Constraints on morphological borrowing: evidence from Latin America

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CHAPTER NINE

CONSTRAINTS ON MORPHOLOGICAL BORROWING:
EVIDENCE FROM LATIN AMERICA

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In this article, we discuss the borrowing of morphology from Spanish by three unrelated and typologically diffferent American-Indian languages: Quechua, Guarani and Otomi. On the basis of three corpora of spontaneous speech produced by a sizeable number of informants, we will suggest that there are strong constraints on the transfer of bound morphemes from a model language to a basic language in a contact situation. Although all three languages borrow lexical material from Spanish at a rather large scale, from diffferent parts of speech, including several grammatical ones, few native forms receive Spanish morphological marking. On the other hand, borrowed forms may enter the languages with diffferent kinds of Spanish afffijixes. These 'Trojan horses' may be paving the road to their eventual use with native lexemes.

1 Introduction

In the literature on language contact, a number of claims have been made with respect to what can and what cannot be borrowed, and also the order in which elements would be integrated in the lexicon and the grammar of the borrowing language. On the one hand, the position has been that there would be considerable constraints on borrowing. Particularly in earlier work on language typology, it has been assumed that borrowing follows the lines of universal implications of the Greenbergian (1963) type, and that there would be universals of borrowing similar to the universals of grammar. E.g. elements would be borrowed along with their syntactic make-up. Thus, a postpositional language would not borrow prepositions, nor would a prepositional language borrow postpositions (cf. Moravcsik 1978). Typically, hierarchies are proposed in that line of work with respect to the order in which elements of the respective parts of speech in the model language (ML) may make their way into the basic language (BL) in a contact situation. In very general terms, lexical material, such as nouns

and verbs, is supposed to be borrowed before grammatical material, such as adpositions and articles. Free morphemes would appear before bound ones. Within the lexical domain, ML nouns are supposed to appear with some regularity in BL before elements of other classes will appear. And in the realm of morphology, it has already been observed by Weinreich (1953) that the ease of borrowing of morphemes would be negatively correlated with their level of embeddedness. Correspondingly, derivational elements would transfer before inflectional elements would be borrowed. Early versions of such hierarchies have been criticized on details, and more refijined proposals have been made since (cf. Thomason and Kaufmann 1988, 74f; Thomason 2001, 70f; and Winford 2003). Some authors, on the other hand, fijind no evidence for the assumption that linguistic borrowing would be subject to some very general, neatly organized patterns, principles, and hierarchies. Notably, Campbell (1993) rejects the idea that there would exist interdependencies between the borrowing of elements from diffferent linguistic categories and levels at all. He presents counterexamples to most of the universals presented in Moravcsik (1978), and assumes a type of 'anything goes' position, where it is mainly non-linguistic factors that determine what is and what is not borrowed. More specifijically, Campbell sees no logical relationship between the borrowing of derivational versus inflectional material and processes.

Our aim with this article is to contribute to this discussion. Our position, as discussed earlier in Bakker et al. (2008), is much like the one taken by Campbell (1993). Indeed, we think that the main *motivation* for a group of bilingual speakers to introduce elements from one language—typically their L2—into their discourse in the other language—typically their L1—should be sought outside the two language systems proper, and rather in the domain of everyday language use. Diffferences in borrowing behaviour between the speakers of two ML > BL pairs should then be explained primarily on the basis of diffferences of a pragmatic or socio-linguistic nature rather than diffferences between the respective language systems as such. However, unlike Campbell, we think that the characteristics of the lexicons and grammars of the two languages involved in a contact situation do play a role as well, be it a relatively modest one. Thus, rather than providing arguments for borrowing, we assume that the typology of the two systems-in-contact create a potential set of *constraints* on the borrowing process, which might make certain transfers easy while making others more difffijicult or even unlikely. These constraints are language pair specifijic, but certain patterns might emerge from a large collection of empirical material observed over a number of diffferent contact

