in free variation for all ICs (a fact to which I will revert in §4.5).

[7] In this cell, the forms *kanterézis*/*kanterédes*/*kanterédas* occur interchangeably. The same applies to all ICs, and will not be repeated in Tables 2-3.

[8] In this cell, the forms *kantédas*/*kantédes* are interchangeable in all ICs. In other Logudorese dialects such as Nuorese (cf. Pittau, 1972: 109), this cell hosts four different endings in 1st class verbs: *dom-édas/-ézas/-édes/-ézes* 'you tame'.

[9] Free variation in the impf_i is limited to this one cell. The same goes for all ICs.

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*kreskére*	*kreskéres*	*kreskéret*	*kreskerémus*	*kreskerézis*	*kreskéren*
	pres_s	*krésk*a[10]	*kréskas*	*kréskat*	*kreskémus*	*kreskédas*[11]	*kréskan*
	imper		*krésk*e		*kreskímos*	*kreskíde*	
	pres_i	*krésko*	*kréskes*	*krésket*	*kreskímos*	*kreskídes*	*krésken*
	impf_i	*kreskía/-o*	*kreskías*	*kreskíat*	*kreskímis*	*kreskízis*	*kreskían*
non-finite	ger	*kreskínne*					
	infin	*kréskere*					
	pst_pt	*kréskidu*					

Table 2. Second class regular verbs (*kréskere* 'grow')

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*paltére*	*paltéres*	*paltéret*	*palterémus*	*palterézis*	*paltéren*
	pres_s	*pálta*	*páltas*	*páltat*	*paltémus*	*paltédas*	*páltan*
	imper		*pálti*		*paltímos*	*paltíde*	
	pres_i	*pálto*	*páltis*	*páltit*	*paltímos*	*paltídes*	*páltin*
	impf_i	*paltía/-o*	*paltías*	*paltíat*	*paltímis*	*paltízis*	*paltían*
non-finite	ger	*paltínne*					
	infin	*paltíre*					
	pst_pt	*paltídu*					

Table 3. Third class regular verbs (*paltíre* 'depart')

While quantitative studies on the relative frequency of verb ICs in (this variety of) Sardinian are not available, it is fair to say that, much like in Italian and other Romance languages (cf. e.g. Alcoba, 1999: 4936 on Spanish), the first class is the only fully productive one, as attested by the unconstrained possibility for Sardinian speakers to create new verbs and to host loanwords in this class. Note that, contrary to Italian, the 3rd class is not bipartite, as there is no equivalent to the *-isco* subclass: contrast Log. *fino, finis* with It. *finisco*, *finisci* 'end', pres_i 1-2sg. On the other hand, the 2nd

[10] In the pres_s of *-er* and *-ire* verbs, the vowel in the final syllable in the 1-3sg and 3pl persons may be either *-a* or *-e* in free variation (cf. §4.5).

[11] Since free variation *-édas*/*-édes* occurs in all ICs (see fn. 8), also *kreskédes* is grammatical. Other Logudorese dialects have an IC contrast here. In Nuorese (cf. Pittau, 1972: 93), instead of the four variants occurring in 1st class verbs, one finds eight here: e.g. *fak-édas/-ézas/-édes /-ézes* (with endings identical to the 1st class) plus *fak-ádas/-ázas/-ádes/-ázes* all meaning 'you make'.

class includes a sizable distinct subclass, not represented for simplicity in Table 2 (cf. §4.4 below).

Comparison of Tables 1-3 shows that terminations, as usual, recur across classes. These are now listed in Table 4.

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	+Ø	+s	+t	+mus	+das/+des/+zis	+n
	pres_s	+Ø	+s	+t	+émus	+édas/+édes	+n
	imper		+Ø		+mos	+de	
	pres_i	+o	+s	+t	+mos	+des	+n
	impf_i	+o/+a	+as	+at	+mis	+zis	+an
non-finite	ger	+nne					
	infin	+re/+r (according to verb class (cf. §4.4)					
	pst_pt	+u (nominal gender/number inflection)					

Table 4. Endings (regular verbs, MS version)

Terminations are singled out here based on comparison of regular verbs from the three classes. For each cell, endings combine with a stem, which is tense/mood-specific.[12] Thus, for instance, in the pres_i, the 3sg ending /+t/ results from the comparison of *kánta-t, kréske-t* and *pálti-t*. The analysis, of the MS kind (to be discussed in §4.1), treats the person marker /+t/ as ending, which occurs in all finite tenses/moods, charging the IC distinction on the stem's bill. The same goes for other tenses/moods, whose stems are derived, in regular verbs, via stem formation processes adding a stem formative to the lexical root: e.g. the impf_s *kant-ére-*. The lists of terminations provided e.g. for French by Stump & Finkel (2011) or for Spanish by Boyé & Cabredo-Hofherr (2006), Taylor (2008) are based on this method: they boil down to collections of superstable markers, shared by all ICs.

3.2 Form- vs. stem-suppletion in irregular verbs

Though Table 4 provides preliminary information on terminations, the analysis implicitly assumed therein must be complemented with information from irregular verbs, as emphasized by much recent research (e.g. Pirrelli, 2000; Boyé & Cabredo-Hofherr, 2006). In fact, judging what counts as an ending and what as a stem for a given paradigm cell, crucially depends on comparison of regular and (moderately) irregular verbs. Actually, not all

[12] For some cells, additional adjustments (e.g. deletion of the stem-final vowel) may be required under an MS analysis (to be addressed in §4.1).

irregular verbs must be taken into account to this effect, but only those displaying stem rather than form-suppletion (cf. e.g. Bonami & Boyé, 2003: 107), or (in Stump & Finkel's, 2011 terms) stem-level vs. word-level overrides of expected regular forms. Form-suppletion is exemplified by Fr. *(il) est* [ɛ] 'he is' vs. *(il) lit* 'he reads', Sp. *es* vs. *lee*, It. *è* vs. *legge*, where irregular forms share no morphological marking with those occupying the same cell in the paradigm of regular verbs. By contrast, stem-suppletion is observed in irregular but analysable forms such as Spanish *oig-o, oy-es* 'hear' 1-2sg vs. *com-o*, *com-es* 'eat' 1-2sg, Italian *salg-o, sal-i* 'go up' 1-2sg vs. *perd-o*, *perd-i* 'lose' 1-2sg. This distinction correlates with numerosity and frequency, given that moderately irregular verbs, displaying only stem-suppletion, form a much larger class whose members differ widely in frequency, whereas highly irregular verbs are usually just a handful of high-frequency verb lexemes. These are but eight in Pirrelli & Battista's (2000: 338) analysis of standard Italian ((2a)),[13] and the list for Logudorese ((2b)) shrinks to just five verb lexemes, one of which defective:

(2) a. Italian: "the 8 truly exceptional base verbs are: AVERE 'have', ESSERE 'be', ANDARE 'go', DARE 'give', FARE 'do, make', STARE 'stay, be', DIRE 'say, tell', SAPERE 'know'" (Pirrelli & Battista, 2000: 338);
b. Logudorese: ÁER 'have', ÉSSER 'be', NÁRRER 'say, tell', DÁRE 'give', BBÁ- 'go'

The Logudorese counterparts of the further verbs in (2a) inflect regularly. Thus, *bistáre* 'stay, be' is a regular 1st class verb,[14] as is *annáre*, whose regular imperative forms *ánna* 2sg, *annáde* 2pl coexist with the synonymous *bbáe* 2sg, *bbázi* 2pl, listed separately in (2b) since they can be regarded – for this Logudorese variety – as a distinct defective paradigm, unlike in other Romance languages, where the outcomes of Lat. *vadere* enter one and the same suppletive paradigm with forms from distinct stems (Sp. *voy*/*iba* 1sg pres/impf _i, It. *vado*/*andiamo* 1sg/pl pres_i).[15]

[13] Actually, while most of these highly irregular verbs do display form-suppletion, some others (e.g. *andare, dire*) do not. These are featured in the list in (2a) because they display a distribution of stem allomorphy which does not fit the overall distribution schema otherwise accounting for such distribution in the language.

[14] That this verb is fully regular in this dialect is shown by its 1sg pres_i *ísto*, to be compared with *istáo* (parallel to *dáo*, Table 8) reported for other Logudorese dialects by Wagner (1938-39: 165).

[15] While this regular suppletion does not occur in most of Sardinian, some traces of it are found, in the pres_i, in the dialects of two areas (cf. Wagner, 1938-39: 166, Pisano, 2004-06: 241, Maiden, 2011b: 712 n. 70): the central-eastern dialects around Nuoro show suppletion aligned with number (*báo, bas, bat* in the singular, as opposed to forms built on the *and-* stem

Like *bbáe*, *bbázi*, the further verb lexemes in (2b) depart more or less strongly from regular inflection, as illustrated in the conjugation Tables 5-8.

