The effect of language contact on Romance verbal paradigms: an empirical survey[1]

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Abstract. Rather than conveying morphosyntactic meaning, conjugation classes determine how such properties are expressed. Conjugation classes are therefore 'ornamental' properties of language and clearly not essential to communication. Such purely formal distinctions tend to be absent from contact varieties largely because adults have a natural tendency to bypass linguistic features that are perceived as semantically unnecessary (e.g., Seuren and Wekker 1986, McWhorter 2001). The goal of this paper, however, will be to show that language contact does not necessarily lead to a loss of meaningless forms. Building on recent work by Luís (2008, forthcoming), we provide empirical evidence which shows that Romance conjugation classes respond in different ways to language contact. In particular, we show that conjugation classes may undergo different types of morphological change, such as lexicalization, levelling, retention and extension. Our evidence will be drawn from contact varieties which have derived from the contact between one Romance language (either Portuguese or Spanish) and one (or more than one) non-Romance language.

Key-words. Morphological change, language contact, verbal inflection, theme vowels, conjugation classes, Indo-Portuguese, Spanish Romani.

1. Introduction

In this paper we examine the loss and survival of conjugation classes in language contact varieties. Scarcely any attention has been paid to this question and the reasons for such lack of interest may be two-fold. On the one hand, there appears to be the widespread belief in contact-linguistics that inflectional morphology is an ornamental property of linguistic structure which can, by and large, be discarded without affecting communication (McWhorter 2001). On the other

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hand, there is a tendency to focus predominantly on meaningful inflections, i.e. inflections which express some kind of morphosyntactic meaning (e.g., person, number, tense, among other). Conjugation classes have therefore gone entirely unnoticed in contact linguistics largely because they make no contribution to the overall meaning of an utterance. In this paper, we investigate the effect of language contact on conjugation classes by examining the verbal paradigms of language varieties which have emerged from the contact between one Romance language (either Portuguese or Spanish) and one (or more than one) non-Romance language. We will provide evidence which shows that Romance conjugation classes do effectively survive in some contact varieties.

Our findings weaken the idea that the grammar of contact varieties is determined entirely by the pragmatic relevance or the semantic transparency of linguistic forms (Seuren and Wekker 1986; McWhorter 1998). Our data instead shows that other factors must play an important role in shaping the various interlanguages spoken by a given language community. Winford (2003), for example, takes the view that the factors that are responsible for the linguistic outcome can be broadly divided into two classes: internal (linguistic) and external (social and psychological). The linguistic factors include the degree of typological similarity between the contact languages and linguistic constraints that are specific to particular sub-areas of grammar, including factors a more general (perhaps universal) nature. Among the external factors, there is the length and intensity of the contact and also the attitude of speakers towards the languages and the motivations for using them.

More recently, research has also highlighted the importance of Second Language Acquisition in the development of contact varieties. The difference between contact induced language change and other kinds of language change resides in the role played by adult speakers: "adults rather than children or adolescents are ultimately responsible for the changes as a result of second language learning (Siegel 2004:154). Thus, the question as to why certain grammatical features survive while other are discarded has been explored from the perspective of untutored second language learning in combination with both socio-cultural and attitudinal factors (Siegel 2004; Veenstra

2004; Clements 2006; Plag 2008). Overall, then, research indicates that language contact should be treated as a multidimensional process which results from the complex interaction between internal and external forces.

For reasons of space, we leave the factors underlying the partial or total retention of Romance conjugation classes unaddressed. Instead we provide an empirical overview of the kinds of morphological change suffered by conjugation classes[2]. Our paper is structured as follows. Section 2 highlights some of the inflectional properties of Romance verbal paradigms and illustrates the effect of conjugation classes on the shape of verb forms. Section 3 examines verbal paradigms in various 'Romance-based' contact languages and argues that conjugation classes may suffer the following diachronic changes: lexicalization (section 3.1), levelling (section 3.2), retention (section 3.3.) and extension (section 3.4). Section 4 offers a brief summary of our main findings.

