

LANGUAGE CONTACT PHENOMENA IN MAYA UNDER SPANISH INFLUENCE – A CASE STUDY ON THE USE OF PRONOMINALS IN YUCATEC MAYA

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Abstract. This contribution aims to analyse the language contact phenomena between Yucatec Maya and Spanish, focusing specifically on the case of pronominals. This empirical study takes place in the village of Xocén in Yucatán, Mexico where most locals speak Maya while Spanish is the official language also spoken by many (bilingual) locals. The use of pronominals in Maya differs from Spanish in terms of morphology, functions, case assignment, syntactic conditions, and discourse conditions. I apply the interface hypothesis developed by Sorace (2011) which expects bilinguals to show optionality in the use of pronominals that require specific syntactic and discourse conditions (interface), and the contact-induced language change hypothesis developed by Heine and Kuteva (2003) which expects the formation of the pronominals in Maya to be influenced by Spanish. In a case study with three monolingual Mayan speakers and six bilingual Mayan-Spanish speakers, I collected freely produced speech data in Maya focusing on the use of pronominals and analysed the different functions these pronominals fulfil. The results show that bilinguals do display optionality regarding certain pronominals that exist at interfaces and that no influence of Spanish can be found in the Mayan pronominal system. Therefore, Maya-Spanish bilingualism can be better characterised by Sorace’s interface hypothesis (2011) than by contact-induced grammaticalisation (Heine and Kuteva 2003).

Keywords: language contact, Yucatec Maya, Mexican Spanish, interface hypothesis, contact-induced grammaticalisation.

1. INTRODUCTION

Research into language contact phenomena in the context of the Romance language Spanish has mostly focused on the study of Spanish under the influence of another language, with only a few exceptions (Brinkmann, 2022; Cassano 1977; Dakin and Operstein 2017; Karttunen and Lockhart 1978; Karttunen 1985; Lope Blanch 1978, 1982; Sobrino 2010). A case in point is that of indigenous languages in Latin America which are in close contact with Spanish in postcolonial situations. Indeed, “language-contact phenomena in Mesoamerica and adjacent regions present an exciting field for research that has the potential to significantly contribute to our understanding of language contact and to the role that it plays in language change” (Dakin and Operstein 2017: 16). Language change involves multiple components and it occurs at multiple levels, e.g. phonology and syntax (Fischer and Gabriel 2016). In this contribution, I aim to analyse

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the Yucatec Maya and Mexican Spanish² language contact, applying two language contact theories to the grammaticalisation of Maya under the influence of Spanish:

(1) The interface hypothesis (IH) by Sorace (2011) explains optionality in bilinguals' use of linguistic phenomena that exist at an interface between domains, i.e. that are dependent on more than only syntactic conditions but additionally other linguistic (e.g. phonological) or discursive (e.g. pragmatic) conditions. The theory of interfaces (originally by Platzak 2001) that Sorace (2011) applies to bilinguals, is a theory of generative grammar;

(2) Heine and Kuteva's (2003) theory of contact-induced language change (CILC) explains language contact in a diachronic way. They provide a structuralist framework for how grammar can be borrowed from one contact language (the model language) to another contact language (the replica language).

I chose these two theories because they both enable an understanding of grammaticalisation processes as the output of language contact. To apply the theories, I have chosen to focus on the grammaticalisation of personal pronominals in Maya. Personal pronominals provide a wide range of phenomena, including bound pronominals (set A/B- pronominals, as *u* in (1)) and unbound pronominals (free pronominals, as *leti'ob* in (1), and indirect object pronominals).

- (1) *Sáansamal u bin xo-ok leti'ob* (Yoshida 2014:30)
 Daily 3PIA FUT learn-1KAL they
 'They will learn daily.'

Furthermore, personal pronominals are suitable to test both theories as they require not only syntactic conditions but also structures at interfaces involving *inter alia* discourse conditions, and their diachronic development can be documented, which allows us to identify whether or not CILC takes place. Thus, this text aims to answer the following research question: Is IH or CILC a better approach to studying the phenomenon of pronominals in Maya under the influence of Spanish? The hypothesis to be tested is the following: Due to the influence of Spanish, a language change has taken place in Maya, which can be better characterised by the interface hypothesis according to Sorace (2011) than by contact-induced grammaticalisation according to Heine and Kuteva (2003). To answer the research question, I will first describe the two theories on language contact, IH and CILC, before giving an overview of the pronominal system in Maya and some brief references to the Spanish pronominal system. The section on the empirical study presents the hypothesis, context and participants, methods and results, closing with their discussion and a conclusion.

