Influence of Malayalam on temporal clauses in Malabar Indo-Portuguese*

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Abstract

Temporal clauses with the subordinators *kandə* (< Portuguese *quando*) and *k(w)a* in Malabar Indo-Portuguese creole (MIP) are used to express any kind of temporal relation between two clauses, typically sequence or simultaneity. These temporal clauses are ubiquitous in contexts in which Portuguese, the lexifier of MIP, could not employ temporal *quando* clauses. In this paper, we show that the morphosyntax and semantics of temporal clauses with *kandə* and *k(w)a* in MIP differ from corresponding Portuguese strategies, and that these differences can be explained by the influence of Malayalam (Dravidian), the substrate and adstrate language of MIP. One of the most salient properties of Malayalam adverbial subordination present in MIP is clause chaining. We place this study in the debate about creole exceptionalism and show that the South Asian typological profile of MIP can only be explained within the view that language ecology determines the typology of a creole (Ansaldo 2009).

Keywords: Malabar Indo-Portuguese; creole; Malayalam; Portuguese; temporal clauses; subordination; coordination; clause chaining; converbs; language ecology.

1. Introduction

Malabar Indo-Portuguese (MIP) is a Portuguese-based creole nowadays spoken by only a handful of speakers in Cannanore, India. This paper analyses the data from Cannanore and Cochin, recently documented by Cardoso (2006-2015, 2007-2010). The corpus contains spontaneous speech and elicitation sessions[1] from four speakers from Cannanore and one from Cochin[2], amounting to 14.5 hours. The corpus is kept at *Centro de Linguística da Universidade de Lisboa*[3].

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[1] Unless indicated as 'elicited', all the examples in this paper are taken from spontaneous speech data. The examples have a reference to the number of the sound file and the geographical location, the latter being Cannanore (Cardoso 2006-2015) and Cochin (Cardoso 2007-2010). All the examples follow the Leipzig Glossing Rules, except HON – honorific, PRET – preterite, SOC – sociative case, and TEMP – temporal subordinator.

[2] Recordings made with the last speaker in Cochin, William Rozario, who died in 2010 (see Hugo Cardoso's interview in The Hindu, Kochi by Pradeep (2010)).

[3] The corpus has been transcribed within the project 'Portuguese-based Creoles of the Dravidian Space: Diachrony and Synchrony' (IF/01009/2012).

The formation of Portuguese-based creoles in Asia dates back to the Portuguese colonialist expansion in coastal Asia in the 16th century. The Portuguese language soon became a lingua franca (Lopes 1936) used in linguistically heterogeneous communities participating in trade and commerce in Asian ports. The impact of the Portuguese language along the Asian coast resulted in many Asian Portuguese-based contact varieties (Smith 1994), with only a few of them still in use. In the Malabar Coast, roughly corresponding to what is nowadays the state of Kerala, MIP was formed following the establishment of Portuguese forts and trading posts (Baxter 1996). Portuguese settlers were encouraged to marry local women, speakers of Malayalam, and many converts became exposed to Portuguese in Catholic churches (Baxter 1996; Cardoso 2009). The Malabar Coast witnessed the generational transmission of MIP in numerous places[4] until the 20th century (Cardoso 2014a), but due to changes of power and linguistic repertoires, the Indo-Portuguese communities started to shift to English and Malayalam, probably with the beginning of the English rule over the region (Cardoso 2014a). Nowadays, a few elderly speakers are still relatively fluent in MIP, but only one of the participants in the corpora (Cardoso 2006-2015, 2007-2010) speaks the language every day. English is their main language used in the private domain and schooling, and the language by which they identify themselves as Anglo-Indians (Eurasians). In contrast, Malayalam is the language of the public domain, characteristic of the predominant social group. Nevertheless, we can argue that Malayalam had a profound impact on the formation of MIP as a creole in the 16th century (Cardoso 2012, 2014a). Since Malayalam has unceasingly been the main language of the Malabar Coast, it is only safe to assume its influence has persisted until the present day (Cardoso 2012, 2014b), and in this respect it can be classified as both the substrate and an adstrate language of MIP. As the literature on Indo-Portuguese creoles has already established, the influence of Malayalam is visible in many aspects of the grammar of MIP (Cardoso 2012, 2014a, 2014b; Clements 2012), especially when compared to the status of etymologically related grammatical elements in Portuguese (Krajinović 2015, 2016). To name but a few, MIP has an SOV order, postpositions, and vector verbs. Thus, this typological convergence of MIP with Malayalam lends itself as a desirable case study in the context of the debate about creole exceptionalism. The focus of our study are temporal clauses with the subordinators *kandə* and *k(w)a* in MIP, in comparison to Portuguese and Malayalam. We will show that they developed some morphosyntactic properties that can only be explained by Malayalam influence. Furthermore, there are some kinds of semantic relations which can be expressed by temporal clauses with *kandə* and *k(w)a* in MIP, but not by the etymologically related *quando* clauses in Portuguese. Instead, Portuguese usually employs coordinate clauses in those contexts. These extended semantic functions of *kandə* and *k(w)a* clauses are shown to be characteristic of Malayalam subordination strategies as well. We argue that such a strong approximation to the Dravidian typological profile of temporal subordination cannot be understood if we define creoles as inherently "simpler" (McWhorter 2001) or exceptional languages

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[4] MIP might have included several varieties in the past, but our data from Cannanore and Cochin do not exhibit any differences that could be attributed solely to the geographical location.