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*aére*	*aéres*	*aéret*	*aerémus*	*aerézis*	*aéren*
	pres_s	*áppa*[16]	*áppas*	*áppat*	*appémus*	*appédas*	*áppan*
	imper		%*áppas*[17]			%*appédas*	
	pres_i	*áppo*	*as*	*at*	*ámos*	*ázis*	*an*
	impf_i	*aía/-o*	*aías*	*aíat*	*aímis*	*aízis*	*aían*
non-	infin	*áer*					
finite	pst_pt	*áppidu*					

Table 5. Paradigm of *áer* 'have'

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*essére*	*esséres*	*esséret*	*esserémus*	*esserézis*	*essére*n
	pres_s	*sía*[18]	*sías*	*síat*	*siémus*	*siédas*	*sían*
	imper		*sías*		*siémus*	*siédas*	
	pres_i	*só(e)*	*ses*	*est*	*sémus*	*sézis*	*sun*
	impf_i	*fia/-o*	*fis*	*fit*	*fimis*	*fízis*	*fin*
non-	ger	*sénne*					
finite	infin	*ésser*					
	pst_pt	*bistádu*[19]					

Table 6. Paradigm of *ésser* 'be'

---

in the plural), while the south-western Sulcis Campidanese has in addition 3pl *bánti*, thus instantiating the kind of morphomic partition class Maiden (2005) dubbed the N-pattern.

[16] In addition to the alternative termination *-e* (*áppe, áppes, áppet*), generally occurring in 2nd MC verbs (cf. fn. 10), *áer* also has an alternative pres_s stem: *éppe/-a, éppes/-as, éppet/-at* (cf. Pisano, 2004-06: 188).

[17] The imperative of this verb is missing in many Sardinian dialects (cf. e.g. Pittau 1972: 102 on Nuorese), since *áer* is restricted to the perfective auxiliary function in several varieties. In Bonorvese too, this imperative is only marginally acceptable in e.g. [ˈapːɛs/aˈpːɛðas paˈʃːenʃa] 'be patient' (lit. 'have patience'), to which most speakers prefer [ˈtɛːnɛ/teˈniːðɛ βaˈʃːenʃa], with *ténner*, the verb which has ousted *áer* in all of its non-auxiliary uses. Anyway, whenever *áer* occurs in the imperative, its forms are all suppleted by pres_s, like for *ésser*. This suppletion is favoured by the fact that the pres_s occurs in the negative imperative throughout Sardinian, as it was the case in Latin: e.g. Bonorvese [(nɔ s)ˈsiːɛl ˈmaːlu] '(don't) be bad'.

[18] Also *síe, síes, síet, siédes, sían* (cf. fn. 8 and 10).

[19] The pst_pt is suppletive, from the verb *bistáre* 'stay' (cf. It. *è stato*, Fr. *il a été*).

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*nelzére*	*nelzéres*	*nelzéret*	*nelzerémus*	*nelzerézis*	*nelzéren*
	pres_s	*nélza*[20]	*nélzas*	*nélzat*	*nelzémus*	*nelzédas*	*nélzan*
	imper		*nára*		*narámos*	*naráde*	
	pres_i	*náro*	*náras*	*nárat*	*n(ar)ámos*	*n(ar)ádes*	*náran*
	impf_i	*naraía/-o*	*naraías*	*naraíat*	*naraímis*	*naraízis*	*naraían*
non-	ger	*nénne*					
finite	infin	*nárrer*					
	pst_pt	*nádu*					

Table 7. Paradigm of *nárrer* 'say, tell'

		1SG	2SG	3SG	1PL	2PL	3PL
finite	impf_s	*diére*[21]	*diéres*	*diéret*	*dierémus*	*dierézis*	*diéren*
	pres_s	*día*	*días*	*díat*	*diémus*	*diédas*	*día n*
	imper		*dá(e)*		*dámos*	*dáde*	
	pres_i	*dáo*	*das*	*dat*	*dámos*	*dádes*	*dan*
	impf_i	*daía/-o*	*daías*	*daíat*	*daímis*	*daízis*	*daían*
non-	ger	*dénne*					
finite	infin	*dáre*					
	pst_pt	*dádu*					

Table 8. Paradigm of *dáre* 'give'

These verbs display a number of irregularities, as to both stems and endings. Some show inflections which otherwise belong in different ICs: thus, *nárrer* has 2nd conjugation infinitive and pres_s endings, while all the remaining forms are inflected according to the 1st conjugation, a heritage of its diachronic source (Lat. *narrare*). Likewise, *ésser* has a 1st conjugation ending in the gerund *sénne*, instead of the expected **essínne* (cf. the regular gerund in It. *essendo*, like *perdendo* 'losing'). This verb is the most strongly irregular, as is customary across Romance (and beyond), as it is the only one

[20] Alternatively, there is also a regular 1st class pres_s based on the default stem: *náre* 1sg, *náres* 2sg etc. Given the different IC (cf. fn. 10), only *nélza/-e* displays free variation in the termination (*-a/-e)*.

[21] While the impf_s *diére* is regularly based on the pres_s stem (cf. §4.5), some speakers also produce regularized forms of both tenses based on the default stem, like pres_s *démus* 1pl, impf_s *dére/-a* 1sg, *derémus* 1pl, *déren/-an* 3pl etc.

displaying different stems for 3sg and 3pl in the pres_i, plus a third stem *s(e)-* (or a third and a fourth, in case no VDR is assumed: see below, §4.1) for the remaining cells in that tense.

Other stem-related irregularities are found in the paradigm of *nárrer*, which in two cells of the pres_i (1-2pl) has a suppletive shortened stem (*n-*) that also occurs in non-finite forms, on the analogy of the monosyllabic-stem verb *dáre* (cf. the gerunds *nénne*, *dénne*).

The verb *ésser* is also the one displaying the strongest irregularity in endings. In the 1sg pres_i no other verb has a final *-e*, a fact that can, however, be accounted for in the phonology, as *-e* is an epithetic vowel which is added prepausally (and in citation forms) after final stressed vowels while it is regularly deleted elsewhere: [ˈdɛˑɔ ˈzɔˑɛ] 'I am' vs. [ˌso ˈenːiðu] 'I have come', [ˌsɔ ˈmakːu] 'I am crazy'. The same goes for final *-e* in the 2sg imper of *dáre*: *dáe* 'give!' vs. [ˈdaːmi za ˈmaːnu] 'give me your hand!', not however for *-e* in the 2sg imper from the defective stem *bbá-* 'go', which is probably not epithetic but a regular outcome of the final *-e* of Lat. *vade* (as opposed to Lat. *da*, the diachronic source of Log. *dá(e)*): [bːaɛˈðikːɛ]/*[bːaˈðikːɛ] 'go away' (*bbae=dí=kke* 'go.2SG=REFL=LOC.CLIT'), [ˈbːaɛ/*ˈbːa an ˈdɔːmɔ] 'go home'.[22] Thus, while *s-o(e), d-a(e)* are analysable, *bbáe* is a candidate for form-suppletion, just like 2pl *bbázi* in the same defective paradigm, since 2pl imperatives otherwise invariably display the termination *-de*.[23] Back to the paradigm of *ésser*, this verb also has forms with irregular endings in the 1-2pl pres_i, since *-mus* and *-zis* occur in other tenses/moods in the paradigm of regular verbs (*-mus* in the pres_s, *-zis* in the imperfect). The same is true of *áer*, although only in the 2pl pres_i (*á-zis*). These can be viewed as

[22] There are cross-dialectal differences here, as observed by one anonymous reviewer who points out that in Dorgali (province of Nuoro) final *-e* can be dropped in *dáe* 'give' imper 2sg but not in *sóe* ([ˌsɔɛ ˈmakːu] 'I am crazy'). Thus, in this dialect, the *-e* occurring in *sóe* is not anymore an epithetic vowel.