2. THEORIES ON LANGUAGE CONTACT

2.1. The interface hypothesis explaining optionality in bilinguals' use of structures at interfaces

The IH basically distinguishes between core syntax and interfaces. The core syntax can generally be understood as the abstract syntactic structure in which there are abstract

² In the following, Yucatec and Mexican will not be concretised, except as needed.

spaces of syntactic units without lexical content (Silva-Corvalán 2008). Even though Sorace (2011) does not define the term ‘core syntax’ herself, she does define the term ‘interface’: “‘interface’ refers to syntactic structures that are sensitive to conditions of varying nature: the meaning of the term, therefore, denotes the fact that these conditions have to be satisfied for the structure to be grammatical and/or felicitous. Thus, the interface between the structure and the domain that defines the conditions on its grammaticality and/or felicity is critical for its appropriate use” (Sorace 2011: 6). As stated in the introduction, language change often involves several grammatical components, e.g. phonology and syntax. In such cases, one is dealing with interfaces between phonological patterns and syntax/morphology at the very places where phonological material and morphosyntactic conditions for the composition of the material exist (Fischer and Gabriel 2016).

The IH states that optionality prevails at interfaces so that L2 advanced learners, L1 attrition speakers and bilinguals apply phenomena differently (supposedly incorrectly) at interfaces in contrast to monolinguals. Sorace (2011) developed a hypothesis for the acceptability of null subject pronouns in Italian. Furthermore, there is instability in structures at interfaces, in that they can be subject to language change. The reason is one needs to know both the syntactic structures and their binding conditions as well as the constraints for information processing in different domains in structures at interfaces (Sorace 2011). “The hypothesis is that bilinguals are less efficient than monolinguals in the integration of multiple sources of information and that bilingualism itself, rather than (only) the particular language combination spoken, may be the underlying cause of the observed differences with monolinguals” (Sorace 2011: 14). Sorace (2011) uses empirical examples to underpin her argumentation. However, there are also empirical studies that contradict the IH and theoretical research that does not support the theories it postulates. Theoretically, Montrul (2011) argues that the architecture of language faculty as envisioned by the IH cannot make general statements about the optionality of interfaces since there are always multiple factors, e.g. input, acting in the language application. White (2011) agrees, because “interfaces are not monolithic: it is not the case that all interfaces lead to difficulties” (587).

Although the IH has been heavily criticised, it was verified by Fischer and Vega Vilanova’s (2018) empirical study with five bilinguals for Judeo-Spanish-Bulgarian language contact, with the result that core syntactic elements (object clitics) are stable in language change and elements at an interface (aspect) are unstable. Another study with few participants (three monolinguals and six bilinguals) on Yucatec Maya in contact with Spanish showed that the subjunctive mood in Maya as an interface phenomenon inherits instability and optionality (Brinkmann 2022). On the other hand, Leal et al. (2014), in their empirical study with 89 heritage speakers, in which they applied grammaticality judgment tests, could not verify the IH as the bilingual participants did not display optionality at an interface (clitic right dislocation). Gondra (2020) conducted an empirical study with 26 bilinguals and 26 native speakers of Spanish (=control group) using grammaticality judgement tests and short-answer tasks. Her results falsify the IH since the participants do not show optionality at interfaces (subject position in unergative and unaccusative verbs). The results of the previous studies show that further research is needed on this topic. From the three studies mentioned, it is problematic that the only study that provides indications for the IH only includes the participation of five speakers. In the next section, CILC will be presented and evaluated according to the state-of-the-art.

2.2. Heine and Kuteva's theory of contact-induced language change from a diachronic perspective

CILC reduces language contact change to grammaticalisation, although language change is much more than just grammaticalisation, but involves many other processes and mechanism distinct from grammaticalisation. The theory describes that grammaticalisation takes place in one contact language (called the replica language) under the influence of another contact language (called the model language), with the consequence that new morphological classes emerge in the replica language. Prerequisites for CILC are decades of contact between the languages (diglossia); bilinguals being exposed to phenomena of both contact languages; compatibility of the contact languages increased by borrowings; and internal language change can be excluded as a reason for grammaticalisation.