2. Inflectional paradigms: conjugation classes and theme vowels

In what follows, we will briefly illustrate how conjugation classes determine the shape of verb forms. As noted by Aronoff (1994: 46), conjugations tell us "which inflectional affixes will realize the various morphosyntactic properties that the verb bears in a particular instance". Knowing the conjugation class of a given verb therefore enables us to predict its inflected forms. In (1), for example, there are two suffixes realising the imperfect tense in Portuguese, namely the suffix -*va* and the suffix -*ia* (cf.(1)). Each one of them is selected by a different conjugation class: while -*va* attaches to verbs belonging to the first conjugation, -*ia* must attach to verbs belonging to the second and third conjugations.

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[2] However, see Clements (1996) and Luís (2008) on the causes underlying the shape of verbal paradigms in Indo-Portuguese. See also Siegel (2003) and Plag (2008), for a more general discussion about the fate of morphology in creoles, and see Matras & Bakker (2003) on the genesis of mixed languages.

(1)   a. *cant*   *-a*   *-va*   *-s*
         sing   -cl1   -impf   -2sg
         '(you.sg) sang'
      b. *beb*   *-ia*   *-s*
         drink.cl2   -impf   -2sg
         '(you.sg) drank'
      c. *sent*   *-ia*   *-s*
         feel.cl3   -impf   -2sg
         '(you.sg) felt'

      Conjugation classes can also influence the shape of other verbal endings. As shown in (2), there are two past allomorphs for third person singular verb forms. The third person singular suffix is expressed through the suffix *-o* in the first class (cf. (2a)), but through the suffix *-u* [-w] in the second and third classes (cf. (2b) and (2c)).

(2)   a. *cant*   *-ou* [-o]/[-ow]
         sing.cl1   -perf.3sg
         '(s/he) sang'
      b. *beb*   *-e*   *-u* [-w]
         drink   -cl2   -perf.3sg
         '(s/he) drank'
      c. *sent*   *-i*   *-u* [-w]
         feel   -cl3   -perf.3sg
      '(s/he) felt'

      Suffix allomorphy occurs when a given language provides more than one affix for a given set of morphosyntactic features. In the Portuguese examples given in (2), the past tense allomorphy is entirely triggered by the conjugation class of the verbal lexemes.

      Theme vowels, as alluded to before, are conjugation class markers. In Portuguese, there are three theme vowels, namely *-a* (cf.(1a)), *-e* (cf. (2b)) and *-i* (cf. (2c)), which follow the root. These vowels are inflectional units which make neither a semantic nor a morphosyntactic contribution to the overall meaning of the inflected verb. Unlike theme vowels, verb roots convey lexical meaning (e.g., *cant*- means 'sing') while verbal endings express morphosyntactic information (e.g., TMA or person/number agreement, as in *-va* 'imperfect.CL1' and *-s* '2nd person singular', respectively).

Theme vowels, as stem-forming units, combine with the root to form the base to which inflectional endings attach. Each conjugation class has its default stem (or primary stem) which contains the default theme vowel. However, theme vowels may also undergo allomorphy and, therefore, conjugation classes may in effect take more than one stem. Secondary stems may differ from the primary stem in various ways. For example, in (2a), the first conjugation theme vowel is absent and therefore both the stem and the root are homophonous; and in (3), the primary stem (containing the default -*e* theme vowel (cf. (2b))) is systematically replaced by a secondary stem (containing the theme vowel -*i*). In (4), there are two present subjunctive stems, namely the -*a* stem in the second and third conjugation classes (cf. (4b-c)) and the -*e* stem in the first conjugation class (cf. (4a))[3].

(3) *beb*   *-i*   *-do*
     'drink   -cl3   -compl'.
     'drunk'

(4) a. *cant*   *-e*   *-s*
        sing   - cl2.sbj   -2sg
        '(you.sg) sing'
     b. *beb*   *-a*   *-s*
        drink   - cl1.sbj   -2sg
        '(you.sg) drink'
     c. *sint*   *-a*   *-s*
        feel   - cl1.sbj   -2sg
        '(you.sg) feel'

This section has offered a brief outline of some of the formal properties of Romance verbal paradigms, focussing on the inflectional status of both conjugation classes and theme vowels. Crucial to our discussion is the idea that conjugation classes, despite their lack of meaning, play a crucial role in determining the shape of inflected verb forms in Portuguese.

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[3] There may be alternative ways of segmenting the subjunctive forms, however the crucial point here is that any inflectional account of these forms must make reference to conjugation class distinctions.