[23] Though no other verb form ends in *-zi*, this termination is analysable diachronically via proportional analogy. Since there is usually a relation 2pl pres_i = 2pl imper + *s* (e.g. *dá-de* 'give.IMPER-2PL' : *dá-des* 'give.PRES_i-2PL'), the irregular 2pl ending *-zis* (on which see Molinu, this volume) occurring in the pres_i of auxiliary verbs, may have given rise to an imper ending *-zi* as found in *bbázi*. This new formation may have been further favoured by the fact that final *-s* in 1pl imper is regularly deleted before enclitics: e.g. *anná-mo=nnó=kke* 'go.IMPER-1PL=1PL=LOC' 'let's go away'. Note that, while Bonorvese lacks a 2pl pres_i **bbázis* for this specific verb, this is documented in other dialects (e.g. Nuorese *bázes*, Wagner, 1938-39: 158). Also, in Nuorese, contrary to Bonorvese, the 2pl imper *báze* 'go' is not the only form displaying the ending *-ze*, which is shared by all irregular 1st class verbs with a monosyllabic root: *dáze* 'give' 2pl, *náze* 'tell' 2pl as opposed to regular *domáe* 'tame' 2pl (Pittau, 1972: 108, 113-114).

instances of form-suppletion, since, for instance, *kantá-des* 'sing.PRES_I-2PL' and *á-zis* have no ending in common. Yet, contrary to Sp. *sé* vs. *canto*, it is not the case that no ending is discernible here. But this is not the 'right' ending for the paradigm cells at issue. On the whole, form-suppletion seems to be quite rare, as even the most irregular forms (3sg/pl pres_i of 'be') are decomposable, as shown in (3a), parallel to regular verbs ((3b)):

(3) a. *es-t* 'be.PRES_I-3SG' b. *kanta-t* 'sing.PRES_I-3SG'
su-n 'be.PRES_I-3PL' *kanta-n* 'sing.PRES_I-3PL'

Thus, while a few instances of form-suppletion and irregular endings are found, the main reason for putting aside highly irregular verbs resides in stem-allomorphy: for instance, as shown in (3a), *ésser* is the only verb which has a consonant-ending stem in the 3sg pres_i and a *u*-ending one in the 3pl pres_i. This and other peculiarities of highly irregular verbs determine their deviation from the overall distribution schema (in Pirrelli & Battista's, 2000: 337, 359 terms), otherwise accounting for the partition classes defined by stem allomorphy in the vast majority of (moderately irregular) verbs (§3.3).

3.3 Stem allomorphy in (moderately) irregular verbs

It is now time to consider verbs that display stem suppletion in ways that are predictable, fitting an overall distribution schema. In order to draw such a schema for Logudorese (in §3.3.4), I shall assume for the moment, following Pirrelli's (2000: 14) analysis of Italian, that regular verbs display just one basic stem (the lexical root: e.g. *kant-* in *kantáre* 'sing'), which is complemented with the TV to form the pres_i and from which other tenses and moods are regularly built. I shall call this unique basic stem (henceforth BS) of regular verbs the default stem S1. In §§3.3.1-3, I only consider BSs, while tenses/moods which can be analysed as regularly based on a derived stem are discussed in §4.

3.3.1 Basic stems in the present indicative and subjunctive: the L-pattern

In addition to S1, moderately irregular verbs show a distinct stem occurring in the 1sg pres_i. In (4)-(5), the pres_i and the pres_s of two such verbs are displayed:

(4)

1SG	2SG	3SG	1PL	2PL	3PL	*póder* 'can'
pótto	*pódes*	*pódet*	*podímos*	*podídes*	*póden*	pres_i
pótta	*póttas*	*póttat*	*pottémus*	*pottédas*	*póttan*	pres_s

(5)	1SG	2SG	3SG	1PL	2PL	3PL	*kérrer* ‘want’
	kélzo	*kéres*	*kéret*	*kerímos*	*kerídes*	*kéren*	pres_i
	kélza	*kélzas*	*kélzat*	*kelzémus*	*kelzédas*	*kélzan*	pres_s

The shape of the two partition classes observed in (4)-(5) corresponds to Maiden’s (2005) L-pattern, a kind of morphomic contrast that is pervasive in many Romance branches (cf. Maiden, 2005: 149-151; 2011b: 223-241). This systematic allomorphy, found in dozens of Logudorese 2nd class verbs, justifies positing a second BS (S2) – which is unpredictable from the default S1 – the same way as Pirrelli (2000), Pirrelli & Battista (2000) do for standard Italian.[24] In Italian, however, stem allomorphy in the present indicative may yield up to four morphomic partition classes, as with the verbs *dolere* ‘hurt’ or *dovere* ‘must’ (Pirrelli & Battista, 2000: 355), which show the maximum complexity in this domain:

(6)	1SG	2SG	3SG	1PL	2PL	3PL	pres_i It.
	dòlgo	*duòli*	*duòle*	*dogliamo*	*doléte*	*dòlgono*	*dolere* ‘hurt’
	débbo	*dévi*	*déve*	*dobbiamo*	*dovéte*	*débbono*	*dovere* ‘must’
	S2	S3	S3	S4	S1	S2	

In Logudorese, on the other hand, there is no verb displaying four distinct stems in the pres_i, where one maximally finds the bipartition seen in (4)-(5), for the diachronic reasons addressed in Maiden (2003; 2005: 146-158; 2011b: 223-225). Since stem allomorphy never shows up within the pres_s, the L-pattern would seem to be the maximal partition here.

However, further complications come from another source. While in a treatment à la Maiden/Pirrelli (for Italian), one can legitimately describe the set of cells consisting of the whole pres_s plus a subset of cells of the pres_i (just the 1sg in the L-pattern, vs. 1sg and 3pl in the U-pattern) by means of one single stem (S2), applying the same method to this variety of Logudorese Sardinian yields a different result. In fact, contrary to Italian, if there is stem allomorphy across pres_i and pres_s, the L-pattern distribution shown in (4)-(5) is not the only option. First of all, there are cases in which allomorphy is not morphomic, but rather aligned with mood:[25]

[24] As shown in Loporcaro (2003: 101-103), this kind of allomorphic alternation in Sardinian is strictly limited to 2nd class (*-er*) verbs and never occurs in the *-íre* class, contrary to Italian *venire* ‘come’ (*vengo, vieni* 1-2sg pres_i), Sp. *oir* ‘hear’ (*oigo, oyes* 1-2sg pres_i), etc.

[25] Alignment of allomorphy with mood is widespread, for those irregular verbs, across Sardinian dialects (cf. e.g. Pittau, 1972: 113, Blasco Ferrer, 1986: 136), which often display regular subjunctive forms alongside (based on S1), as is also the case in Bonorvese: [ki ˈðɛːɔ ˈɣreːa/ˈlasːɛ] ‘that I believe/leave’ are acceptable for all my informants, [ki ˈðɛːɔ ˈnaːrɛ] ‘that I say’ for some of them. Note that the verb *nárrer* in (8) is one of the few highly irregular verbs

(7)

1SG	2SG	3SG	1PL	2PL	3PL	*kré(e)r* ‘believe’
kréo	*kres*	*kret*	*kreímos*	*kreídes*	*kren*	pres_i
krétta	*kréttas*	*kréttat*	*krettémus*	*krettédas*	*kréttan*	pres_s

(8)

1SG	2SG	3SG	1PL	2PL	3PL	*lassáre* ‘leave’
lásso	*lássas*	*lássat*	*lassámos*	*lassádes*	*lássan*	pres_i
lésse	*lésses*	*lésset*	*lessémus*	*lessédas*	*léssen*	pres_s

(9)

1SG	2SG	3SG	1PL	2PL	3PL	*nárrer* ‘say’
náro	*náras*	*nárat*	*narámos*	*narádes*	*náran*	pres_i
nélze	*nélzes*	*nélzet*	*nelzémus*	*nelzédas*	*nélzen*	pres_s

This morphosemantic alignment is far from spectacular, of course: cf. e.g. the dedicated subjunctive stems occurring in Fr. /fas-/ (*faire* ‘do’), /vœj-/ (*vouloir* ‘want’), and the like. But Logudorese seems to be unique among the Romance languages, in allowing for a disruption of the L-pattern by which three distinct stems occur, with one restricted to the 1sg pres_i only:

(10)

1SG	2SG	3SG	1PL	2PL	3PL	*fágher* ‘do’
fátto	*fághes*	*fághet*	*faghímos*	*faghídes*	*fághen*	pres_i
fétta	*féttas*	*féttat*	*fettémus*	*fettédas*	*féttan*	pres_s

By standard procedures (“chaque paire d’indices de thème est motivée par au moins un contraste” [every pair of stem indexes is motivated by at least one contrast], Bonami & Boyé, 2003: 110), the three-way contrast in (10) justifies assigning different indexes to the S2, occurring in the 1sg pres_i, as opposed to S3, occurring in the subjunctive. If one wanted to rescue the L-pattern partition class (with one single index assigned to the pres_s plus the 1sg pres_i), an obvious move would be to explain away *fágher* as highly irregular, and hence falling outside the scope of the overall distribution schema. After all, this is the case for its Italian counterpart *fare*, as hinted at in (2a) above and illustrated in (11) with its pres_i:[26]

(11)

1SG	2SG	3SG	1PL	2PL	3PL	It. *fare* ‘do’
fàccio	*fài*	*fa*	*facciàmo*	*fàte*	*fànno*	pres_i
S2	S1	S1	S2	S1	S1	

listed in (2b) above. However, subjunctive formation cannot be considered highly irregular, also in the light of the behaviour of the other verbs in (7)-(8) and (10), (13).