Heine and Kuteva (2003) distinguish between ordinary grammaticalisation (OG) and replicated grammaticalisation (RG). In OG, a grammatical phenomenon is discovered in the replica language whereupon a separate morphosyntactic and semantic form, different from the model, is formed. An example of OG is the grammaticalisation of dual structures in Tayo under the influence of Drubéa and Cèmuhi. For the equivalent form to emerge, these 'Lehnbildungen' (quoted from Jacob 1994 in: Heine and Kuteva 2003: 563) must arise from the material of the replica language. Only in this way can speakers of the replica language reproduce the form and grammaticalise it in an ordinary Heine and Kuteva 2003). In RG, the process leading to grammaticalisation takes place in the same way, but the grammaticalisation in the replica language is a replication of the grammaticalisation process that occurred in the model language. It is not explained how we can distinguish between RG and endogenous grammaticalisation which just happens to match with a grammaticalised form in the assumed 'model' language since the original lexical item and its grammatical(ised) variant co-exist. Heine and Kuteva (2003) state that RG exists when, during the process of CILC, the non-grammaticalised and grammaticalised forms temporarily overlap. An example is the grammaticalisation of the second person singular pronoun for polite reference in Polish in Silesia under the influence of German. RGs are easy to spot when a grammatical form occurs in model and replica language that rarely exists in other languages. But fundamentally it remains difficult in many cases to fully assume that RG rather than language-internal grammaticalisation has taken place (Heine and Kuteva 2003).

The theory raises problems because it falls short, especially in determining where contact-induced grammaticalisation takes place (Detges and Waltereit 2016). Empirically, Heine and Kuteva's (2003) theory has not yet been fully verified, only falsified by Fischer and Vega Vilanova (2018). In Brinkmann (2022), CILC was found to explain the OG of the subjunctive mood in Maya, but Heine and Kuteva's theory only explains parts of the process of language contact and its phenomena; it lacks the reasons for language change.

3. MAYAN PRONOMINAL SYSTEM: AN OVERVIEW

Maya is typologically an ergative, pro-drop, agglutinative and largely synthetic language (Verhoeven 2007). It is derived from Proto-Maya and Proto-Yucatec (for a timeline, see Lehmann, 2017).

Maya has split ergativity according to aspect/mood, i.e. the ergativity is split in that the set A- and B- pronominals are assigned a different case according to aspect/mood: If the verb is in the incomplete aspect, then for transitive verbs in the active mode nominative is assigned to the set A- pronominals (agent) and accusative to the set B- pronominals (undergoer). In the case of an intransitive verb in the incomplete aspect, the set A- pronominals (agent) are given the nominative. Having a transitive verb in another aspect/mood, the set A- pronominals (agent) are assigned the ergative and the set B- pronominals (undergoer) the absolutive. The set B- pronominals (agent) of an intransitive verb in another aspect/mood (Maya has five in total) are also assigned the absolutive. The case assignment is illustrated in table 1 (Verhoeven 2007).

Table 1

Case assignment in Maya (split ergative) according to Verhoeven (2007: 136)

the verb in the incomplete aspect		
intransitive	agent: NOM	set A- pronominals
transitive	agent: NOM undergoer: ACC	set A- pronominals set B- pronominals
the verb in another aspect/mood		
intransitive	agent: ABS	set B- pronominals
transitive	agent: ERG undergoes: ABS	set A- pronominals set B- pronominals

The case assignment as shown in table 1 lies in the underlying structure. The set B- pronominals can also be used with non-verbal forms (e.g. nouns, demonstrative pronouns, adjectives). In these cases, the set B- pronominal functions as the subject of a non-verbal clause as in (2).

- (2) *Maaya-en* (Yoshida 2014: 31)
 Maya-1SgB
 'I am Maya.'

Free pronominals do not always have to be used with a verb, because Maya is a pro-drop language in which free pronominals serve to contrast, focus, or topicalise (Michnowicz 2015). These contexts depend on discourse constraints. Subjects, (indirect) objects and adjuncts can also contain the topical marker *-e* in the form of independent or indirect object pronominals. In this case, the sequence within the phrase can be changed from VOS to SVO, as in (3). The unmarked word order SVO depends on the functional positions in left dislocation (Verhoeven and Skopeteas 2012).

- (3) *Chéen ba'al-e' teen-e' in woj-el-i'*
 Just something-TOP 1Sg-TOP 1SgA know-1KAL-STA
ki'im-ak-ø u yóol-e'. (Combo 2016)
 die-NULAK-3SgB 3SgA happy-TOP.
 'But I knew that he died happily.'

(3) constitutes a topicalisation construction, specifically a left dislocation i.e. the element is shifted to the left in the linguistic structure. It exhibits the preverbalisation of the subject with the help of the topical marker. Its position is subject to a movement in the underlying structure and is only legitimised by the topical marker. In the completive mood (AJAB), the subject can also occur preverbally without the topical marker, in which case a focus construction occurs with the subject as a pre-predicate (Verhoeven and Skopeteas 2012).