pairs, especially when the languages concerned are unrelated and typo-logically diffferent. For such an exercise, the language data on which the analyses are based should be spoken and informal rather than written, and provided by a relatively large and diverse group of native speakers from each of the language communities involved. The only really large scale empirical studies with respect to linguistic borrowing as a result of language contact that we are aware of have been based on empirical studies towards the lexicon (cf. Haspelmath and Tadmor (eds) 2009), and syntax (cf. Matras and Sakel (eds) 2007). Thus, the logical next step is the domain of morphology, of which not much is known from any substantial or systematic research to date. What does seem to be the case, though, is that the transfer of morphological entities from one language to another is a rather scarce phenomenon. Several examples keep recurring in the literature, such as the transfer of the French sufffijix *–able*, which derives an adjective from a verb stem in English, but these remain relatively iso-lated and unsystematic. Obviously, the level of bilingualism among the speakers of the basic language has to be rather high for morphology to leak from the ML system than for a simple noun to cross over. But there seems to be no single model predicting what may happen to morphology in a situation of language contact. The most extreme case of borrowing is arguably that of relexifijication, as in Media Lengua (Muysken 1997), which has an almost intact Quechua grammatical system while virtually all its content words stem from Spanish. So even in such dramatic cases, mor-phology does not seem to transfer. But maybe this is because this type of language mixing takes place very rapidly, within one generation, in fact. This process, coined 'intertwining' by Bakker and Mous (1994), leads to a mixed language, which bases its grammar on one language and its lexicon on the other. However, when the mixing process is allowed some more time, as for Michif (Bakker 1994), we see that a language may develop that derives its verbal morphology from one language (Cree, in the case of Michif), and its nominal morphology from another (French). The same seems to be taking place in Gurindji Kriol (McConvell and Meakins 2005), a mixture of the Australian language Gurindji and Kriol, an English-based creole language from Western Australia. At this moment, we do not have a clear picture of what might happen in the currently very common situ-ation of a regional or minority language in contact with a (inter)national language, with bilingualism on the increase, both in depth and breadth, and socio-economic pressure towards language shift. There is no indica-tion from the above observations that we are dealing with a simple con-tinuum, as suggested by some of the well-known borrowing hierarchies.

Below, we will look at three diffferent and independent contact situations that may at least potentially have given rise to morphological borrowing. The method we have used is corpus based, which seems to be the most sensible one. We are also aware of the limitations of this approach. It has been rightly observed that, with respect to borrowing, absolute and relative frequencies derived from utterances found in a corpus do not necessarily warrant conclusions about the overall frequencies of borrowing between the languages in question (cf. Van Hout and Muysken 1994). And it goes without saying that observations on the basis of one contact pair can never lead us directly to the establishment of any general conclusions with respect to the (im)possibilities of borrowing, and the order in which elements of diffferent categories manifest themselves in another language. We think, however, that the way in which we have organized our exercise meets such problems at least to some extent. Thus, rather than looking at one language pair, we have selected three languages that we think fulfijil the requirements of being independent from each other and sufffijiciently typologically diffferent: Quechua from Ecuador, Guarani from Paraguay, and Otomi from Mexico. In order to make comparisons between the prospective borrowing patterns feasible, we will study the results of the contact between these languages on the one hand and a single language on the other hand: Spanish, the offfijicial language in all three countries, thus keeping that factor under control. Although the morphological system of Spanish is simpler than that of Quechua and Guarani, but probably more complex than Otomi, we think that it has enough aspects to make this confrontation   interesting.