[26] Pirrelli’s (2000: 68) argues that *fare* cannot be reduced to the overall distribution schema, because its S1 does not qualify as a default, since it does not occur in other tenses/moods (e.g. impf_i *facevo*, impf_c *facessi*).

However, Log. *fágher* by no means shows the same amount of stem suppletion, and all of its further stems/moods, apart from the pst_pt *fattu* (cf. §3.3.3), are inflected regularly from the default stem S1 (*fagh*-) according to Table 2 (2nd class), with no form-suppletion either.[27] Note that in addition to *fágher*, there are other verbs in which the 1sg pres_i and the pres_s do not display the same stem. This is the case for irregular 2nd class verbs whose stem ends in a coronal sonorant, as exemplified in (12):

(12)	a.	free variation	*kélz-at*	/	*kélf-at*	*kérrer*	‘want’
		S2/S3 in the pres_s:	*pálz-at*	/	*pálf-at*	*párrer*	‘seem’
			bálz-at	/	*bálf-at*	*báler*	‘be worth’
			dólz-at	/	*dólf-at*	*dóler*	‘hurt’
	b.	no free variation	*kélz-o*	/	**kélf-o*	*kérrer*	‘want’
		(*S3) in the pres_i:	*pálz-o*	/	**pálf-o*	*párrer*	‘seem’
			bálz-o	/	**bálf-o*	*báler*	‘be worth’
			mi dólz-o	/	%*mi dólf-o*	*si dóler*	‘complain’

Here S2 can occur in the subjunctive ((12a)), in free variation with a distinct S3 which, however, does not spread to the 1sg cell of the pres_i ((12b)). This requires revision of the scheme in (4)-(5), as shown in (13), which also holds for the other (moderately irregular) verbs in (12):

(13)

1SG	2SG	3SG	1PL	2PL	3PL	
kérrer ‘want’						
kélzo	*kéres*	*kéret*	*kerímos*	*kerídes*	*kéren*	pres_i
kélza/ kélfa	*kélzas/ kélfas*	*kélzat/ kélfat*	*kelzémus/ kelfémus*	*kelzédas/ kelfédas*	*kélzan/ kélfan*	pres_s

An illustration of the diachronic path through which the distributions in (10), (13) came into being would by far exceed the scope of the present paper (cf. Loporcaro, 2012). Suffice it to say that such diachronic changes have led to a synchronic state of affairs in which these irregular verbs show the partition in (14a), combining the two other kinds of contrasts schematized in (14b-c) (cf. the data in (4)-(5) and (7)-(9) above, respectively):

(14)

a.

1SG	2SG-3PL
S2	S1
S3	

b.

1SG	2SG-3PL
S2	S1

c.

1SG	2SG-3PL	
S1		pres_i
S3		pres_s

[27] The verb *fágher* does not show three distinct stems in this portion of the paradigm in all Logudorese dialects: in Buddusò for instance, one finds *fátta*/**fétta, fáttas*/**féttas* pres_s 1-2sg, with the same stem occurring in the pres_i 1sg *fátto* (Molinu, 1999: 135). However, this is not to say that the three-way stem allomorphy of *fágher* is an isolated peculiarity of Bonorvese: cf. e.g. in Luras *fátto, fághes* pres_i 1-2sg vs. *fétte, féttes* pres_s 1-2sg.

3.3.2 The infinitive stem

If we now consider the infinitive, a fourth BS must be added. In fact, there is a sizable set of 2nd class verbs which build the infinitive on a stem which is distinct from S1, as illustrated in (15): (For the time being, I shall neglect the vowels in brackets in (15), as their inclusion vs. non-inclusion here depends on the analysis: cf. §4.)

(15)	'come'	'hold/have'	'put'	'open'	'cover'	'want'
S1 (default)	*bén(i)-*	*tén(e)-*	*pón(e-)*	*abbér(i)-*	*kobér(i)-*	*kér(e)-*
S2 (1sg pres_i)	*bénz-*	*ténz-*	*pónz-*	*abbélz-*	*kobérr-*	*kélz-*
S3 (subj)	= S2	= S2	= S2	= S2	= S2	= S2/*kélf-*
S4 (infin)	*bénn(e)-*	*ténn(e)-*	*pónn(e)-*	*abbérr(e)-*	*= S2*	*kérr(e)-*

While there are irregular verbs, exemplified in (15) by *kobérrer*, whose S4 is identical to S2, for the remaining verbs in (15) – and for several more – S4 is unpredictable from S2 and distinct from S1. Actually, given the phonological shape of S1 plus IC information (2nd class), S4 IS predictable, since it is obtained via gemination of the last consonant in S1 if this is *n* or *r*. This statement is possible because there are no 2nd class verbs whose infinitives end in *...ˈV*rer*/*...ˈV*ner*. Thus, it might seem superfluous to posit a separate S4. Nevertheless, discussion of pst_pt formation in §3.3.3 will show that such a separate stem is needed.

3.3.3 The participle stem

The pst_pt is formed regularly from S1 for all 1st and 3rd class verbs (16a, c) and for a subset of 2nd class verbs (16b):

(16) Regular pst_pt formation 1st and 3rd class verbs

a. 1st class, S1 + *ád-u*	e.g.	*kant-ád-u*	'sung'
b. 2nd class, S1 + *id-u*		*krésk-id-u*	'grown'
c. 3rd class, S1 + *íd-u*		*palt-íd-u*	'departed'

The 3rd class, contrary to Italian, contains no irregular verbs, as the successors of Lat. *aperire, cooperire*, whose counterparts have a strong pst_pt in Italian, migrated into the 2nd class, precisely because (as argued in Loporcaro 2003) this allowed them to keep their stem allomorphy, including a distinct BS for the pst_pt (see directly). As for 1st class verbs, while all of these display a regular pst_pt, a handful also have an irregular form beside the regular one, whose stem must be specified in the lexicon:

(17) Irregular pst_pt formation in a few 1st class verbs

a. truncated pst_pt:	*frimmáre* 'stop'	→ *frímmu*/*frimmádu*
	sanáre 'heal'	→ *sánu*/*sanádu*
b. *-idu* pst_pt (= (16b)):	*acciappare* 'find'	→ *acciáppidu*/*acciappádu*

For 2nd class verbs, on the other hand, the formation rule in (16b) is the class default. This has been inherited from Latin (cf. e.g. the pst_pt of *piágher* 'please, like', *piághidu* < Lat. *placitum*) and applied productively in Sardinian, as shown by the fact that in several cases the original Latin strong participle was replaced by the *-idu* one: e.g. *náskidu* 'born', *istrókkidu* 'mocked' (from *násker*, *istrókker*), which ousted the regular outcomes of Lat. *natus, extortus*. Furthermore, within the 2nd class a number of verbs display an irregular pst_pt, whose form is not predictable from other BSs:

' Irregular pst_pt formation for *-er* verbs (S5):

a. S5 (ending in *-(C)t-u*, *-(s)s-u*) weakly suppletive wrt. S1				
	ténner	'have/hold'	→ *téntu*
	konnósker	'know'	→ *konnóttu*
	prénner	'tie'	→ *présu*
	fríer	'fry'	→ *fríssu*
b. S3 + *id-u* → S5	*dóler*	'hurt'	→ *dólfidu*
	báler	'be worth'	→ *bálfidu*
	kérrer	'want'	→ *kélfidu*
	póder	'be able'	→ *póttidu*
c. S4 + *id-u* → S5	*bénner*	'come'	→ *bénnidu*
d. S1 + *d-u* → S5	*bíer*	'see'	→ *bídu*
e. S5 + *id-u* → S5'	*sutzéder*	'happen'	→ *sutzéssu* → *sutzéssidu*

In (18a), no regular pst_pt formative is discernible synchronically, so that a BS (S5) must be posited, which is the cumulative exponent of lexical and TAM meaning: e.g. *mólt-u* 'die.PST_PT-MSG'. On the other hand, for the other irregular formation schemes in (18b-e), S5 is derived from other stems by adding *-idu* (or *-du*, (18d)). Any analysis not acknowledging this, would miss the formal relationship observable between, for instance, pst_pt and pres_s in (18b): compare *dólf-at* 'hurt' pres_s 3sg, *bálf-at* 'be worth' pres_s 3sg, etc. The same goes for (18e), where the suppletive S5 *sutzéssu* ((18a)) has been subjected to *-idu* suffixation, giving a new pst_pt form *sutzéssidu*, which occurs in free variation. Clearly, however, in spite of the occurrence of *-idu*, none of these pst_pt forms can be assumed to be derived via the regular (class-default) process (16b), since they are unpredictably based on stems different from S1. Take for instance the verb *ténner* in (18a): there is no way to predict that the pst_pt should be *téntu*, as it in fact is, rather than

**ténnidu* (like in (18c)) or **ténzidu* (like in (18b)). Likewise, for *bénner* in (18c): there is no way to predict the pst_pt *bénnidu*, rather than **béntu* (with a suppletive S5 like in (18a)) or **bénzidu* (like in (18b)).[28]

Note finally, that the occurrence of (18c) has an impact on the analysis of the infinitive in §3.3.2: in fact, (18c) needs a separate infinitive stem S4 as an input, so as to derive the correct pst_pt form *bénnidu*.