Intransitive verbs with an indirect object take the semantic role of an experiencer. The experiencer becomes the subject in such constructions. It is also possible that no indirect object occurs, but an alternative construction with possessive particles or free pronominals (Verhoeven 2007).

To understand the specific features of Maya in contact with Spanish, I will briefly present the contrasts and similarities with the Spanish pronominal system in table 2.

Table 2

Differences in the use of pronominals in Spanish and Maya

Spanish independent pronouns (cf. Asociación Academias de la lengua española 2010)	Mayan independent pronominals and indirect object pronominals (cf. Kovačević et al. 2007; Lehmann 2017)
– overt subject pronominals = NOM	– device for emphasis = case assignment according to the verb
– unaccented direct object pronouns = ACC	– indirect object = no case assignment
– indirect object pronouns = dative case	

Since Spanish is a pro-drop language, overt personal pronouns are only used in certain contexts, such as emphasis, e.g. *yo* ‘me/I’ in “¿Llamó Jaime? – No, llamé *yo*” (Asociación Academias de la lengua española 2010: 645). Moreover, an overt pronoun usually refers to the preceding object. A covert *pro* usually refers to the preceding subject, especially intrasegmentally (Alonso-Ovalle et al. 2002). The direct and indirect object pronouns require clitic doubling when a stressed personal pronoun and the grammatical particle precede. If the direct object pronoun stands alone in the sentence, it follows the verb (Gómez Torrego 2011). Thus, in Spanish, overt subject pronouns are related to discourse conditions and object pronouns to transitivity (syntactic conditions).

Thus, the functions of pronominals in Maya can be differentiated between bound personal pronominals and unbound independent pronominals, which will be considered when applying the IH in the next section. There are also clear differences between the Mayan and the Spanish pronominal system, which will be taken into account when applying CILC.

4. EMPIRICAL STUDY

The data necessary to test the hypothesis were collected in the form of an oral re-narration. To collect the data, monolinguals and bilinguals from the village of Xócen in Yucatán (Mexico) were interviewed on-site in 2018. In this village, both Mayan and Spanish have been spoken since colonisation, but Maya is the dominant language (Terán and Rasmussen 2005).

4.1. Hypothesis

Based on the state of research and the lack of studies on CILC, the hypothesis of the present paper arises: due to the influence of Spanish, a language change has taken place in Maya, which can be characterised more by interfaces according to Sorace (2011) than by contact-induced grammaticalisation according to Heine and Kuteva (2003). According to Sorace (2011), most of the bound personal pronominals in Maya belong to the core syntax. It can thus be assumed that they are immune to change and that bilinguals and monolinguals use them in the same way. The unbound free pronominals belong to the discourse-syntax interface (following Herbeck's (2018) argument that the choice of free pronominals depends on focus/topic and thus information structure), and the indirect object pronominals to the semantics-syntax interface (as D'Alessandro and Pescarini (2016) show, constructions with indirect object pronouns are subject to exceptional agreement patterns – at least in Romance languages – which I consider an interface of semantics and syntax). Consequently, at these interfaces, optionality is to be expected in bilinguals' use of pronominals.

To apply CILC, the diachronic development of the pronominals must be examined. In the Classic period, equivalent to Proto-Yucatec, there were Set A and Set B pronominals. They were analysable as clitics and still are in Modern Yucatec and as clitics, they are bound. It can be concluded that Spanish did not have any influence on the Mayan set A- and B- pronominals and no contact-induced grammaticalisation took place. Proto-Yucatec had also independent pronominals that were built with the particle *haʔ* and the set B-pronominals (Lacadena 2013). In Colonial Yucatec Maya, i.e. after the Spanish conquest, the independent and the indirect object pronominals were reinforced forms of the set B- pronominals, built with the grammatical preposition *ti'* (Lehmann, 2017; Smailus 1989). Since unbound pronominals existed before contact with Spanish and the morphological change from the formation with *haʔ* to *ti'* occurred also before it, it is unlikely that any OG/RG took place. Thus, from a theoretical perspective, there is no evidence for CILC but there is a theoretical basis for the IH which is to be verified in the empirical study.

4.2. Methods

The field study was conducted with monolingual Maya and bilingual Maya-Spanish speakers. The data were elicited using a method of re-narration of the story *U yóoktil kiimil* by Combo (2016). The story was chosen for this study because it contains many pronominals, so it can be assumed that the respondents use pronominal constructions in the re-narration. At the same time, an attempt was made to ensure a natural way of speaking to collect language material that was as authentic as possible. It was helpful to interview the participants on the street and in their homes, as the respondents did not feel that they were in an explicit observation context, which could lead to a distortion of the results.