3. The fate of Romance conjugation classes: an empirical survey

When Romance verbal paradigms come into contact with genetically distinct languages, four different types of morphological change can take place: lexicalization, levelling, retention and extension. These four different types of diachronic change differ from each other as follows: a) *lexicalization* triggers the loss of conjugation classes (section 3.1); b) *levelling* leads to a reduction of classes (section 3.2); c) *retention* involves the complete survival of the Romance conjugations (section 3.3), and d) *extension* leads to an expansion of the conjugation classes (section 3.4).

As alluded to above, our evidence is drawn from contact varieties which emerged from the contact between one Romance language (either Portuguese or Spanish) and one (or more than one) non-Romance language. In particular, we examine the verbal paradigm of several Portuguese-based creoles – i.e., Sotavento Kabuverdianu (Baptista 2003; Baptista *et al.* 2007), Kriyol (Kihm 1994), the Indo-Portuguese varieties of Korlai, Daman and Diu (Clements 1996; Clements & Koontz-Garboden 2002; Cardoso 2006) – and the verbal paradigm of one mixed contact language, namely Spanish-Romani, also known as Caló (Boretzky & Igla 1994; Bakker 2003).[4]

3.1. Theme vowel lexicalization
The borrowing of morphologically complex word forms often involves the loss of morpheme boundaries and, hence, the loss of internal morphological structure. This has happened in a number of Portuguese-based creoles in which the boundary between the root and the 'Portuguese' theme vowel has disappeared. As result, theme vowels have been reanalysed as a phoneme and integrated into the phonological form of the root. As we will show, this type of reanalysis seems to have taken place in the Sotavento varieties of Kabuverdianu (spoken in Cape Verde) and in Kriyol (spoken in Guiné-Bissau).

In Kriyol, each verb lexeme exhibits only one (unmarked) verb form. Verb forms therefore are invariable:

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(5) a. *seta*   b. *kume*   c. *bibi*   (Kihm 1994)
    'accept' 'eat'   'drink'

While each one of the verb forms in (5) appears to contain a verb root followed by a theme vowel (i.e., *set-a* (in 6a), *kum-e* (in 5b) and *bib-i* (in 5c)), closer inspection reveals that these verb forms are effectively monomorphemic. Given the lack of inflectional affixes, it cannot be claimed that the verbs in (5) have an internal morphological structure. Instead, we must conclude that the theme vowels have lost their inflectional status and have been integrated into the sound structure of the verb root. The same view is formulated by Kihm (1994) who points out that "in no case could these [Kriyol] vowels be analysed as affixes or thematic vowels as in Portuguese".

In Sotavento Kabuverdianu, lexemes have two verb forms – one bare form and one inflected past form, as shown in ((6)-(8)). However, the invariable nature of both the suffix *-ba* and the verbal base also suggests that *falta-* (in 6b), *kore-* (in 7b) and *parti-* (in 8b)) are invariable and monomorphemic.

(6) a. *falta*   b. *falta-ba*   (Baptista 2003; Baptista *et al.* 2007)
        'miss'   'miss-ant'
(7) a. *kore*   b. *kore-ba*
        'run'   'run-ant'
(8) a. *parti*   b. *parti-ba*
        'break'   'break-ant'

Assuming then that verb stems such as *falta-*, *kore-* and *parti-* cannot be segmented into smaller inflectional units, it seems plausible treat the root and the stem as homophonous strings. Note also that the only attested suffix is invariable and attaches to an invariable base. Such lack of inflectional alternations clearly shows that the verbal paradigm of Sotavento Kabuverdianu is not organised into conjugation classes. Overall, then, while the *-a*, *-e* and *-i* vowels have derived from genuine superstrate theme vowels, empirical evidence indicates that they have lost their inflectional status in both Kriyol and Sotaventu Kabuverdianu.

A lot has been said in the literature about the causes that may have been responsible for the loss of superstrate inflections in creoles. The striking surface similarities between adult interlanguages and creoles

suggest adult language learners play a crucial role in shaping the grammar of creoles (Plag 2008). Lending empirical support to an SLA-perspective of creolization is the striking surface similarity between adult interlanguages and creoles. For example, absence of overt inflection is not only a typical property of creoles but also of adult L2 varieties (DeGraff 2005; Prévost & White 2000). In adult L2 varieties, utterances consist largely of invariable lexical items which carry no inflectional affixes. Verbs exhibit no functional morphemes and therefore information about temporality is expressed lexically. Under one recent approach to creolization (Siegel 2004; Plag 2008), inflectionally poor creoles seem to have derived from such early stages of adult interlanguages, also known as 'Basic Varieties' (Klein & Perdue 1997).