However formed, the pst_pt (regular or irregular) has a stem of its own, as also demonstrated by word formation. In fact, word formation rules may take S5 as their base and, when this is the case, such affixation rules apply uniformly to irregular ((19a)) as well as regular ((19b-c)) pst_pt's. This is exemplified with Log. *-órzu* deverbal nouns (cf. Pinto, 2011: 81-82):

(19) a. *ruttórzu* 'place where somebody has fallen' (infin *rúer*, pst_pt *rúttu*)
tusórzu 'shearing time/place' (infin *túnder*, pst_pt *túsu*)
b. *arbeskidórzu* 'dawn' (infin *arbésker*, pst_pt *arbéskidu*)
paskidórza 'goat rattle' (infin *pásker* 'pasture', pst_pt *páskidu*)
c. *sikkadórzu* 'drying place' (infin *sikkáre* 'dry', pst_pt *sikkádu*)
mandigadórza 'manger' (infin *mandigáre* 'eat', pst_pt *mandigádu*)

While for 1st class verbs in (19c), S1 would also be a possible base, both (19a-b) exclude S1 and require S5.

3.3.4 The overall distribution schema of Logudorese stem allomorphy

This exhausts the list of the BSs that may be maximally stored in the lexical entry for a Logudorese verb, with the only exception of *ésser* 'be', which has more than five (while even the remaining highly irregular verbs listed in (2b) do not). Thus, I am now in a position to draw the overall distribution schema of stem allomorphy (Table 9).

[28] Many of these conceivable alternatives do indeed occur in other dialects: e.g. *ténnidu* in several Logudorese varieties (reported in Wagner, 1938-39: 25) (cf. §2 above). The expected outcome of Lat. *ventus* survives today in Siniscola (*véntu*, Pisano, 2004-06: 224) and Orosei (*véttu*, Blasco Ferrer, 1986: 214 n. 94).

<table>
<tr><td></td><td></td><td>1SG</td><td>2SG</td><td>3SG</td><td>1PL</td><td>2PL</td><td>3PL</td></tr>
<tr><td rowspan="6">finite forms</td><td>imperfect subjunctive</td><td colspan="6" rowspan="2"></td></tr>
<tr><td>present subjunctive</td></tr>
<tr><td>imperative</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>present indicative</td><td>S2</td><td colspan="5" rowspan="3"></td></tr>
<tr><td>imperfect indicative</td><td colspan="5">S1</td></tr>
<tr><td rowspan="3">non finite forms</td><td>gerund</td></tr>
<tr><td>infinitive</td><td colspan="6">S4</td></tr>
<tr><td>past participle</td><td colspan="6">S5</td></tr>
</table>

Table 9. Stem allomorphy in Logudorese

Following Pirrelli & Battista (2000), the divisions in Table 9 are drawn only between non-derived BSs, i.e., those that have to be stored in the lexical entry of an irregular verb, so that regularly derived tenses/moods appear in the same field as the tenses displaying the corresponding BS. The list is more restricted than in Italian (five instead of eight), because the Sardinian tense/mood system is poorer (cf. §3.1). Note also that stem allomorphy is much more functionally (i.e. morphosemantically) motivated in Sardinian than in Italian or elsewhere, with almost full alignment of stem allomorphy and mood (apart from S1).[29]

4. ENDINGS AND INFLECTIONAL CLASSES IN THE LOGUDORESE VERB

The inventory in Table 9 rests on the assumption that regular verbs have just one BS, and that in addition to this S1, other stems have to be lexically specified for irregular verbs only. In other words, the question Thornton (2007) asks for Italian ("Is there a partition in the present indicative of Italian regular verbs?") should be answered in the negative. This leaves further questions open, concerning the formation of other tenses/moods, to be discussed in §§4.1-4.5.

4.1 Present indicative

An MS analysis of the pres_i of regular verbs, inferable from Table 4 above, would assume that endings are constant across ICs:

[29] Due to limitations of space, I cannot include a list of moderately irregular verbs displaying different combinations of BSs here.

(20)	1SG	2SG	3SG	1PL	2PL	3PL	pres_i
1st class	*kánt-o*	*kánta-s*	*kánta-t*	*kantá-mos*	*kantá-des*	*kánta-n*	'sing'
2nd class	*krésk-o*	*kréske-s*	*kréske-t*	*kreskí-mos*	*kreskí-des*	*kréske-n*	'grow'
3rd class	*pált-o*	*pálti-s*	*pálti-t*	*paltí-mos*	*paltí-des*	*pálti-n*	'leave'

While for 2-3sg and 3pl the analysis is straightforward, different options come to mind for the remaining cells. For 1sg, one might either assume the same stem, with deletion of the final vowel – like Pirrelli (2000: 11) for Standard Italian, who follows Scalise (1983, 1984) in positing a VDR which deletes the TV before endings beginning with a vowel – or one might assume a separate stem (the lexical root) not containing the TV, as in Dressler & Thornton's (1991: 7) and Thornton's (2007: 68) analysis of Italian. Note that in Sardinian, contrary to Italian, this would receive support from the fact that this different base should be assumed for 1sg, but not for 2-3sg and 3pl, that means, the lexical root (without addition of the TV) would have the same distribution as S2 in irregular verbs, with a partition that is in any case found elsewhere in the system. For 1-2pl, on the other hand, one should assume stress shift and, in addition, a substitution of the final vowel of the stem for 2nd class verbs: *kréske-* (+*mos*) → *kreskí-mos*.

An ME analysis, on the contrary, would look like this:

(21)	1SG	2SG	3SG	1PL	2PL	3PL	pres_i
1st class	*kánt-o*	*kánt-as*	*kánt-at*	*kant-ámos*	*kant-ádes*	*kánt-an*	'sing'
2nd class	*krésk-o*	*krésk-es*	*krésk-et*	*kresk-ímos*	*kresk-ídes*	*krésk-en*	'grow'
3rd class	*pált-o*	*pált-is*	*pált-it*	*palt-ímos*	*palt-ídes*	*pált-in*	'depart'

Divisions between ICs are omitted to signal neutralizations: note that the three-way IC contrast yields to a binary opposition in the 1-2pl. This justifies the assumption of a 1st vs. 2nd MC (in the sense of Dressler & Thornton, 1991), the latter consisting of *-er* and *-íre* verbs.[30] This contrast, which also plays a role elsewhere in the system (cf. §§4.2-4.3), under an MS analysis (20) would be encoded in stems, rather than endings. Compared with this, the ME analysis in (21) has some advantages. Firstly, it does not require positing any ad hoc readjustment rule (VDR or vowel substitution). Secondly, an ME analysis affords a simpler description of *d*-insertion in 2nd class verbs such as the following:

[30] Logudorese differs from Italian in this respect, since Italian has a three-way IC contrast in the 2pl pres_i vs. a binary contrast in the 3rd person sg./pl. To designate MCs, the term superconjugation is also used (e.g. by Taylor, 2008: 232, for Spanish *-er* and *-ir* verbs).