The text was read by a native (bilingual) Mayan speaker and recorded. Then, it was played to the participants on the day of the study. They heard the story once and then re-narrated it. Additional data collection methods were used to control for other relevant sociolinguistic factors, including the following methods:

- Question series of the bilinguals' language biographies, including information on how much time they spend speaking Spanish/Maya and to whom in which communication situations.

- Sociolinguistic oral question series on attitudes (“What do you think about the language?”) towards Spanish and Maya. This questioning can reveal emotions towards Maya/Spanish, which can help interpret the data and put any affected results into perspective.

All interviews were recorded using an audio recorder. The results from the re-narration were orthographically transcribed and translated into Spanish with the help of a bilingual Mayan-Spanish speaker.

The analysis was form-based, i.e. I counted linguistic structures of the corpus and then determined their functions. The forms analysed, which also appear in the story *U yóok’otil kiimil*, are:

- free pronominals;
- constructions with indirect object pronominals;
- non-verbal clause subjects;
- transitive constructions with set A- and B- pronominals;
- intransitive constructions with set B- pronominals;
- intransitive constructions with a verb in the incomplete aspect with set A- pronominals.

The different forms of pronominals were analysed morphosyntactically in terms of position, case and discourse conditions.

4.3. Context and participants

This study is a pilot study and was only conducted in one village (Xocén) to exclude the influence of regional varieties. Using snowball sampling, three Mayan monolinguals and six bilinguals (Maya-Spanish) from the village took part in the study. The first participants were approached on-site to recruit them for the study. After refusals or acceptances, recommendations for further participants were requested so that the neighbourhood helped to determine the sampling.

The bilingual participants were a 45-year-old male taxi driver, a 42-year-old male librarian, and four female schoolchildren aged eight and nine. The monolinguals were two female housekeepers and a male retired teacher, all over 70 years old and working in the household. Children 2–4 (all eight years old; see table 3 below) participated in the study at the same time and in the same room. They answered the questions about their language biography together and then re-narrated the story one after the other. Overall, the participants’ re-narrated stories varied between three and 48 sentences. The children used three to nine, the librarian 16 and the taxi driver five sentences. The monolinguals used eight (housekeeper 1), 48 (housekeeper 2), and 15 (teacher) sentences.

Regarding the bilinguals, their language biography plays a decisive role. The results are presented in table 3 and show that all bilinguals speak more Maya than Spanish but in different self-estimated proportions.

Table 3 shows that the participants have different linguistic profiles, e.g. the librarian’s predominant use of Maya. All participants speak Maya in their families. The children speak Spanish at school and with some friends, whereas the librarian and the taxi driver speak Spanish only to externals.

Table 3

Language biography of the bilinguals; x = applying, -= not applying

		child 1	children 2-4	librarian	taxi driver
Maya	amount	60%	70%	90%	70%
	context	family, friends, village	family, friends, village	family, friends	family, friends, village
	dreaming	x	x	x	x
	calculating	x	x	-	x
Spanish	amount	40%	30%	10%	30%
	context	school, friends	school, friends	externals	passengers from the city
	dreaming	x	x	-	x
	calculating	x	x	x	x

No negative comments emerged from the sociolinguistic question series on language perception, which is why the individual responses are not presented. The most frequently occurring attributes for Spanish were sp. *bonito* 'beautiful' and sp. *universal* 'universal'. Maya was also described as sp. *bonito* as well as ma. *uts* 'good' and associated with sp. *orgullo* 'pride'. This positive or neutral sociolinguistic view is relevant when considering the results from all participants presented in the next section.

5. RESULTS

The results are summarised in table 4.

Table 4

Number of pronominals used

	child 1	child 2	child 3	child 4	housekeeper 1	housekeeper 2	librarian	taxi driver	teacher
bilingualism	yes	yes	yes	yes	no	no	yes	yes	no
transitive constructions with set A- and B- pronominals	8	-	6	4	8	66	42	16	7
intransitive constructions with set B- pronominals	2	21	5	4	10	32	-	3	7
intransitive constructions with the verb in the incomplete aspect with set A- pronominals	2	1	1	1	-	10	7	4	7
non-verbal clause subject	1	1	1	1	-	14	3	1	6
free pronominals	-	-	-	-	-	3	4	-	2
constructions with indirect object pronominals	-	-	-	-	-	5	-	-	1

Table 4 shows that nearly all participants used non-verbal clause subjects, transitive constructions and intransitive constructions with set B- pronominals. Intransitive constructions with the verb in the incomplete aspect with set A- pronominals were used by fewer participants. Free pronominals were only used by the librarian, the housekeeper 2, and the teacher and constructions with indirect object pronominals were only used by the latter two. Regarding the librarian being the only bilingual using free pronominals, it can be stated that he uses the most Maya (90% per day, self-estimated). He also dreams exclusively in Maya (see table 3).