3.2. Morphological levelling

Having provided evidence which shows that Romance theme vowels may lexicalize under contact, this section will now argue that language contact can also lead to the levelling of conjugation classes rather than to their complete loss.

Spanish Romani (also known as Caló) is a mixed contact variety which emerged from the contact between (Andalusian) Spanish and Romani (Boretzky & Igla 1994; Bakker 2003). Sociolinguistically, Caló was created by ex-nomadic groups of Gypsies living in Andalucian Spain who needed a secret language to communicate without being understood by strangers (Winford 2003). As is typical of mixed languages, the grammar of Caló is derived from one of the contact languages while the lexicon is derived from the other. In other words, the grammar is Spanish grammar and the lexicon is Romani.

Focussing on the verbal paradigm, it is interesting to see that the intertwining of an L2 grammar with an L1 lexicon has given rise to verb forms with Romani roots and Spanish verbal endings. This mixture is illustrated in (9):

(9)   a. *para **jal**-a-r   **terel**-a*   *boque* (Boretzky & Igla 1994: 55)
           to   eat-cl1-inf have-cl1.3sg.prs hunger
           'in order to eat one has to be hungry'
      b. *mangue   **camél**-a-ba*   (Bakker 2003: 127)
           1sg.pro   love-cl1-1sg.impf
           'I loved'

   The Romani roots *jal-* 'eat' and *terel-* 'have', in (9a), and *camel-* 'love', in (9b), bear no resemblance to Spanish[5]. On the contrary, the verbal endings are clearly of Spanish origin. For example, the infinitive forms take the *-r* suffix (as in *jalar* 'eat'), and the 1st person imperfect forms take the Spanish imperfect ending *-ba* (as in *camélaba* 'I loved').

   Closer inspection of these verb forms also reveals that the inflected verb forms in (9) inflect according to the Spanish first conjugation. First, each one of the verb forms in (9) contains an intermediate *-a* stem which is typically associated to the first conjugation class. Second, verbs take first class verbal endings such as the imperfect marker *-ba*.

Table 1. Caló verbal template

ROOT	THEME VOWEL	VERBAL ENDINGS
camel	- *a*	- *ba*
love	- CL1	- 1SG.IMPF

   Even though it seems that Caló has reduced the Spanish conjugation classes to one single class, the overall picture is slightly more complex. Very little data is unfortunately available about Caló, however evidence seems to suggest that Caló verbs borrow the theme vowel from another class for certain tense/aspect combinations. As noted by Bakker (2003), indefinite preterite forms use the theme vowel *-i*, as in (10), while the remaining paradigm uses the default theme vowel *-a*, as in (11):

(10) a. *camel*   ***-i***   (Bakker 2003)
        love   -cl3.1sg.prt
        'I loved'
     b. *camel*   ***-i***   *-ste*
        love   -cl3   - 1sg.prt
        's/he loved'
(11) a. *camel*   ***-a***   *-ba*
        'love-   cl1   -1sg.impf'
        'I loved'
     b. *camel*   *-a*   *-ré*
        'love   -cl1   -1sg.fut'
        'I will love'
     c. *camel*   *-a*   *-do*
        'love   -cl1   -compl'
        'loved'

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   [5] More Romani verb roots can be found in Rosensweig (1973: 38, 69, 110, ff).

Given (10) and (11), Caló lexemes draw their stems from the third conjugation class for the preterite forms[6] and from the first class for all other tense/aspect combinations.

This phenomenon whereby lexical items take stems which belong to distinct inflection classes is known as heteroclisis. It can be found in a number of languages[7]: for example, in Latin the noun *balneum* 'bath' inflects as a second declension noun in the singular and as a first declension in the plural (Baerman 2007), and in some Romanian dialects, verbs which belonged originally to the third conjugation have acquired first conjugation morphology (Maiden 2008). The heteroclitic nature of lexemes raises interesting questions about the organisation of inflectional paradigms and has more recently attracted the attention of morphological theory (e.g., Stump 2006). For purpose of our paper, the presence of heteroclisis in Caló nicely shows that the kind of structure that characterizes contact varieties is by no means unusual but can be found in 'non-contact languages' as well.