(Bakker et al. 2011). Finally, we show that the case of MIP supports the view that language ecology shapes the contact situation, and that the typologies of creole languages can only be fully understood through studying the typology of their ecologies (Ansaldo 2009).

The paper is organised as follows. In §2 we present briefly the most prominent features of tense, mood, and aspect (TMA) in MIP, and discuss different forms of clause linkage. In §3 we analyse the morphosyntax and semantics of temporal clauses with *kandə* and *k(w)a* by showing how they differ from *quando* clauses in Portuguese. In §4 we analyse the Malayalam constructions that must have triggered the new properties of temporal subordination in MIP. In §5 we discuss the typological profile of MIP and its implications for creole studies. A conclusion is presented in §6.

2. TMA marking and types of clause linkage

MIP is an SOV language with nominal postpositions and preverbal TMA markers cliticised directly to the verb. Preverbal TMA marking is obligatory for every verbal predicate. A list of the most frequent TMA markers is given in Table 1.[5]

Table 1: Most frequent TMA markers in MIP

TMA marker	Function
tɐ/tinha	present/past imperfective
ja	preterite (past perfective)
lɔ	irrealis
kæræ/kærinhi	present/past volition, obligation

The basic TMA distinctions in MIP are aspectual (perfective *ja* vs. imperfective *tɐ/tinha*), temporal (present *tɐ* vs. past *tinha*, *ja*), and modal (modal markers vs. non-modal *ja* and *tɐ/tinha*). Polarity is also a part of the TMA system, with preterite and irrealis markers having their negative counterparts, *nuka* and *na(d)* respectively. There is no inflection in MIP, and the TMA markers are also invariant, except the imperfective *tɐ* and volitive *kæræ*. Both of these have a present (*tɐ* and *kæræ*) and a past form (*tinha* and *kærinhi* respectively), and they can also function as independent verbs. While the preverbal slot is obligatorily occupied by a TMA marker, the postverbal slot is optionally filled with verbs which reflect the functions of Malayalam vector verbs, such as benefactive 'give', or completive 'finish' (Cardoso 2015; Krajinović 2015). In (1) we can see the preterite marker *ja* alone, and in (2) a completive construction with the vector verb *kava* 'finish'.

(1)   *'train'   dæntrə   ja=vi.*[6]

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[6] MIP allows subject omission.

train   LOC   PRET=come

'I came by train.' (elicited, 05.1 Cannanore)

(2)   *yo*   *ungə bujanka ja=olha* **kava.**

1SG.NOM   DET   monkey   PRET=see   finish

'I have seen a monkey.' (elicited, 15.2 Cannanore)

The strategies of clause linkage in MIP can be structurally defined by their requirements on overt expression of TMA values in the clause. Coordinate, relative, and complement clauses require full TMA marking, while adverbial clauses feature "deranking" (e. g. Croft, 2001; Cristofaro, 2003) in that they do not have the full TMA marking characteristic of main clauses. Since relative and complement clauses are not of relevance for our discussion on temporal clauses, we will proceed with the introduction of coordinate and adverbial clauses[7].

In this paper, we define adverbial subordination in its relation to coordinate clauses in the system of MIP. By relying on the notion of dependence, we analyse adverbial subordinate clauses as structurally dependent on the main clause. Adverbial clauses are structurally dependent on the main clause in that they cannot form an independent sentence, since they lack the obligatory TMA marking. Coordinate clauses, on the other hand, are structurally independent from each other. Coordinate clauses in MIP are typically[8] formed by juxtaposition of two clauses, where each predicate has its own TMA marking. In example (3) the verbs are marked with the imperfective marker *tin* and preterite *ja*.

(3)   *akla pærtə tin*   *fika ungə mulhærə, aklɔr padri ja=prunta [...]*

there   nearby   IPFV.PST   live   DET   woman   then   priest   PRET=ask

'A woman lived there nearby, and then the priest asked her […]' (16.1 Cannanore)

Adverbial clauses have overt postverbal subordinators, and we can identify temporal, conditional, and causal clauses. All the adverbial types have the same syntactic structure, only with different subordinators. The TMA marking is reduced to the choice between the preterite marker *ja* (4) and the absence of marking (5). In example (5) we can see that the verb *vi* is not marked for TMA, but the temporal reference of the whole sentence is established by the preterite marker *ja* in the main clause. In (4), on the other hand, the preterite marker *ja* does appear in the subordinate clause, only to agree with the past reference of the main clause.[9]

(4)   *nɔs*   **ja=chama** *ɔrzə*   *olotrə*   *kama*   *dæntrə*   *tinhara.*

1PL.NOM   PRET=call   TEMP   3PL.NOM   bed   LOC   be.PST

'When we called, they were in the bed.' (elicited, 03.2 Cannanore)

(5)   *otrə*   *lugar*   *tudə*   *ægə*   **vi**   **kandə**   *kaza*   *tudə*   *ja=vi.*

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[7] For more on relative and complement clauses, see Krajinović (2015).

[8] The status of syndetic coordination in MIP is not certain, see the last paragraph of this section.