In the following, I will highlight at least one example per analysed form from bilingual and monolingual participants. Examples (4)a. and (5)a. include all of the different functions of set A- and B- pronominals, as in table 1. In (4)b. and (5)b. the morphosyntactic analyses of set A- and B- pronominals are presented in lists for clarity; the focus is on position and case assignment in both examples, as well as transitivity in (5).

(4) a. librarian:

<i>T-in</i>	<i>na'at-aj-ø</i>	<i>teen</i>	<i>eh</i>	<i>ba'ax</i>	<i>k-u</i>
COMPL-1SgA	understand-AJAB-3SgB	1Sg	INTJ	what	HAB-3SgA
<i>tsikbat-ik-ø</i>	<i>wáa eh</i>	<i>tsikbat-ik-ø</i>	<i>le</i>	<i>ch'uup-a'</i>	
say-IKAL-3SgB	or INTJ	say-IKAL-3SgB	DEIC	women-DEIC	

'I understood what the woman said or what she read.'

b. case and position

in = ERG, preverbal

ø = ABS, postverbal

u = NOM, preverbal

ø = ACC, postverbal

u = NOM, preverbal

ø = ACC, postverbal

(5) a. housekeeper 2:

<i>Bix</i>	<i>túun</i>	<i>ken-ts'o'ok-ok-ø.</i>	<i>Óotsi</i>	<i>in-paal-alo</i>	<i>k-u</i>
How	now	FUT-finish-NULAK-3SgB	Poor	1SgA-children-DEIC	HAB-3PIA
<i>p'áat-al-o'o'</i>	<i>xan</i>	<i>yaan</i>	<i>u</i>	<i>tukl-ik-en-o'o'</i>	<i>xan.</i>
stay-IKAL-3PIA	also	OBLIG 3PIA	think-IKAL-1SgB-3PIA	also	

'How would it end? My poor children who will stay will also think of me.'

b. case, position, and transitivity

ø = ABS, postverbal, intransitive verb in subjunctive mood

u -o'ob = NOM, pre-/ postverbal, intransitive verb in the incomplete aspect

u -o'ob = NOM, pre-/ postverbal, transitive verb in the incomplete aspect

en = ACC, postverbal, transitive verb in the incomplete aspect

However, among the 21 intransitive constructions with set B- pronominals used (see table 4), there is one instance of an incorrect usage, presented in (6).

(6) child 2:

Ka ts'o'ok túun-é u-láak' uts'íit túun bin-e'
 And PFV now-TOP 3SgA-other brother now QUOT-TOP
*ka máan-∅ (*k'íint-o'on waaj.*
 so that come by.AJAB-3SgB heat.NULAK-1PIB tortilla
 (*) 'and then finally her other brother came over and we heated tortillas.'

The grammatical problem is (*)*o'on* because *k'íint* is transitive and requires a set A- pronominal (1PI) in addition to a set B- pronominal, which should be in the third person singular. In this case, the subjunctive mood (NULAK) assigns ERG-ABS. The bilingualism of eight-year-old child 2 is 70% Maya vs. 30% Spanish in day-to-day life, which she estimated together with her friends. Friendships and school are the Spanish-dominated domains in her bilingualism.

As for the non-verbal clause subject, both bilinguals and monolinguals used it in the form of set B- pronominals, expressing an entire sentence. The non-verbal clause subject can be on the adjective as in (7) and (8).

(7) child 3:

Beey... ta muer... esken... beey kíimen-∅-e'.
 So sp.is sp.dead? INTJ so dead-3SgB-TOP
 'It was like, he is – um- it was like he is dead.'

(8) librarian:

Leeti'-e' kíimen-∅.
 3Sg-TOP dead-3SgB
 'She is dead.'

In (7), child 3, aged eight, brings Spanish into her sentence and then switches after the use of an interjection to Maya, using the set B-pronominal functioning as a non-verbal clause subject. She estimated together with her two friends that her bilingualism is somewhat unbalanced, with 70% Maya per day. In (8), the (unbalanced) bilingual librarian uses the free pronominal *leeti'*, which reinforces the set B- pronominal \emptyset (Lehmann 2017). Maya is a null subject language, which means that overt pronominals are only used under certain discourse conditions. These are related to focus (with a pre-predicate) and topical position (with a left dislocation) (Verhoeven and Skopeteas 2012).