Table 2. Indefinite preterite verb forms in Spanish

	conjugation class 1	conjugation class 3
1sg	*amé*	*dormí*
2sg	*amaste*	*dormiste*
3sg	*amó*	*dormió*
1pl	*amamos*	*dormimos*
2pl	*amasteis*	*dormisteis*
3pl	*amaron*	*durmieron*

As to the historical origin of heteroclisis, one can tentatively speculate about the forces that may have caused the *systematic* borrowing of third conjugation stems. To us, it seems plausible to assume, given the available data, that heteroclisis in Caló was driven by the paradigmatic uniformity of the third conjugation: preterite

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[6] Traditionally, the *i*-stem is classified as a third conjugation marker. However, the same stem is also found on second conjugation preterite verbs. This effectively means that the formal distinction between the second class and the third class has been neutralized in the Spanish preterite verb forms.

[7] A searchable online database containing cross-linguistic data on heteroclisis can be found at www.cs.uky.edu/cgi-bin/cgiwrap/~gstump/heteroclisis.cgi

verb forms in the third conjugation take only one stem (namely the *i*-stem, as shown in Table 2), while preterite verb forms in the first class take at least *two* stems (namely, the default stem ending in *a-*, as in *amaste*, and the theme-less stem, as in *amé* and *amó*).

3.3. Retention of conjugation classes

In this section, we return to Portuguese-based creoles and examine the survival of conjugation classes in Indo-Portuguese[8]. In particular, we argue that the creoles of Korlai, Daman and Diu have preserved genuine theme vowels which function both as conjugation class markers and as stem-forming units (Luís 2008, forthcoming). The structure of Indo-Portuguese verbal paradigms is illustrated below (theme vowels are given in boldface):

Table 3. Daman Portuguese verbal paradigm (Clements and Koontz-Garboden 2002)

	conjugation class 1	conjugation class 2	conjugation class 3
unmarked forms	kant-**a** sing-cl1.unm 'sing'	kum-**e** eat-cl2.unm 'eat'	sub-**i** go up-cl3.unm 'go up'
past forms	kant-o sing.cl1- pst 'sang'	kum-**e**-w eat-cl2- pst 'ate'	sub-**i**-w go up-cl3-pst 'went up'
progressive forms	kant-**a**-n sing-cl1-prog 'singing'	kum-**e**-n eat-cl2-prog 'eating'	sub-**i**-n go up-cl3-prog 'going up'
completive forms	kant-**a**-d sing-cl1-compl 'sang'	kum-**i**-d eat-cl3-compl 'eaten'	sub-**i**-d go up-cl3-compl 'gone up'

By default, inflected verbs comprise three morphological units: a root, a theme vowel and a tense/aspect suffix. The verb root, which expresses the lexical meaning, is of Portuguese origin. Attached to the root is the theme vowel which has also been derived from Portuguese. Following the theme vowel, verb forms may also take a tense/aspect

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[8] The data in this section has been drawn from Clements (1996), Clements & Koontz-Garboden (2001), Cardoso (2006) and Schuchardt (1888).

marker which are all of Portuguese origin. The inventory of verbal endings is given in (12).

> (12) Indo-Portuguese tense/aspect suffixes
>   a. Progressive suffix: *-n*
>   b. Completive suffix: *-d*
>   c. Past suffixes: *-o/ -w*

The progressive marker *-n* is derived from the Portuguese gerund marker *-ndo,* the completive marker *-d* from the Portuguese participle marker *-do*, and both past markers have been derived from the Portuguese 3rd person singular perfect endings. While the progressive suffix and the completive suffix are invariable, the past tense marker is sensitive to the conjugation class of the verb and exhibits two allomorphs[9]. These past allomorphs constitute an important piece of evidence in favour of our claim that conjugation classes have indeed survived in Indo-Portuguese. Note that the distribution of both past allomorphs is entirely determined by the conjugation class of the verbs: the *-w* suffix selects second and third conjugation stems, whereas the suffix *-o* selects first conjugation stems.