[9] In §3.1. we will see that aspectual distinctions and pragmatics can also allow for a different temporal reference in the subordinate and the main clause, when the main clause has present or future/modal reference.

| other | place | all | water | come | TEMP | house | all | PRET=come |

'When the water came to all the other places, it entered into all the houses.' (16.1 Cannanore)

Let us consider the types of temporal clauses in MIP. There are four different temporal subordinators: anterior, posterior, or unspecified for the type of temporal relation (cf. Table 2).

Table 2: Temporal subordinators in MIP

TMA marker	Etymology (Portuguese)	Function
kandə	*quando* 'when'	temporal unspecified ('when')
k(w)a	uncertain	temporal anterior ('after')
ɔrzə	*horas* 'hours'	temporal unspecified ('when, time')
madansə	*mais + antes* 'more before'	temporal posterior ('before')

In this paper, we intentionally focus only on the temporal clauses with *kandə* and *k(w)a*. The interest in *kandə* lies in their relation to the Portuguese etymological *quando* structures. Although the etymology of *k(w)a* is uncertain[10], its emergence seems to be modelled on the semantics of Malayalam perfective converbs, hence its interest for our study. Regarding both *kandə* and *k(w)a* clauses, their morphosytnax and semantics are strikingly different from Portuguese *quando* clauses. The departure of *kandə* from *quando* clauses can be illustrated by a conventualised expression for telling time in (6) for MIP and in (7) for Portuguese. While MIP uses a temporal clause with *kandə* to refer to 'becoming eleven o'clock', example (7a) is ungrammatical in Portuguese with the meaning 'it is ten minutes past eleven'. The only possible translation is (7b) with the coordinator *e* 'and'. In §3.2. we explore further the semantic relations in temporal clauses with *kandə* and *k(w)a*, in contrast to *quando* clauses. In §4 it will become clear that these differences between MIP and Portuguese are a direct consequence of Malayalam influence.

(6) *ɔnzə   ɔra   fika   **kandə** dæz   minət   ja=kava.*

    eleven   hour   become   TEMP   ten   minute   PRET=pass/finish

    Lit. 'Having become eleven o'clock, ten minutes have passed. / It's ten past eleven.'

    (elicited, 09.1 Cannanore)

(7) a. ****Quando***   *ficaram*   *onze*   *horas,*   *passaram*   *dez*   *minutos.*

        when   become: 3SG.PRET   eleven   o'clock   pass: 3PL.PRET   ten   minutes

    b. *São*   *onze*   *horas*   ***e***   *dez*   *minutos.*

        be:3PL.PRS   eleven   o'clock   and   ten   minutes

        'It's ten past eleven.'

Before we start our analysis, a description of some limitations of our corpus-based study is necessary. The corpora (Cardoso 2006-2015, 2007-2010) include five elderly people of varying

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[10] Krajinović (2015) suggests *kava* 'finish' and *kava kandə* 'finish TEMP' as possible etymological sources of the form *k(w)a.*

proficiencies[11], and many linguistic diversities are necessarily featured in our data. There are two main points to bear in mind regarding our study. Firstly, the temporal clauses with *ɔrzə* and *madansə* have not been attested in the corpus with the 'exceptional' features we find with temporal clauses with *kandə* and *k(w)a*, as in (6). On the other hand, *ɔrzə* does not correspond to any subordinating strategy in Portuguese, and, thus, cannot be compared directly to its source. Secondly, at this point the degree to which certain speakers make use of syndetic coordination has still not been established. While nominal coordination is unambiguously marked by the marker *kum*, the clausal linkage is sometimes transcribed as *ku(m), kə,* or *ka* in the corpora. It is often unclear whether these clauses are coordinate clauses with *ku(m)* or subordinate clauses with *k(w)a*. The criterion followed in this paper is the presence or absence of TMA marking. Whenever TMA marking is absent, a clause marked by *ka,* for instance, was considered to be a subordinate temporal clause. The markers transcribed as *kwa*[12] are considered to be sufficiently phonologically different from *kum,* and are considered subordinate even with the overt preterite marking.

3. *Kandə* and *k(w)a* clauses in comparison with *quando* clauses

In this section we analyse the temporal clauses with *kandə* and *k(w)a,* by comparing their morphosyntax and semantics to Portuguese *quando* clauses. In §3.1. we focus on deranking and chaining constructions and in §3.2. we describe different types of semantic relations and restrictions established in temporal clauses.

3.1. Deranking and chaining

The two main morphosyntactic properties that distinguish temporal clauses with *kandə* and *k(w)a* from *quando* clauses are deranking and clause chaining. As previously mentioned, TMA marking in adverbial clauses in MIP is deranked in comparison to main clauses. Temporal clauses have only past/non-past distinction, but the actual time reference is not established by the marking or lack of it in the subordinate clause. As we have seen in (4) and (5), the subordinate clause does not need to be marked with the preterite *ja* for the interpretation of past tense and it can only have *ja* when the main clause is also in the past. Thus, whenever the main clause has a past temporal reference, the TMA reference of the main and the subordinate clauses is the same.[13] With the present and future/modal reference in the main clause, different aspectual and pragmatic factors can cause an interpretation where the TMA references of the main and the subordinate clause are not identical. Example (8) is interpreted as habitual in the given context, while (9) is interpreted as an episodic event. In (8) the

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[11] Most of the spontaneous speech data in this article belong to two speakers with highest proficiencies among other participants.