Another factor we think is relatively stable in our case is that of the cultural background. Although there are vast diffferences among the countries and the cultures in question, we think that the everyday realities in the Spanish speaking countries of Latin America have much in common, especially when seen from the wider perspective of their history of the last 500 years, which is the relevant period for these contact situations. The contact histories of the three language pairs are not exactly the same, but contact has taken place over several centuries and has intensifijied over the last half century. Furthermore, for each of the three languages we have collected data from two distinct dialects, between which there is no contact. In this way, we can distinguish more clearly between diffferences with respect to borrowing that are accidental and those that are more likely to be due to typological diffferences. Finally, we have collected data from a relatively large number of speakers per language/dialect who difffer in age, gender, level of education, and profession. These parameters typically

co-determine the level of bilingualism. As a result, we can check the number and categories of speakers of a language that actually employ certain borrowings or strategies, thus getting a better picture of what is going on in each of the language communities that we are concerned with here.

We will proceed as follows. In section 2, we will introduce the languages, say a few words about their contact histories, and introduce the three corpora. We will also give a global impression of the contact situation for each of them. In section 3, we will discuss the morphological profijile of our languages, and try to establish whether any Spanish morphology has made headway into them. Before morphological items of some model language would enter the grammar of a basic language, and would appear on BL lexical items, we might expect that they enter the language via morphologically complex ML forms, and at least show up on their original hosts. In section 4, we will see whether this is indeed the case for Spanish borrowings in the three Amerindian languages discussed here. Finally, some conclusions will be drawn in section 5.

2   The Languages, the Data, and Borrowing in General

In this section, we will present some characteristics of the three languages in contact with Spanish that we will study in the later sections. We will restrict ourselves to those aspects that we think may play a role in the qualitative and quantitative nature of their borrowing behaviour. Although there are clear areal diffferences in the Spanish of the respective Latin American countries in question, we will assume that such diffferences are mainly to be found in the fijiner aspects of the lexicon and in the phonology. We do not think they have any bearing on the borrowing of morphological material as such, or, formulated more broadly, borrowing in its relation to morphology in any interesting way. For the rest of the discussion, we will therefore ignore areal and dialectal diffferences between the relevant varieties of Spanish.

The languages that we will be concerned with are Quechua (Quechuan; Ecuador, Peru and Bolivia), Guarani (Tupi; Paraguay), and Otomi (Otomangue; Mexico).1 All three languages are spoken by sizeable communities in countries that have Spanish as their offfijicial language. In Paraguay, Guarani also has the status of an offfijicial language. For each

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1 Genetic classifijications according to the Ethnologue (Lewis 2009).

Table 1: Overview spoken corpora

	Quechua	Guarani	Otomi
N of informants	25	38	59
N of tokens	79,718	57,828	110,540
Dialect locations	Imbabura Northern Highlands of Ecuador	Urban areas of Paraguay (Asunción, Encarnación, Pedro Juan Caballero, Ciudad del Este)	Santiago Mexquititlán (southern part of the state of Querétaro)
	Bolivar Central Highlands of Ecuador	Rural areas of Paraguay (Cordillera, Alto Paraná, Misiones, Caaguazú, Paraguari)	San Miguel de Tolimán (northern part of the state of Querétaro

of the languages we collected a relatively large amount of spoken data by interviewing a number of native speakers from diffferent age and gender groups, and with diffferent educational and professional backgrounds. For more details about the data collecting, see Bakker et al. (2008).2 For all three languages, these data were collected at two diffferent locations, between which there exists no direct contact. The data were transcribed and entered in a database. Table 1 gives an overview of the three resulting corpora.

All three languages have borrowed extensively from Spanish, and virtually all our informants are bilingual at least to some extent. In the database, all borrowed forms are indexed for their part of speech in Spanish, and for the function they have in the actual BL context. Furthermore, we have indicated the morpheme structure for all forms that have at least one borrowed element. Example (1) below gives an impression of this coding system; it stems from the Otomi corpus. The database contains only the fijirst lines, not the glosses and the translations.

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2 Hekking coordinated the data collection for Otomi. Bakker designed the database and developed the software. The data for Quechua and Guarani were collected by Jorge Gómez Rendón as part of a PhD project sponsored by the University of Amsterdam, and under Bakker's supervision (cf. Gómez Rendón 2008). The authors are very grateful to Jorge, to all those who contributed to the data in any way, without whom this work could not have been done, and fijinally to two anonymous referees. All errors and misinterpretations are, of course ours.