(22)	1SG	2SG	3SG	1PL	2PL	3PL	pres_i	
	bí-o	*bí-es*	*bí-et*	*bid-ímos*	*bid-ídes*	*bí-en*	*bíer*	'see'
	iskrí-o	*iskrí-es*	*iskrí-et*	*iskrid-ímos*	*iskrid-ídes*	*iskrí-en*	*iskríer*	'write'
	frí-o	*frí-es*	*frí-et*	*frid-ímos*	*frid-ídes*	*frí-en*	*fríer*	'fry'

Under an ME analysis, these verbs have an *i*-ending S1 and insert *-d-* whenever an initial *i-* in the ending creates a hiatus (1-2pl).[31] Under (20), on the contrary, this simple description would be out of reach, as the stem of these verbs ends in *-e* (*bíe-*, like *kréske-*). Thus, to account for 1pl *bidímos* one need to assume quite a complicated derivation:

(23) *bíe- + mos* → *bié+mos* → *bií+mos* → *bidí+mos*
stress shift vowel substitution *d*-insertion

One of the disadvantages of (23) is that it makes *d*-insertion appear as though it applied within the stem, whereas it evidently is a readjustment that becomes necessary, for phonological reasons, when the appropriate phonological environment arises, upon combination of stem and ending.

4.2 Imperfect indicative

The impf_i forms of the three ICs are as follows:

(24)	1SG	2SG	3SG	1PL	2PL	3PL	impf_i
1st cl.	*kant-aí-a*	*-aí-as*	*-aí-at*	*-aí-mis*	*-aí-zis*	*-aí-an*	'sing'
2nd cl.	*kresk-í-a*	*-í-as*	*-í-at*	*-í-mis*	*-í-zis*	*-í-an*	'grow'
3rd cl.	*palt-i-a*						'leave'

The stem maximization principle (1) would force one to assume that the impf_i stem includes the vowel of the final syllable, since the forms *kantaía-*, *kreskía-* occur in more than une paradigm cell. However, free variation of *-a* with *-o* in the 1sg (*kantaí-a*/*-o*, *kreskí-a*/*-o*) shows that the final vowel is a person ending. Even thus, one still has the choice between analyzing *-aí-* (1st MC) vs. *-í-* (2nd MC) as either a stem formative or (part of) an ending. In either case, this affix attaches invariably to S1, as confirmed by irregular verbs, which never form the impf_i on any other BS than S1:

[31] This is an inverted rule (Vennemann, 1972), as a voiced intervocalic stop used to occur in these verb roots: Lat. *videre*, *scribere*, *frigere*. As the rule was inverted, *d* was extended from verbs which used to contain it etymologically (e.g. *ríer* < Lat. *ridere* 'laugh') to all 2nd class verbs which had lost an intervocalic voiced stop (e.g. *affier* < Lat. *affigere* 'press'). Other Logudorese dialects, which also delete voiced consonants intervocalically, preserve them in the same context as Bonorvese, though without generalizing *-d-* (cf. Blasco Ferrer, 1986: 133-134).

(25) *póder* ‘can’ S1 *pod-* impf_i *pod-ía* (**pott-ía*)
bénner ‘come’ *ben-* *ben-ía* (**benn-ía, *benz-ía*)
fágher ‘do’ *fagh-* *fagh-ía* (**fatt-ía, *fett-ía*)

The choice between the two analyses mentioned above implies assuming a different locus (stem formative vs. ending) for both TAM and IC information, without any obvious difference in descriptive economy. Also, under both analyses, IC contrasts are treated symmetrically (as encoded in either stems or endings) for impf_i and pres_i. Here too, decisive evidence comes from the verbs displaying *d*-insertion:

(26)

1SG	2SG	3SG	1PL	2PL	3PL	impf_i	
bid-ía	*bid-ías*	*bid-ía*t	*bid-ímis*	*bid-ízis*	*bid-ían*	*bíer*	‘see’
frid-ía	*frid-ías*	*frid-ía*t	*frid-ímis*	*frid-ízis*	*frid-ían*	*frier*	‘fry’

The phonological environment in which *-d-* is inserted is the same as in (22): now, an ME analysis has insertion apply between stem and ending with no further ado, whereas under MS, insertion takes place between S1 and the imperfective stem formative *-í-*, after application of readjustments even more complicated than those in (23):

(27) [*bíe-* + *í-* → *biií-* → *bií* → *bidí*] *+mis*
vowel substitution vowel coalescence *d*-insertion

These intermediate stages are false steps, in Zwicky’s (1974: 215) sense, i.e. “intermediate derivational stages […] that are not well formed as surface representations”. None of them can be dispensed with: stem-final *-e* cannot be deleted generally before the stem formative *-í-*, because other verbs with stem-final *-e* preserve it: *kreímis* ‘we believed’, from *kréer*. The only conceivable escape route from the complications in (27) would consist in positing an impf_i stem *bi-* distinct from S1 (*bie-*) exclusively in the verbs which display *d*-insertion.

Neither false steps nor multiplication of stems are needed under an ME analysis, under which (as argued in §4.1) these verbs have an *i*-ending S1 (*bi-*, *fri-*, *iskrí-* etc.), and *d*-insertion is derived straightforwardly.

4.3 Gerund

The MS vs. ME analyses of the gerund are shown in (28a-b) for regular verbs:

(28)

		1st class	2nd class	3rd class	gerund
a.	MS	*kanté-nne*	*kreskí-nne*	*paltí-nne*	
b.	ME	*kant-énne*	*kresk-ínne*	*palt-ínne*	

Like the impf_i, the gerund too shows no allomorphy at all, since it is invariably built on S1 also for irregular verbs (except 'be', §3.2): e.g. *fagh-ínne* 'doing' from S1 *fagh-*, not S2 **fatt-ínne* or S3 **fett-ínne*.[32] An ME analysis accounts for this without any further adjustments, whereas under an MS procedure one should either assume a distinct stem (derived regularly from S1 by adding stem formatives: *-é-* vs. *-í-*) or vowel readjustments affecting 1st and 2nd class verbs. Note also that under (28b), the IC contrast is encoded in inflections and no derived stem is assumed. Finally, the same argument based on *d*-insertion holds true here too, as discussed in §§4.2-4.3. Several of the verbs that require *d*-insertion in the pres/impf_i do so in the gerund too ((29a)), while in a complementary subset, vowel coalescence takes place instead ((29b)): (The distribution in (29a-b) is synchronically idiosyncratic and lacks diachronic motivation.)

(29) a. *bid-ínne* 'seeing' b. *iskr-ínne* 'writing'
frid-ínne 'frying' *r-ínne* 'laughing'

Under an MS analysis of gerunds ((28a)), one would have to account for either strategy as follows:

(30) a. [*bíe-* + *í-* → *biií-* → *bií* → *bidí*] +*nne*
vowel raising vowel coalescence *d*-insertion

b. [*ríe-* + *í-* → *riií-* → *rií* → *rí*] +*nne*
vowel raising vowel coalescence vowel coalescence

Here too, false steps are inescapable because no deletion of stem-final *-e* takes place elsewhere when the stem formative *-í-* is added: *kreínne/*krínne* 'believing'. The gerund of *kréer* also shows that the raising that must be assumed in (30a-b) is ad hoc, since it does not apply across the board even in gerund formation.

In sum, the most economical analysis of the gerund forms is one in which S1 does not contain a TV, as in (28b). Consequently, the IC distinction, for gerunds, is encoded in the endings, not in the stem.

[32] However, unlike for the impf_i, this uniform derivation from S1 does not hold for all Logudorese varieties. In Northern dialects, indeed, the gerund is based on S2-S3, rather than on the default stem (cf. Wagner, 1938-39: 155): e.g. in Luras *fatténde* 'doing', *kelzénde* 'wanting', etc.; in Buddusò *tenzénde* 'holding' (Molinu, 1999: 134).