[12] The reason to treat *k(w)a* as a subordinator in the first place comes from the fact that it has a similar distribution to *kandə* and features deranking.

[13] Because *kandə* and *k(w)a* clauses are consistently anterior or simultaneous with the main clause, and any other temporal reference would be incompatible with the past tense in the main clause.

present habitual reference of the main clause is adopted by the subordinate clause. In (9), on the other hand, the subordinate clause is interpreted as perfective, and, given that it refers to an episodic and not a habitual event, 'buying' is interpreted as a past event and 'living' as a present event.

(8) *tudə*   *vi*   **ka**   *befæt*   *olotrə*   *tɐ=ræza.*

all   come   TEMP.PFV   a_lot   3PL.NOM   IPFV.PRS=pray

'After they all come, they pray a lot.' (07.2 Cochin)

(9) *isi*   *kaza*   *kɔmpra*   **kwa**   *aki*   *tɐ=fika.*

this   house   buy   TEMP.PFV   here   IPFV.PRS=live

Lit. 'Having bought this house, (now) I live here. / I have been living here since I bought this house.' (01.1 Cochin)

According to (9), the semantic dissociation of the TMA reference between the two clauses is possible whenever lexical (perfective vs. imperfective) and pragmatic (episodic vs. habitual event) inferences allow it. Thus, while the semantic attribution of TMA is regulated by a complex system of pragmatic and semantic rules, the dependence and deranking of the subordinate clause is defined here as its incapability to form a syntactically well-formed sentence due to the lack of obligatory marking on the verb. In Portuguese, on the other hand, the verb in the subordinate *quando* clause has to be finite and it has to have overt marking with either past, present, or future reference. In (10) the verb *vi* is in past preterite and marked for person.

(10) ***Quando***   *vos*   *vi*   *taes,*   *chorei*

when   2PL   see:1SG.PRET   like_that   cry:1SG.PRET

'When I saw you like that, I cried.' (Gil Vicente, Pranto de Maria Parda:5)

Temporal clauses with *kandə* and *k(w)a* can also form constructions of clause chaining, where a sequence of two or more subordinate chained clauses is followed by the main clause, as in (11) and (12).

(11) *Olivia*   *'market'*   *ja=foy*   **kandə,**   *tudə*

Olivia   market   PRET=go.PST   TEMP   all

fatə   *pidi*   *kava*   **kandə,**   *kaza*   *ja=vi.*

things   buy   finish   TEMP   home   PRET=come

'Olivia went to the market, bought all the things, and came home.' (17.1, Cannanore)

(12) *ɔra*   *vay*   **kandə,**   *tud*   *lugar*   *olha*   **kandə,**   *'ticket'*   *kæra*   *tama.*

time   go   TEMP   every   place   look   TEMP   ticket   should.PRS   take

'When you go at that time and find a place, you should buy the ticket.' (16.1, Cannanore)

This strategy is not possible in Portuguese, where the three clauses would have to be coordinated in some way, as represented in (13), a translation of (11). Example (12) in Portuguese could be equivalent to the English translation with the temporal clause containing two coordinate clauses.

(13)   *A*[14]   *Olivia*   *foi*   *ao*   *mercado,*   *comprou*

          DET   Olivia   go:3SG.PRET   DAT:DET   market   buy:3SG.PRET

          tudo,   *e*   *voltou*   *para*   *casa.*

          everything   and   return:3SG.PRET   to   home

The syntactic status of chained clauses as subordinate or coordinate has often been discussed in the literature, especially with reference to different types of clause chaining. Besides subordination and coordination, in some languages chained clauses need to be analysed as the third type of clause linkage, which has been given a term "cosubordination" in the context of Papuan medial clauses (Van Valin 1984, 2005; Foley 1986). However, in many other languages (e.g. Altaic and Asian languages), chaining is structurally equal to adverbial subordination. Just as in MIP, there is no formal distinction between other adverbial clauses and temporal chaining constructions. This cluster of functions creates a binary distinction between what Zúñiga (1998) has called 'noncoordinative forms' that conflate modifying and chaining functions (Bickel 1998:395), and coordinate clauses that are syntactically independent. In MIP, there is no formal need to distinguish chained temporal clauses from a single temporal clause, as both types are dependent on the main clause[15], and we will therefore continue referring to them as subordinate.

3.2. Temporal relations

The marker *kandə* does not specify any type of temporal relation between clauses. It is the telicity of the state of affairs described in the clause that determines whether the interpretation will be that of two simultaneous or sequential clauses. This is illustrated by example (14) where the polysemous verb *fika* is interpreted with the atelic meaning 'to live' and is thus considered simultaneous with the following clause. If we go back to example (6), there *fika* received the telic meaning 'to become' and resulted in a reading of sequence as opposed to simultaneity in (14).

(14)   *Cochin*   *dæntrə*   **kandə**[16]   *fika,*   *Olivia*   *Francis=sə*   *pærtə*   *tud*   *dia*   *lɔ=kɔmbərsa.*

      Cochin   LOC   TEMP   stay/live   Olivia   Francis=GEN   SOC   every   day   IRR=talk

      'When she lived in Cochin, Olivia talked to Francis every day.' (elicited, 05.1 Cochin)

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[14] The gender and number of determiners are not glossed in Portuguese examples.