Underlying the paradigm in Table 3 is the ternary distinction between the first, second and third conjugation classes. In analogy to Portuguese, conjugation classes are identified inflectionally through a theme vowel. By default, class1 stems take the theme vowel *-a*, class 2 stems take the *-e* vowel and class 3 stems take the *i-* vowel. As a result of the survival of theme vowels, verb forms such as *kumew* comprise three distinct morphological units: the root *kum-*, the stem *kume-* and the verbal ending *-w*. This means that, unlike in most Romance-based creoles, the Indo-Portuguese varieties spoken in Korlai, Daman and Diu make the distinction between roots, stems and inflected verb forms. This type of internal morphological structure is, to the best of our knowledge, unattested in other Portuguese-based creoles.

Further supporting our claim that Indo-Portuguese verb forms are organised into conjugation classes is the fact that verb stems undergo

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[9] In section 3.4, we show that the Indo-Portuguese creoles of Korlai and Daman have in effect one additional past allomorphs which is associated to the fourth conjugation class.

allomorphic variation. As shown in Table 3, verbs belonging to the first and second conjugation classes take two stems, one primary stem and one secondary stem. In the first conjugation, past forms take a theme-less stem (e.g., *kant-o*), rather than the *a*-final stem (e.g., *kant-a-n*); in the second conjugation, participle verb forms take a third conjugation stem (i.e., *kum-i-d* not **kum-e-d*)[10], rather than the default *e*-final stem (e.g., *kum-e-n* and *kum-e-w*). Stem-alternations such as these are not triggered by semantic or morphosyntactic factors, but merely by the conjugation distinctions underlying the Indo-Portuguese verbal paradigm.

Under the assumption that adult language learners play a crucial role in shaping the grammar of creoles (cf. section 3.1), recent studies have tried to account for the retention of purely formal inflectional distinctions in Indo-Portuguese creoles from a multidimensional perspective, combining untutored second language learning with both socio-cultural and attitudinal factors. Clements (1996) takes the view that favourable socio-cultural forces, especially, the isolation of substrate speakers from their native community, may have triggered a favourable attitude of substrate speakers towards the Target Language (TL), encouraging adult Marathi and Gujarati speakers to learn more than just a rudimentary version of it.

The idea that adult Second Language Acquisition can be influenced by the receptive attitude of the adult learners has also been observed by Siegel (2004) who argues that "limited second language acquisition" may also result from "the limits learners impose on themselves due to factors relating to identity or resistance", rather than from the limited degree of exposure to the TL. So, adult language learners who refuse to identify with the TL community tend to learn an L2 variety for basic communicative purposes. In Klein & Perdue (1997), such a rudimentary interlanguage, also known as 'Basic Variety', is deprived of overt inflectional morphology. So, creoles with very little or no overt

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[10] Despite the remarkable extent of overt verbal inflection found in Indo-Portuguese, the inventory of verbal endings is still reduced when compared to Portuguese. No person/number suffixes have survived and several tense/mood/aspect markers have also been lost, as shown in Table 3.

inflection (such as Kriyol, see section 3.1) may have derived from a rudimentary or early stage of the adult L2 interlanguage.

On the contrary, as argued in Luís (forthcoming), Indo-Portuguese creoles derived from "Post-Basic Varieties" (Klein & Perdue 1997), i.e., elaborate interlanguages which already contained overt verbal inflection. Assuming that the resistance of substrate speakers towards the TL prevents adults from going past the 'Basic Variety', it seems plausible to assume that the favourable socio-cultural contexts addressed in Clements (1996) may have triggered the emergence of a more elaborate interlanguage in Indo-Portuguese.

3.4. Paradigm extension

In the final section of this paper, we look at the emergence of a new conjugation class. Returning to Indo-Portuguese creoles, we argue that an additional class has emerged in Korlai Portuguese and Daman Portuguese for verbs of substrate/adstrate origin (Clements 1996; Clements & Koontz-Garboden 2002).

In (13), verbs such as *badlu* 'change', *pislu* 'get angry' or *samdzu* 'understand', as given in (13), are taken over from Marathi, the substrate/adstrate language of Korlai Portuguese.