Housekeeper 2 also uses free pronominals. In (9), *teech* is a pre-predicate to reinforce the set A- pronominal *a*, while *teen* is a free pronominal that replaces the set B- pronominal and is postverbal.

(9) housekeeper 2:

Teech bin a ts'áa teen
 2Sg QUOT 2SgA contribute to the atmosphere.NULAK 1Sg
in-toojóola.
 1SgA-comfortable
 'You make me feel good.'

The last pronominal type that can be found in the results is the indirect object pronominal. They are available in weak (postverbal) or strong (preverbal) forms for dative constructions in Maya (Yoshida 2014). The indirect object pronominal *ten* in (10) is preverbal with a topical marker. It is an empathic construction in this case, supported by the topical position because a third argument is not required with the intransitive verb.

(10) housekeeper 2:
Ten-e' kiim-ø in-papah.
 1SgO-TOP die.AJAB-3SgB 1SgA-father
 'My father died.'

In (11) there is a ditransitive construction with postverbal indirect object pronominal *ten*, with a topical marker.

(11) teacher:
Ka Túu ya 'al-ø-e' je'ele' ten-e' jach in-mama.
 that LOC.3SgA say.NULAK-3SgB-TOP here 1SgO-TOP that way 1SgA-mother
 'That was what my mother said to me here.'

The quantities of pronominals distributed among the bilinguals and monolinguals (see table 4) and the specific examples (4)-(11) will be assessed according to the IH and CILC in the discussion.

6. DISCUSSION

In the following, I analyse the personal pronominals in terms of core syntax or interfaces according to Sorace's theory (2011), and I analyse possible commonalities to Spanish grammatical phenomena according to Heine and Kuteva's theory (2003). IH and CILC are not opposed to each other, rather they can be understood as complementing one another.

Applying Sorace's theory (2011) to example (4), we can say that the use of set A- and B- pronominals and the associated split case assignment are core-syntactic. For this reason, the librarian does not show optionality in dealing with core-syntactic pronominals. Heine and Kuteva (2003), however, cannot explain the case assignment in (4)b: as apparently no grammaticalisation of set A- and B- pronominals has taken place due to contact with Spanish. Furthermore, the split case assignment cannot be a grammaticalised category and thus cannot be 'discovered' (Heine and Kuteva, 2003).

The decisions of whether to select a set A- or B- pronominal with intransitive verbs, their position, and which case they are assigned are core-syntactic. Therefore, both bilinguals and monolinguals can easily use set A- and B- pronominals like those in (5), as predicted by IH. CILC, on the other hand, cannot predict what happens diachronically or synchronically to the use of set A- and B- pronominals in terms of their transitivity. The theory cannot explain why Spanish as a null subject language without set pronominal has not triggered grammaticalisation.

A counterexample against CILC and IH is given in (6).³ As indicated above, the use of the set A- and B- pronominals is a phenomenon of core syntax where, according to IH,

³ After all, child 2's utterances can simply be acquisitional 'errors'.

neither monolinguals nor bilinguals are likely to show optionality. Sorace (2011) cannot explain why child 2 uses the grammatically incorrect set B- pronominal. However, it is conceivable that child 2 generally uses only one set A- pronominal (see table 4) and this usage is not in a transitive construction but with an intransitive verb in the incomplete aspect. In general, set B- pronominals are unmarked when used with intransitive verbs in contrast to set A- pronominals, which are used only in the incomplete aspect and present a marked phenomenon. Thus, the child could be making an over-generalisation due to which she expresses the agent through a set B- pronominal. Moreover, it is possible that her language acquisition process is not yet fully completed. One possibility is that she struggles with transitivity, like younger children in Brown et al.'s (2013) empirical study on case acquisition. Another explanation could be that she uses overgeneralisation. Overgeneralisation remains an often-noted strategy among bilinguals, although Sorace (2011) relates them primarily only to structures at interfaces.⁴ Heine and Kuteva (2003) can argue in (6) that the null subject language Spanish influences the construction with a set B- pronominal, where only verb inflection is decisive for the subject, similar to a postverbal set B- pronominal. Child 2 positions the subject postverbally as a set B- pronominal, though she is the only bilingual person doing so, and overall uses only one preverbal set A- pronominal (see table 4). Contact-induced grammaticalisations according to Heine and Kuteva (2003) must apply to all and evolve over centuries and therefore cannot apply in this case.