[15] Since the chained clauses in MIP do not necessarily have the same TMA reference as the main clause (12), they are in fact very different from cosubordination where the same TMA reference is required (Van Valin 1984).

[16] This example was produced by the speaker from Cochin, and he is the only speaker in our corpora that consistently produces both postverbal and preverbal *kandə*.

States of affairs marked by *k(w)a* have to be interpreted as perfective and anterior to the state of affairs of the main clause. In the case of *k(w)a*, telicity does not play a role, since states marked by it are always interpreted as perfective, as in (15).[17]

(15)   ali   pisin   an   ja=fika   **kwa,**   dispɔs,   agɔra   ja=foy   Australia.

       there   few   year   PRET=stay/live   TEMP.PFV   afterwards   now   PRET=go.PST   Australia

       'Having lived there for a few years, afterwards, she went to Australia.' (01.1 Cochin)

      Telling time in (6) and chained clauses in (11)-(12) have already illustrated a diverging semantics of temporal clauses with *kandə* in relation to Portuguese *quando* clauses. How can we define these semantic differences between MIP and Portuguese? Let us first consider some further examples of MIP. In (16) and (17) the states of affairs in the subordinate clauses are telic and, thus, the temporal relations between clauses are sequential.

(16)   isti   igreja   mara   **kandə**   sinkə   sæntə   an   ja=kava.

       this   church   build   TEMP   five   hundred   year   PRET=pass

       Lit.'This church having been built, five hundred years have passed. / This church was built five hundred years ago.' (16.1 Cannanore)

(17)   **ɔnti**   karni   ja=pidi   **kandə**   oji   ja=kuzia.

       yesterday   meat   PRET= buy   TEMP   today   PRET=cook

       Lit. 'Having bought the meat yesterday, today I cooked it. / I bought the meat yesterday and today I cooked it.' (05.1 Cannanore)

The clauses marked by *kandə* in (16) and (17), and in (9) with *k(w)a* are interpreted as temporally anterior in relation to the main clause. It is exactly the semantic range of the notion of anteriority exhibited by *kandə* and *k(w)a* that differs from the corresponding *quando* clauses in Portuguese. If the states of affairs described in the clauses are temporally distant, as in (16) (17), and (9), a *quando* clause would not be possible in Portuguese.

(18)[18]   a.   ***Quando***   comprei   a   carne   ontem,   hoje   cozinhei-a

           when   buy:1SG.PRET   DET   meat   yesterday   today   buy:1SG.PRET-3SG.OBJ

       b.   *Ontem*   *comprei*   *a*   *carne*   ***e***   *hoje*   *cozinhei-a*

                                        and

       c.   *Tendo*   *comprado*   *a*   *carne*   *ontem,*   *hoje*   *cozinhei-a.*

           have:PTCP   buy:PTCP

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[17] The adverbial *dispos* 'afterwards' in (15) is most probably just an emphasis produced by hesitation in the oral speech.
[18] Every word is glossed only once on its first appearance.

As we can see in (18), the sentence from (17) cannot be translated to Portuguese with the *quando* temporal clause. The only available structures in Portuguese are a coordinate clause with *e* (18b), and a participle subordinate clause (18c), which have not been inherited into MIP. What is the semantic difference between the *kandə* and *k(w)a* clauses and *quando* clauses that makes (16), (17), and (9) grammatical in MIP, but not in Portuguese? The temporal clauses place restrictions on the period of time in which the event of the main clause holds (e.g. Kubota et al. 2009). The only criterion for choosing a temporal clause in MIP is for the two states of affairs to be in a temporal relation. In Portuguese, on the other hand, this restriction is tighter than in MIP. In Portuguese 'when I bought the meat yesterday, I cooked it' means that the event of cooking immediately followed (in the same day of buying). We cannot use 'today' in the main clause, because the conceivable period of time in which the cooking is supposed to happen is exceeded[19]. In (16), the clause 'when the church was built' would also restrict the time reference of the main clause and we would expect that 'five hundred years have passed' would be within the time frame set by the temporal clause. Thus, in Portuguese *quando* clauses restrict the time reference of the state of affairs of the main clause in concordance with pragmatics and world knowledge (Cunha and Silvano 2009). So, even in cases where the sequential interpretation does not necessarily follow its linear order, as in (19), the temporal clause restricts the time reference of the main clause to a time frame that is temporally adjacent to it. In (19) we can pragmatically infer that the event of the main clause precedes the event in the temporal clause given our world knowledge about travelling, but the time frame of the main clause is still determined as situated immediately around the travel.

(19) *Quando viajou para Madrid, a Maria comprou os bilhetes pela Internet.*
      when travel:3SG.PRET to Madrid DET Mary buy:3SG.PRET DET tickets on internet
      'When Mary travelled to Madrid, she bought the tickets on the internet.' (Cunha and Silvano 2009)

On the other hand, in MIP temporal clauses do not restrict the temporal reference of the main clause as temporally adjacent. Rather, they establish any kind of temporal relationship, such as sequence and simultaneity, between two or more clauses, and do not seem to posit restrictions on their temporal distance.