(13) (Clements 1996:137)
      a. *badl**u***   b. *pisl**u***   c. *samdz**u***
        'change'   'get angry'   'understand'

Two morphological properties distinguish this new class from the classes which take verbs of Portuguese origin: a) they take an unmarked past form and b) they insert a 'new' theme vowel -*u* between the borrowed root and the verbal endings.

Starting with the verbal endings, Table 4 shows that there are four conjugation classes in Korlai: three classes of Portuguese origin and one 'new' class. All four classes share common verbal endings, namely, the completive suffix -*d* , the progressive suffix -*n* and the unmarked form.

Table 4. Verbal endings in Korlai and Daman Portuguese

	unmarked form	past form	progressive form	completive form
conjugation class 1/2/3	-	-o/-w	-n	-d
conjugation class 4	-	-	-n	-d

However, there are also important differences. The fourth conjugation class has no overt past marker. In other words, both the base form and the past form are syncretic, that is, they express different morphosyntactic features but share the same morphological form (see Table 5). This new past form, which is restricted to borrowed verbs, constitutes robust evidence in favour of our claim that there are in effect three past allomorphs and four conjugation classes in Korlai Portuguese and in Daman Portuguese.

Table 5. Marked and unmarked past forms in Korlai Portuguese (Clements 1996: 137)

	conjugation class 1	conjugation class 2	conjugation class 3	conjugation class 4
unmarked form	kata 'sing'	kume 'eat'	subi 'go up'	tepu 'heat up'
past form	kato 'sang'	kumew 'ate'	subiw 'went up'	tepu 'heated up'

While verbs of Portuguese origin take either the suffix -o or the suffix -w (cf. section 3.3), verbs of Marathi/Gujarati origin take a zero allomorph. Technically, it would be difficult to account for the distribution of the zero past allomorph without assuming that there is an additional conjugation class (Luís 2008).

As alluded to above, the fourth class bears its own class marker, namely the theme vowel -u, which occurs immediately after the root and before the verbal endings. The emergence of this theme vowel constitutes a clear case of paradigm-internal innovation and could not have been taken over the contributing languages: on the one hand, Portuguese does not have an -u theme vowel and, on the other hand, neither Marathi nor Gujarati have theme vowels (Masica 1993). The

question therefore remains as to why these creoles created an entirely new theme vowel. Studies on loanword adaptation have shown that languages tend to adopt different strategies to integrate borrowed lexical items: such integration strategies can be either marked or unmarked. In Portuguese, for example, loan verbs are integrated into the more productive -*a* conjugation class (e.g., *grafitar* 'to draw graffitis') in a clearly unmarked way.

Indo-Portuguese creoles, however, seem to have adopted a marked strategy, by developing a theme vowel which is exclusively attached to verbs of Marathi roots (for Korlai Portuguese) and to Gujarati roots (for Daman Portuguese)[11]. In Luís (2008), we have argued that the -*u* vowel has been selected because it is phonetically distant from the already available -*a*, -*e* and -*i* vowels which have been taken over from Portuguese. The selection of -*u* ensures that each conjugation class has a perceptually distinct vowel (Crothers 1978). In these languages, then, a four-vowel system has emerged which preserves maximum acoustic differentiation between native (Portuguese) roots and borrowed roots.

4. Conclusion

Some domains of linguistic structure have been particularly short of empirical evidence and, hence, our understanding of their ability to undergo change has been somewhat limited. One such area of grammar has been examined in this paper, namely verbal inflection and, most especially, the organisation of verbal paradigms into conjugation classes. Despite the reduced amount of data, this paper has shown that Romance contact varieties provide a rare opportunity for linguists to investigate the fate of Romance conjugation classes under language contact.

Our study has revealed that conjugation classes may undergo different types of morphological change. In some contact-varieties, most frequently creoles, theme vowels have been integrated into

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[11] Interestingly, verbs borrowed from other languages, including English, are not integrated into the creoles through the conjugation class system, but are accommodated syntactically through periphrastic constructions.

the phonological structure of the root, leading to the complete loss of conjugation classes. In Spanish-Romani, a mixed language, conjugations have suffered a significant reduction through paradigm levelling, however they have not been lexicalised. In Indo-Portuguese, on the contrary, Romance conjugation classes have not only completely survived but they have also been extended through morphological innovation. Overall, then, purely formal (and hence meaningless) inflections do not necessarily disappear under language contact.

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