(1) a. Ne   nö-r   'yo   mi   hongu:
       and   Deic- Def. Sg   dog   Pst. Prog   look for
       ja   ya   ...   ja   /kolmenäN-HNP/.
       Loc   Def. Pl   Loc   beehive
       'And the dog looked in the beehives.'

   b. Bí   kaku: ja-r...   ja-r   ñö
      Pst3   stick out   Loc- Def. Sg   Loc- Def. Sg   head
      /kongPR-CC/=ar...   /kongPR-CC/=ar   'yo.
      with- Def. Sg   with- Def. Sg   dog
      'He stuck his head out of (the window) together with... with the dog.'

In (1a), we fijind an example of the use of the Spanish word *colmena* 'bee-hive', which is a N(oun) in Spanish, and functions as the head of a noun phrase in this Otomi context. In (1b), we fijind two occurrences of the Span-ish preposition *con* 'with', in both cases functioning as a connector at the clause level. The Otomi defijiniteness marker *ar* 'the' is cliticized to the loanword in both cases, in the same way it would cliticize to the last Otomi word before the noun phrase that it belongs to. For the representation of the native elements, we are using a conventional spelling system of the respective languages. Spanish loans are transcribed as closely as possible to the way they were pronounced, using the same spelling system rather than their standard Spanish spelling. In the corpus, we have marked code switches as such. Typically, these were stretches of more than one Spanish word, often complete intonation units, or even longer utterances. In the analyses below, they have not been taken into consideration.

We developed a computer program that operates on this database. It has a number of selection, string search and representation options, and an export function that creates concordances and prepares the results for further statistical analysis via standard software. The program provided us with the counts and observations presented below with respect to bor-rowing in the three corpora. Table 2 gives some global fijigures with respect to borrowing for the three language pairs. The fijirst row contains the num-bers of borrowed tokens as a percentage of the total numbers of tokens in the respective subcorpora, native and non-native. The fijigures in the other rows are percentages of the total number of borrowed tokens only. We give the results for all four categories that we consider to be lexical, but for the grammatical categories only those of the four most frequent categories. As already mentioned, the parts of speech are the ones the bor-rowed elements would have when appearing in a Spanish context. In the case of ambiguity, we selected the part of speech most likely to be used in the context at hand.

Table 2: Percentages of borrowed items for some parts of speech (tokens)

Tokens	Quechua	Guarani	Otomi
TOTAL CORPUS	18.9%	17.4%	14.1%
Noun	54.4%	37.0%	40.1%
Verb	17.7%	18.3%	4.8%
Adjective	8.4%	7.5%	1.0%
Adverb	3.4%	2.4%	4.5%
TOTAL LEXICAL	83.9%	65.2%	50.4%
Preposition	0.5%	0.5%	21.4%
Article	–	19.4%	–
Coordinator	6.9%	4.4%	7.5%
Subordinator	1.6%	4.5%	6.1%
TOTAL GRAMMATICAL	16.1%	34.8%	49.6%

From the fijirst row it is clear that all three languages borrow extensively from Spanish. They would all be situated at least at point 2 of Thomason's (2001) revised borrowing scale. However, the speakers of Quechua seem to have imported more Spanish than those of Guarani, and the latter more than our Otomi informants. Indeed, the relatively low standard deviations that we established suggest that this is the case for the majority of the speakers individually, and also for the respective pairs of dialects. The diffferences between the three global fijigures, which are signifijicant at the 0.5% level, confijirm what may be expected when we look at the three contact histories. Quechua, after the demise of the Inca rule around 1530, became the lingua franca of the Andes region, to the detriment of many of the other indigenous languages spoken at the time when the Spanish invaders arrived in the area. However, with the establishment of the Andean republics in the early 19th century, Spanish became the offfijicial language and took over as the language of communication and education amongst the respective Andean speech communities. Ever since, most of the Quechua varieties have been under strong Spanish influence; many of its native speakers are bilingual at least to some extent. Guarani, more so than any of the remaining indigenous languages of the Americas, maintained its position of a dominating, even national language for an important part of the colonial and post-colonial era. This even intensifijied after the independence of Paraguay, in the early 19th century, when the country became virtually isolated from the rest of the world for a long period. However, Paraguay's major city, Asuncion, established by the Spaniards, has always been bilingual to such an extent that a third language devel-