4. Malayalam influence

The main strategies of adverbial subordination are converbs[20] and clauses with postverbal subordinators. There are many postverbal subordinators for different adverbial meanings, and they can combine with a range of verbal forms, including verb roots, relative participles, and nominalised verb forms among others (Asher and Kumari 1997). All of these bound verb forms are restricted in their TMA values, and these restrictions differ depending on the subordinator. For instance, temporal

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[19] I wish to thank Xavier Rodrigues for discussing this example.
[20] Also called conjunctive/adverbial participle constructions (Asher and Kumari 1997), and serial verb constructions (Jayaseelan 2003). Here we use the term converb adopted in the typological literature (Haspelmath 1995).

clauses with the subordinator *-poo* have only the past/nonpast distinction, expressed respectively by the past and future forms of the verb (Asher and Kumari 1997:76). In Malayalam TMA marking is commonly expressed by suffixes or stem changes[21].

(20)   *addeeham*   *vannap**pool***   *ellarum*   *eᶎunneeᵣru.*

           3SG.HON   come:PST:when   all   get_up:PST

           'When he came, everyone got up.' (Asher and Kumari 1997:76)

The past/nonpast distinction in adverbial clauses indicates a possible influence of Malayalam on MIP in terms of the formal distinction between zero and preterite marking in *kandə* and *k(w)a* clauses. Malayalam converbs are subordinate adverbial verb forms that can only be marked for aspectual distinctions, but not for tense or mood. They can also form chained clauses. Famous examples of Dravidian converbs are lengthy sentences containing several converbal clauses ending with the main clause. Example (21) shows one such clause chaining in Malayalam.

(21)   *raaman*   *vanniṭṭə*   *kuḷicciṭṭə*   *uuᶇə*   *kaᶎicciṭṭə*   *mukaḷil*

           Raman   come:PFV.CVB   bathe:PFV.CVB   meal   finish:PFV.CVB   upstairs:LOC

           pooyiṭṭə   *nilattə*   ***kiṭanniṭṭə***   *patram*   ***vaayicciṭṭə***   *uᵣaᶇᶇi.*

           go:PFV.CVB   floor:LOC   lie.down:PFV.CVB   newspaper   read:PFV.CVB   sleep:PST

           'Raman came, had a bath, took his meal, went upstairs, lay down on the floor, read the newspaper and went to sleep.' (Asher and Kumari 1997:80)

All the converbs in (21) are unmarked for TMA, but they are interpreted with past time reference because the verb *uᵣaᶇᶇi* in the main clause is in the past tense, just as it happens in MIP when the main clause is in the past (cf. (11)). As we can see, chaining constructions in Malayalam are structurally parallel to the chaining in MIP in (cf. (11) and (12)). The notable difference between the two languages is that Malayalam converbs have a synthetic form, while in MIP the verb and the subordinator are two distinct words. Malayalam distinguishes between perfective, progressive, and neutral forms of converbs. Perfective converbs with the suffix *-iṭṭə* are interpreted as describing a sequence of states of affairs (22), while progressive converbs with the suffix *-koᶇṭə*[22] are interpreted as simultaneous with the state of affairs described in the main clause (23).

(22)   *avan*   *kuḷicciṭṭə*   *uuᶇə*   *kaᶎiccu.*

           3MSG.NOM   bathe:PFV.CVB   meal   eat:PST

           'After taking a bath, he had a meal.' (Asher and Kumari 1997:324)

(23)   *avan*   *paaṭikkoᶇṭə*   *kuḷiccu.*

           3MSG.NOM   sing:PROG.CVB   bathe:PST

           'He sang as he bathed.' (Asher and Kumari 1997:325)

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[21] All the examples are maintained as transcribed in Asher and Kumari (1997), where many suffixes were not segmented. The grammatical elements in focus are in bold.
[22] Note the phonological similarity with *kandə*.

Despite morphological differences, the marking of aspectual distinctions on converbs by postposed markers might have served as a model for the formation of the perfective *k(w)a* subordinator in MIP. Although MIP does not have a marker specialised for progressive/simultaneous states of affairs, the marker *k(w)a* is specialised for perfective states of affairs (cf. (15)). Since the subordinator *k(w)a* does not correspond etymologically to Portuguese clauses meaning 'after X'[23], this innovation of MIP could have been triggered by pressure from Malayalam converbs to create a perfective temporal marker.

One important aspect to have in mind when comparing the adverbial subordination between Malayalam and MIP is that the latter unites several characteristics of both adverbial clauses with subordinators and converbs in Malayalam. More precisely, temporal clauses with *kandə* and *k(w)a* in MIP resemble Malayalam adverbial clauses in that they have past/nonpast distinction; and they resemble converbs when it comes to clause chaining and the expression of sequence with a perfective marker.

When accounting for semantic differences between the types of temporal relations in §3.2, we concluded that *kandə* and *k(w)a* clauses in MIP are less temporally restrictive than Portuguese *quando* clauses. The temporal distance between 'yesterday' and 'today' in the subordinate and the main clause respectively is possible in MIP, but not in Portuguese. The following examples show that the converbal constructions in Malayalam also allow for looser temporal restrictions, and large temporal distances between the subordinate and the main clause can be expressed. Example (24) is a translation of (17) in MIP, and (25) is comparable with (16).