To relate the non-verbal clause subject in (7) and (8) to IH, the assignment of the non-verbal clause subject to core syntax must be examined. No optionality in the use of the set B- pronominal in this form occurs between monolinguals and bilinguals. The reason is that core syntactic phenomena are stable according to Sorace (2011). Heine and Kuteva (2003) cannot explain the existence of forms of non-verbal clause subjects by applying their theory. No contact-induced grammaticalisation can have taken place, which is also evident in (7), because child 3 translates herself and uses the abbreviated Spanish copula verb *estar* 'to be' instead of a pronominal. In general, Heine and Kuteva (2003) cannot predict which equivalence categories will be created and then grammaticalised. Many phenomena can be discovered, but the catalyst to transfer them into the replica language remains unexplored in their theory.

In (8), the non-verbal clause subject is also complemented by the free pronominal *leeti*'. In the present study, except for the librarian, only monolinguals apply free pronominals in Maya (see table 4). This is in line with a study by Michnowicz (2015) on the Spanish language of Yucatecan bilinguals where bilinguals also fail to acquire monolingual pragmatic/semantic norms regarding co-reference and definiteness and instead simplify the discourse rules that govern the use of overt pronominals. This difficulty in the use of overt vs. covert personal pronominals is considered to be at the interface of discourse – semantics – syntax and shows optionality. Additionally, the free pronominal with topical marker emphasises the set B- pronominal in (8) and thus functions as a left dislocation, which is to be classified at the discourse level. Applying Sorace's (2011) theory, the librarian can handle the discourse-syntax interface at this point, but he is also the only bilingual person who uses free pronominals. Furthermore, according to

⁴ These correspond broadly to Sorace's (2011) *processing resource account*, which states that bilinguals apply the syntactic relations of their two first languages economically.

table 3, he speaks considerably more Maya (90%) than Spanish during the day and also dreams only in this language. No other bilingual participant shares this language profile (see table 3), which can explain his lack of optionality.

In (9), both free pronominals (*teech* and *teen*) are at the discourse-syntax interface because reinforcement and replacement of set A- and B- pronominals are associated with focus and thus with discourse. The monolingual housekeeper uses constructions at this interface without any problems. As stated in section 4.1, CILC is not responsible for the existence of free pronominals in Maya.

The indirect object pronominal in (10) is an emphatic construction supported by the topical position because a third argument is not required with the intransitive verb. Thus, this construction exists at the discourse-syntax interface that monolinguals use correctly, as IH predicts. Empathic constructions are reminiscent of the *dativo ético* of Spanish (Gómez Torrego 2011) as *No te me caigas* ('do not fall'). Thus, it is possible to recall CILC in this case. According to Heine and Kuteva (2003), indirect object pronominals have the (semantic) meaning that things that happen unintentionally and to the agent's sorrow occur identically to the Spanish form of the *dativo ético* and were discovered and grammaticalised through OG, i.e. Mayan-Spanish bilinguals discovered the grammatical category of *dativo ético* in Spanish, used the linguistic material from Maya and integrated the grammatical category of *dativo ético* into the functions of the indirect object pronominals.

The indirect object pronominal of the ditransitive construction in (11) involves semantic conditions such as the semantic requirement of three arguments, but also discourse conditions such as topical marking. This results in the interface between discourse – semantics – syntax, which the monolingual participant correctly applies as would be expected from the IH. Here again, CILC is not applicable for indirect object pronominals, as stated in section 4.1.

To conclude, Heine and Kuteva's (2003) contact-induced grammaticalisations are scarcely found, while the IH can be applied to nearly all examples and explain the use of pronominals in Maya.

7. CONCLUSION

The Maya-Spanish bilingual use of pronominals in Maya can be characterised by the IH (Sorace 2011) and not by contact-induced grammaticalisation (Heine and Kuteva 2003).

On a critical note, the analyses of interfaces for pronominals (see section 4.1) refer to literature on Romance languages and mostly focus on Spanish. A closer look and theoretical analysis of Maya is necessary here. The current study was a pilot study with few participants therefore the results need to be extended and validated for generalisation, in the form of grammatical judgment tests or by collecting more free speech data. This would also be important for the state-of-the-art, where we can see that studies with large sample sizes (Gondra 2020; Leal et al. 2014) do not support the IH.

Abbreviations

1 = 1st person; 2 = 2nd person; 3 = 3rd person; A = set A-pronominal; ABS = absolutive case; ACC = accusative case; AJAB = completive aspect; B = set B- pronominal; COMPL = completive aspect; DEIC = deictic; ERG = ergative case; FUT = future; HAB = habitual marker; INTJ = interjection; IKAL = incompletive aspect; LOC = locative; ma. = Maya; PFV = perfective

marker; PL = plural; OBLIG = obligation marker; QUOT = quotative marker; NOM = nominative case; NULAK = subjunctive mood; sp. = Spanish; STA = status suffix; SG = singular; TOP = topic marker

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