4.4 Infinitive

At first glance infinitive forms seem to support an MS analysis since they all end phonetically in -[rɛ], like in Italian: [kanˈtaːrɛ] ‘sing’, [ˈkrɛskɛrɛ] ‘grow’, [palˈtiːrɛ] ‘depart’. However, while -/re/ persisted from Latin into Sardinian in 1st and 3rd class verbs, 2nd class infinitives had already undergone apocope phonologically in Old Sardinian (cf. Wagner, 1938-39: 138), so that their final vowel has to be analysed synchronically as an automatic copy of the preceding vowel (Molinu, 1999: 132). This was the effect of a reanalysis through which the unstressed ending -[ɛrɛ] was reshaped as involving the same epithesis as other unstressed endings: cf. [ˈkrɛskɛzɛ], [ˈkrɛskɛðɛ] ‘grow’ pres_i 2-3sg. This is confirmed by the fact that only the *-r* of 2nd class infinitives assimilates to a following consonant, in sentence phonetics, such as *-t* occurring in endings, whereas in *-are* and *-ire* infinitives, this is never the case (Loporcaro, 1988: 359):

(31) a. [ˈkrɛskɛ ˈmːɛːða] ‘grow a lot’ 3sg pres_i (*krésket*) or infin (*krésker*)
b. [ˈkanta ˈmːɛːða] ‘sing a lot’ 3sg pres_i (*kántat*) vs. infin [kanˈtaːrɛ ˈmɛːða]
c. [ˈpalti ˈkːitːɔ] ‘depart early’ 3sg pres_i (*páltit*) vs. infin [palˈtiːrɛ ˈɣitːɔ]

Thus, even under an MS analysis, one cannot assume one infinitive ending *-re*, with IC contrasts encoded just in the stem, along the lines e.g. of Taylor’s (2008: 234) analysis of Spanish. Rather, as shown in (32a), IC information would have to be encoded twice, on both stems (hosting a three-way IC contrast) and endings (with 2nd class vs. the rest):

(32)

infinitive	1st class	2nd class	3rd class	infinitive
a. MS	kantá-re	krésk**ɛ**-r	paltí-re	
b. ME	kant-áre	krésk-er	palt-íre	

The alternative analysis (32b) seems more economical: IC contrasts are represented only once, on the ending, which is affixed to the lexical root, rather than to a stem containing a final vowel. This analysis also covers irregular verbs, with the proviso that those which have a lexically specified S4, all belonging to the 2nd class, add *-er* to S4, as shown in (15) above. Thus, neither for S1 nor for S4 must the vowel preceding *-r* be analysed as part of the stem, as such an analysis would multiply stems unnecessarily:

(33)	1st class	2nd class		3rd class
		subclass 2a	subclass 2b	
pres_i 3sg	*kántat*	*prénnet*	*istrókkit*	*fínit*
infinitive	*kantáre*	*prénner*	*istrókker*	*finíre*
	'sing'	'tie'	'mock'	'end'

In fact, under an MS analysis, the vowel is part of the stem, and one should assume two distinct stems for verbs of the subclass 2b (i.e. *istrókki-* vs. *istrókke-* and the like), which inflect in the pres_i like 3rd class verbs (Table 3), in spite of having an *-er* infinitive. On the other hand, in an ME analysis, the lexical IC (or subclass) specification, which is needed anyway, accounts for this directly, without multiplying stems.

4.5 Subjunctive

In the case of the subjunctive, a diachronic argument is available that neatly confirms the superiority of an ME analysis. For the irregular verbs discussed in §3.3.1, this mood is built on S3, distinct from the default BS: e.g. *pótt-at* 'can' pres_s 3sg vs. *pód-et* 'can' pres_i 3sg. First and second MC verbs originally have distinct sets of inflections across Sardinian, as exemplified by 1st MC *kant-et* 'sing' pres_s 3sg. However, in several Logudorese dialects (including Bonorvese), 1st conjugation subjunctive endings have spread to second macroclass verbs, leading to free variation.[33] Thus, *pótt-et* occurs alongside inherited *pótt-at*, as shown in (34), where for 2nd class a regular verb is displayed:

(34)	1SG	2SG	3SG	1PL	2PL	3PL	pres_s
1st class	*kánt -e*	*-es*	*-et*	*-émus*	*-édas/-édes*	*-en*	
2nd class	*krésk -a*	*-as/-es*	*-at/-et*			*-an/-en*	
3rd class	*pált*						

Note that this simple description (in terms of analogical extension of the subjunctive *ending*) is only available under an ME analysis such as the one in (34). An MS analysis, on the other hand, would parallel the one for the very similar Spanish data put forward by Boyé & Cabredo-Hofherr's (2006) in representing the subjunctive stem as *kánte-* (1st class) vs. (originally) *kréska-* (2nd MC), to which the person endings listed above in Table 4 are added.[34] Under such a radical Word-and-Paradigm approach, thus, there is "identità tra tema e forma flessa" [identity between stem and

[33] According to Wagner (1938-39: 145), this variation is typical for Northern Logudorese.

[34] Note that an ME analysis is also simpler in that all subjunctive endings begin with a vowel, whereas under MS, vowel deletion should be assumed for 1-2pl.

inflected form] in the 1sg pres_s cell (Giraudo *et al.*, forthcoming: 4), whereas personal endings are added in the remaining cells. Consequently, under this approach, the change that led to the free variation observed nowadays in 2nd MC verbs would presumably have to be described as extension to 2nd MC verbs of an alternative subjunctive *stem*, analogical to the 1st class. However, this poses a problem, since in 1st class verbs the subjunctive is invariably formed on the default S1: thus, had the analogy copied the 1st class stem, rather than the ending, for 2nd class irregular verbs with a distinct S3, one would not expect *kélze* 'want' pres_s 1sg, *bénze* 'come' pres_s 1sg etc. – which in fact occur alongside inherited *kélza* and *bénza* (all with S3) – but rather **kére*, **béne*. The difficulty evaporates given an ME procedure, as (34) readily shows.[35] This means that the subjunctive stem S3 is best represented as *kélz-*, *bénz-*, etc., not *kélza-*, *bénza-* (MS), with *-e* and *-a* analysed as "inflectional elements", as does Maiden (2011a: 201) for the corresponding pres_s formatives in Latin.

An MS approach would fare even worse in the case of impf_s, whose paradigm is given in (35):

(35)

	1SG		2SG	3SG	1PL	2PL	3PL
1st class	*kant*	*-ér-e*	*-ér-as/-es*	*-ér-at/-et*	*-ér-émus*	*-ér-édas/-édes /-ézis*	*-ér-an/-en*
2nd class	*kresk*						
3rd class	*palt*						

The history of these forms is instructive, since the structural modifications they have undergone provide evidence for the analysis performed by speakers. In Old Sardinian, the three-way contrast inherited from Latin (*levaret* vs. *deveret* vs. *serviret*) still survived, which was then ousted (except in Barbaricino) by the generalization to all ICs of the *-ére* forms, during the 18th century (Wagner, 1938-39: 8-9). These are always based on the subjunctive stem:[36]

(36) Impf_s formation: S3 + *-ér-*
benzére 'would come' 1sg, *fettére* 'would do' 1sg, *pottére* 'could' 1sg
(cf. pres_s *bénza*, *fétta*, *pótta*)

[35] In Taylor's (2008: 234 fn. 4) analysis, the pres_s stem *cante-* of 1st class *cantar* is "in conjugation 2", presumably because of its *-e*. It is unclear to me how an analysis along such lines could cope with the Sardinian data.

[36] Whenever there is variation in S3 (e.g. pres_s *kélzat*/*kélfat* 'want' 3sg, *dólzat*/*dólfat* 'hurt' 3sg, etc., cf. (11a) above), this is reflected in the impf_s too (*kelzéret*/*kelféret*, *dolzéret*/*dolféret*, etc.).

Later on, in some Logudorese dialects including Bonorvese, free variation between *-ére* and *-éra* became possible, which is usually described (cf. Pisano, 2004-06: 196) as the superimposition onto the impf_s derived stem of the variation in inflectional endings (*-at/-et*) first arisen in the 2nd MC pres_s, as seen in (34).[37] In other words, this optionality is evidence for a segmentation *kelz-er-e/-a*, where *-e/-a* is the ending rather than an unanalysed part of the stem. This is evidence in support of the ME analysis of the pres_s *kelz-e/-a*, as opposed to an MS analysis *kélze-*/*kélza-* which would parallel Boyé & Cabredo-Hofherr's (2006) analysis of the Spanish pres_s as built on a vowel-ending stem: *cante-* 'sing', *beba-* 'drink', *viva-* 'live', *caiga-* 'fall', etc.

5. CONCLUSION

To sum up, the data from Logudorese verb inflection show that in several cases an ME analysis is more economical than MS alternatives. Thus, more generally, one should conclude that current analytical procedures of stem maximization – such as seen in (1) – cannot be considered as an unavoidable corollary of an inferential-realizational approach to morphological theory, nor as a general principle or a "systematic method to determine where to put the boundary" (Taylor, 2008: 228). Rather, the choice whether or not to maximize stems and, in parallel, whether or not to assume that IC contrasts are encoded in endings, cannot be made once and for all on deductive grounds: it is better conceived of as an empirical question which will yield different answers for different sets of data, as one searches for the most economical way of analysing verb inflection systems in language after language.

REFERENCES

Alcoba, S. (1999). La flexión verbal. In I. Bosque & V. Demonte (Eds.), *Gramática Descriptiva de la Lengua Española* (pp. 4915-4991). Madrid: Espasa Calpe.

Aronoff, M. (1994). *Morphology by itself*. Cambridge, Mass.: MIT Press.