(24)[24]	*innale*	*ɲaan*	*kuṟaccə*	*maamsam*	**vaaŋŋi**	*innu*	*ɲaan*	*uṇṭaakki.*
	yesterday	1SG.NOM	a_little	meat	buy:CVB	today	1SG.NOM	prepare:PST

'I bought some meat yesterday, and today I prepared it.'

(25)	*avaḷ*	*paaṭṭə*	*paṭhiccə*	**tuṭaŋŋiiṭṭə**	*kuṟe*	*kaalam*	*aayi.*
	3FSG.NOM	singing	learn:CVB	begin:PFV.CVB	much	time	become:PST

'It has been a long time since she started learning to sing.' (Asher and Kumari 1997:81)

We can see that the semantic function of establishing any kind of temporal relation without restricting the clauses as temporally adjacent is also a characteristic of Malayalam converbs. Thus, the extension of semantic functions of *kandə* and *k(w)a* in MIP must have been influenced by converbal constructions in Malayalam. In §2 we exemplified the difference between *kandə* and *quando* clauses with a conventualised construction of telling time (6). In Malayalam, converbal constructions are also felicitously used to tell time (26).

(26)	*eeẓə*	**kaẓiɲɲə**	*pattə*	*miniṭṭə*	*aayi.*

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seven	end:CVB	ten	minute	become:PST

Lit. 'Seven o'clock having ended, ten minutes have passed. / It's ten minutes past seven.'
(Asher and Kumari 1997:239)

Although the basic structure and the scope of the temporal clause is equivalent in MIP and Malayalam in (26) and (6), there are some differences in the choice of particular verbs in the expressions of the passage of time. For example, Malayalam uses the verb 'to become' in the same contexts where MIP uses 'to pass/finish'. The implications of these differences on the meaning at the clausal level are yet to be fully understood.

We have shown that all the morphosyntactic and semantic features of *kandə* and *k(w)a* in MIP that depart from their Portuguese etymological counterparts are available in Malayalam converbs and adverbial subordination in general. These Malayalam features must have served as a source for new grammatical developments of temporal clauses with *kandə* and *k(w)a* in MIP.

5. South Asian typology and ecology

Recent developments in creole studies are characterised by an ongoing debate over whether creoles should be considered exceptional in some way. While some linguists contend that creoles share a number of typological features that can characterise them as a separate group of languages just by virtue of being involved in language contact (e.g. McWhorter 2005; Bakker et al. 2011), others have shown that the ecology of the contact situation determines their typologies (e.g. Ansaldo 2009).

Many basic grammatical properties of MIP set it immediately apart from the "typical" creole features, such as SVO order, prepositions, optional TMA marking, and obligatory pronominal subjects (see also Michaelis 2017). Portuguese-based creoles in Asia have been studied in particular for having a higher level of convergence and a richer morphosyntax than it is usually claimed for creole languages. Indo-Portuguese creoles have often been studied by analysing social factors that shape linguistic proximities to the lexifier or substrate/adstrate languages (e.g. Clements 1996; Clements and Koontz-Garboden 2002; Luís 2008; Cardoso, Baxter, and Nunes 2012). Indeed, the sociolinguistic conditions regarding Indo-Portuguese creoles since their formation until today are very different from many Atlantic creoles. For example, in the case of Atlantic plantation creoles, it is often assumed that the native languages of the creole community cease to be functional which leads the community to shift to the superstrate language. On the other hand, the Indo-Portuguese creoles, as settlers' (Holm 2000:40) or fort creoles (Bakker et al. 2011), were formed in the context of intermarriage between the Portuguese and the local communities, while Portuguese and local languages continued to be used as fully functional languages by their respective native communities (Cardoso, Baxter, and Nunes 2012; Cardoso 2014a). Furthermore, the Indo-Portuguese substrate languages also became their adstrate languages, while Atlantic creoles usually ceased to be in contact with their substrates (Holm 2000:40). The fact that the notions of substrate and adstrate merge in the Indo-Portuguese context shows that the

Indo-Portuguese ecology is different from the creoles for which these notions were originally designed. Thus, we argue that it is necessary to analyse the language ecology in each specific case of language contact in order to understand the origin of different contact-induced changes. As Michaelis (2017) points out, many "typical" creole features are in fact confined to Atlantic creoles. For that reason, the case of MIP constitutes new evidence that the theoretical assumptions made on the basis of Atlantic creoles should not be carried over to the analysis of other creoles. We will test one such theoretical assumption on the case of MIP and conclude that the only tenable assumptions regarding contact situations are those that take language ecology into account (e.g. Ansaldo 2009).

One prominent theoretical assumption about creole grammars is that they are inherently "simpler" than non-creole languages (McWhorter 2001). As defined by McWhorter (2001), a structure is more complex when it requires more rules to be generated by the grammar. Although this is not an unambiguous definition[25] (see DeGraff 2001; Ansaldo 2017), we will apply it only to morphosyntactic rules, just as McWhorter (2001) does. The subordinate clauses are then more complex than coordinate ones, since they require more rules on dependency relations of the subordinate clause on the main clause (McWhorter 2001). What does this mean in the context of MIP? Let us imagine the process of formation of temporal clauses with *kandǝ* and *k(w)a* in MIP. As we have shown in §3, temporal clauses with *kandǝ* and *k(w)a* have extended their functions from *quando* clauses, most notably in the possibility of clause chaining and in allowing for a larger temporal distance between the main and the subordinate clause. In Portuguese, both of these cases have to use some form of coordination[26], in which two clauses are structurally and semantically independent from each other. In contrast to subordination, in coordination there are no necessary rules for the syntactic dependency, nor for the restriction on the time frame in which the state of affairs of the main clause is obtained. In sum, there are fewer grammatical rules operating in coordinate clauses than in subordinate clauses in Portuguese. Following the definition stipulated above, coordination is simpler than subordination in Portuguese. Thus, at a certain point, MIP had to choose a more complex structure of subordination over the simpler coordination available in Portuguese for the same meanings that needed to be expressed[27]. Since the same meanings are expressed by subordinate structures in Malayalam, the usage of temporal clauses in MIP was determined by its linguistic ecology, and not by any process that is considered to be universally characteristic of language contact.

The typological characteristics of expressing temporal relations in MIP, such as conflating of chaining and adverbial clauses (Bickel 1998), can only be meaningfully described in the context of its

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[25] For instance, it is not clear how semantic and pragmatic complexity is to be quantified in this approach, especially in their relation to morphosyntactic rules. For an overview of different approaches to simplicity in creoles, see Siegel (2004). For criticism of McWhorter's account of simplicity in creoles, see other contributions in *Linguistic Typology 5* (2001), Ansaldo and Matthews (2007), and an edited volume by Aboh and Smith (2009).

[26] In (18) we have shown that Portuguese participal constructions can also be used for temporally distant clauses. However, the participle form has not been preserved in MIP, and even in Portuguese the participle cannot form chained clauses.

[27] This is the case for the modern "basilectal" variety. In "acrolectal" written texts of MIP (Schuchardt 1889, 1882), *kandǝ* clauses behave semantically like Portuguese *quando* clauses.

ecology. Thus, temporal clauses in MIP have to be studied by referring to the Dravidian typology of clause linkage and situating MIP in the context of the South Asian area. Dravidian languages have been discussed in the literature for their converbs used to conjoin clauses (e. g. Asher and Kumari 1997; Coupe 2005). The areal affinity for subordination in this context becomes even clearer once we look at another Indo-Portuguese creole of South Asian substrate and adstrate. In Sri Lanka Portuguese (SLP), structures that originate from the Portuguese participle, analysed as 'linking past participle' by Smith (1979), are commonly used to express sequence and simultaneity. Smith (1979) shows that they behave just like converbs in South Asian languages. As we can see in (27), the participle *andaa-tu* 'having gone' establishes an anterior event in a sequence, and *tiɲa-tu* 'stand' is interpreted as simultaneous with the verb 'to speak'.

(27) *[...] ta–juntaa*   *luvaara*   **andaa–tu,**   *nosa*   *jeentis*   *doos*   *pesaan*   **tiɲa–tu,**

     PRS-meet   place   go-PFV.PTCP   1PL.GEN   people   two   person   stand-PFV.PTCP

     jaa–papiyaa   **see,**   *isti*   *malvaar–s*   *graasa*   *ta–faya [...]*

     PST-speak   COND   this   Tamil-PL   ridicule   PRS-do

     '[...] having gone to a place where [they] get together, if two of our people stand and talk, the(se) Tamils ridicule [them].' (41-44, Smith 2013)

The fact that the participial structures exist in SLP and that MIP expresses them even though it did not conserve the Portuguese participle shows that the usage of subordination to express temporal relations is a strong areal feature. Indeed, Portuguese creoles of African substrate, for instance, are not similar to SLP and MIP in this respect[28].

      Thus, the properties of clause linkage in MIP can be described as having a Dravidian typological profile, where temporal subordination includes chained clauses and has a wider semantic scope of usage than it is the case in Indo-European languages. This case study shows that so-called simplicity or complexity is not a factor that determines which features are chosen in a situation of language contact (in the sense of Mufwene 2001). What does play a role in a situation of language contact and thus creole genesis is the language ecology and the availability of specific linguistic features. Exposure of a language to certain linguistic typologies can then lead to its approximation to these typologies (Ansaldo and Matthews 2007; Ansaldo 2009).

6. Conclusion

Starting with the description of temporal clauses in MIP and their novel features when compared to the Portuguese etymology, we accounted for many domains of Malayalam influence. Most importantly, *kandə* and *k(w)a* temporal clauses in MIP are used for any relation of sequence or simultaneity regardless of their temporal distance, and they can also create chained structures. We have shown that these characteristics can be explained by the influence of Malayalam adverbial

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[28] Cf. Examples in APiCS (Michaelis et al. 2013).

subordination and converbs, capable of forming chained clauses and referring to temporally distant states of affairs. These findings are of particular importance for creole studies, especially regarding the claims about pan-creole characteristics. MIP extended the use of Portuguese subordinate temporal clauses into new semantic domains that can only be related to Dravidian adverbial subordination. We have shown that the nature of semantic changes from Portuguese *quando* to *kandə* clauses in MIP is incompatible with the view that creoles are inherently simple languages. The approximation of MIP to the Dravidian typological profile supports the view that the outcome of a situation of language contact is influenced by language ecology, rather than predetermined by contact itself.

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