Blasco Ferrer, E. (1984). *Storia linguistica della Sardegna*. Tübingen: Max Niemeyer (Beiheft 202, *ZRPh*).

Blasco Ferrer, E. (1986). *La lingua sarda contemporanea. Grammatica del logudorese e del campidanese*. Cagliari: Della Torre.

[37] This is confirmed by the fact that some Logudorese dialects (those of Planargia, cf. Wagner, 1938-39: 9) extend *-a* to the impf_s only for 2nd MC verbs (*kelzéra* 'I wanted', *iskéra* 'I knew'), but not for 1st MC ones (*mandighére*/*-*a* 'I ate').

Bonami, O. & Boyé, G. (2003). Supplétion et classes flexionnelles dans la conjugaison du français. *Langages* 152, 102-126.

Boyé, G. & Cabredo-Hofherr, P. (2006). The structure of allomorphy in Spanish verbal inflection. *Cuadernos de Lingüística del Instituto Universitario Ortega y Gasset* 13, 9-24.

Carstairs-McCarthy, A. (1994). Inflection classes, gender, and the principle of contrast. *Language* 70, 737-788.

Dressler, W. U. & Thornton, A. M. (1991). Doppie basi e binarismo nella morfologia italiana. *Rivista di Linguistica* 3, 3-22.

Dressler, W. U., Kilani Schoch, M., Spina, R. & Thornton, A. M. (2003). Le classi di coniugazione in italiano e in francese. In M. Giacomo-Marcellesi & A. Rocchetti (Eds.), *Il verbo italiano. Studi diacronici, sincronici, contrastivi, didattici* (pp. 397-413). Rome: Bulzoni.

Giraudo, H., Montermini, F. & Pirrelli, V. (Forthcoming). Processi cognitivi nell'analisi delle classi verbali dell'italiano: un approccio sperimentale. In P. M. Bertinetto, V. Bambini & I. Ricci (Eds.), *Linguaggio e cervello - Semantica / Language and the brain - Semantics. Atti del XLII Convegno della Società di Linguistica Italiana,* Pisa, Scuola Normale Superiore, 25-27 settembre 2008 (Volume 2, CD ROM). Rome: Bulzoni.

Iliescu, M. & Mourin, L. (1991). *Typologie de la morphologie verbale romane. I. Vue synchronique*. Innsbruck: Verlag des Instituts für Sprachwissenschaft der Universität Innsbruck.

Kilani-Schoch, M. & Dressler, W. U. (2005). *Morphologie naturelle et flexion du verbe français*. Tübingen: Narr.

Loporcaro, M. (1988). History and geography of raddoppiamento fonosintattico: remarks on the evolution of a phonological rule. In P. M. Bertinetto & M. Loporcaro (Eds.), *Certamen phonologicum, Papers from the 1987 Cortona Phonology Meeting* (pp. 341-387). Turin: Rosenberg & Sellier.

Loporcaro, M. (2003). Dialettologia, linguistica storica e riflessione grammaticale nella romanistica del Duemila. Con esempi dal sardo. In F. Sánchez Miret (Ed.), *Actas del XXIII* CILFR, Salamanca, 24-30 September 2001 (vol. 1, pp. 83-111). Tübingen: Niemeyer.

Loporcaro, M. (2012). Morphomes in Sardinian verb inflection. Ms. University of Zurich.

Maiden, M. (2003). Il verbo italoromanzo: verso una storia autenticamente morfologica. In M. Giacomo-Marcellesi & A. Rocchetti (Eds.), *Il verbo italiano. Studi diacronici, sincronici, contrastivi, didattici* (pp. 3-21). Rome: Bulzoni.

Maiden, M. (2005). Morphological autonomy and diachrony. *Yearbook of Morphology 2004*, 137-175.

Maiden, M. (2011a). Morphological persistence. In M. Maiden, J. C. Smith & A. Ledgeway (Eds.), *The Cambridge History of the Romance Languages* (vol. 1. *Structures*, pp. 155-215). Cambridge: Cambridge University Press

Maiden, M. (2011b). Morphophonological innovation. In M. Maiden, J. C. Smith & A. Ledgeway (Eds.), *The Cambridge History of the Romance Languages* (vol. 1.

Structures, pp. 216-267). Cambridge: Cambridge University Press.
Molinu, L. (1999). Morfologia logudorese. In R. Bolognesi & K. Helsloot (Eds.), *La lingua sarda. Atti del II Convegno del Sardinian Language Group* (pp. 127-136). Cagliari: Condaghes.
Pellegrini, G.B. (1977). *Carta dei dialetti d'Italia.* PDI 0. Pisa: Pacini.
Pinto, I. (2011). *La formazione delle parole in sardo*. Nuoro: Ilisso.
Pirrelli, V. (2000). *Paradigmi in morfologia. Un approccio interdisciplinare alla flessione verbale dell'italiano*. Pisa-Rome: Istituti Editoriali e Poligrafici Internazionali.
Pirrelli, V. & Battista, M. (2000). The paradigmatic dimension of stem allomorphy in Italian verb inflection. *Rivista di Linguistica* 12, 307-380.
Pisano, S. (2004-06). Il sistema verbale del sardo moderno: tra conservazione e innovazione. *L'Italia dialettale* 65, 73-104; 66-67, 137-244.
Pisano, S. (2008). *Conservazione, rianalisi e processi di grammaticalizzazione nella morfologia verbale di alcune varietà sarde moderne: uno sguardo sincronico*. University of Pisa, PhD Thesis.
Pisano, S. (2010). L'utilizzo dei tempi sovraccomposti in alcune varietà sarde. *Lingua e stile* 45, 123-131.
Pittau, M. (1972). *Grammatica del sardo nuorese, il più conservativo dei parlari neolatini*. Bologna: Pàtron.
Scalise, S. (1983). *Morfologia lessicale*. Padua: Clesp.
Scalise, S. (1984). *Generative Morphology*. Dordrecht: Foris.
Spano, G. (1840). *Ortografia sarda nazionale ossia grammatica della lingua logudorese paragonata all'italiana dal sacerd. professore Giovanni Spano*. Cagliari: Reale Stamperia [repr. Cagliari: GIA 1995].
Spencer A. (2010). Maximising Stems. Paper given at the 14th International Morphology Meeting, Budapest, May 13-16, 2010.
Taylor C. (2008). Maximising stems. In M. Kokkonidis (Ed.), *Proceedings of LingO* (pp. 228-235). Oxford: University of Oxford.
Spina, R. (2007). *L'evoluzione della coniugazione italoromanza*. Catania: Edit.
Spina, R. & Dressler, W. U. (2011). How far can diachronic change be predicted. The Italo-Romance first person plural present indicative. *Diachronica* 28, 499-544.
Stewart, T. & Stump, G. (2007). Paradigm Function Morphology and the morphology-syntax interface. In G. Ramchand & C. Reiss (Eds.), *The Oxford Handbook of Linguistic Interfaces* (pp. 383-421), Oxford: Oxford University Press.
Stump, G. T. (2001). *Inflectional Morphology. A Theory of Paradigm Structure*. Cambridge: Cambridge University Press.
Stump, G. T. & Finkel, R. (2008). Stem alternations and principal parts in French verb inflection. Paper given at Décembrettes 6, Bordeaux, 4-6 December 2008.
Stump, G. T. & Finkel, R. (2011). Stems as principal parts. Ch. 5 of *Morphological typology: From word to paradigm*. Manuscript, University of Kentucky.
Thornton, A. M. (2007). Is there a partition in the present indicative of Italian regular verbs? *Annali Online di Ferrara – Lettere* 2, 43-61.
Vennemann T. (1972). Rule inversion. *Lingua* 29, 209-242.

Wagner, M. L. (1938-39). Flessione nominale e verbale del sardo antico e moderno. *L'Italia dialettale* 14, 93-170; 15, 1-29.
Wagner, M. L. (1941). *Historische Lautlehre des Sardischen*. Halle a. S.: Max Niemeyer [Beiheft 93 ZRPh].
Wagner, M. L. (1950). *La lingua sarda. Storia, spirito e forma*. Bern: Francke.
Wurzel, W.U. (1984). *Flexionsmorphologie und Natürlichkeit*. *Ein Beitrag zur morphologischen Theoriebildung*. Berlin: Akademie-Verlag.
Zwicky, A. (1974). Taking a false step. *Language* 50, 215-224.

Michele Loporcaro
Universität Zürich - Romanisches Seminar
Zürichbergstrasse 8
CH -8032
e-mail: loporcar@rom.uzh.ch