oped there—Jopara—which is a mix of Guarani and Spanish.3 Finally, Otomi lost its status as one of the more prestigious indigenous languages of Mexico precisely after the country's independence in 1813. Until the middle of the 20th century Otomi had been spoken in relative isolation, and was only moderately afffected by Spanish. Things changed drastically, however around 1950, with the dramatic increase in transport facilities, the growing influence of the Spanish speaking media, and the introduction of an education system for the indigenous population outside the larger towns.

While our overall scores are much in correspondence with what might be expected on the basis of the contact histories, the distribution over the respective lexical categories is somewhat of a surprise. Borrowing scales like the ones proposed in Moravcsik (1978), Thomason and Kaufmann (1988, 74f), its revised version in Thomason (2001, 70f), and Field (2002), among others would predict that borrowing of grammatical material would come after a certain amount of lexical material—mainly nouns, and to a lesser extent verbs and adjectives—would have been borrowed. From our data we cannot, of course, reconstruct earlier stages in the respective borrowing histories, and therefore it is not possible to verify or even falsify these claims in a strict sense. However, in light of the contact histories, such schemes would lead us to expect the reverse, i.e. for Quechua to have borrowed most function words, followed by Guarani, and only then Otomi. But the fijigures in Table 2 show exactly the opposite: almost half of the Spanish elements found in the recorded Otomi discourse are grammatical, while in Quechua it is less than one sixth, and Guarani takes an intermediate position with around a third. So, even more careful hierarchies proposed in the literature, such as Haugen (1950) and Winford (2003), which postulate relative frequencies rather than absolute appearances for the diffferent types of borrowed elements, do not apply to our observations. This situation does not change radically even if we would consider prepositions, which are massively borrowed by Otomi, though hardly at all by the other two languages, as lexical rather than functional items and assign them adverbial status by taking the perspective of the borrowing language. And on no account could we interpret elements such as coordinators, subordinators, and articles as lexical.

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3 Jopara has been the object of quite a few studies. A recent contribution is Dietrich (2010), who defijines Jopara not so much as a language but as a bilingual speech attitude.

Thus, our data cast some doubt on the applicability of some of the borrowing scales proposed in the literature. Bakker et al. (2008) argue that, although such scales may indicate global tendencies, they may be overruled by several other factors, both linguistic and extra-linguistic ones. For instance, the relatively low amount of adjectives borrowed by Otomi may be explained by the fact that this language does not have that category in its own lexicon, the function of nominal modifijication being fulfijilled by both verbs and nouns.4 Furthermore, pragmatically outstanding elements, such as coordinators, subordinators, and discourse markers may be borrowed at an early stage of contact precisely because they are found in special positions, often clause initial, and get special stress patterns. As such, they are characteristic of the model language, which is typically holding higher prestige than the basic language, and they may be borrowed precisely for that reason.5 On the other hand, elements that otherwise might be borrowed because they would fijill a 'functional gap' may be prevented from being introduced for structural reasons. E.g. Otomi, a VO language with only a few prepositions of its own, borrows over 40 diffferent Spanish prepositions, many of them used frequently and by most of the informants. But Quechua and Guarani, OV languages with several postpositions in their native vocabulary, seem to be highly resistant to the import of Spanish adpositional material.6 Then, in the case of Quechua, a limit may have been reached to the amount of grammatical borrowing in the sense that the most frequent elements have been introduced, and the category is simply 'exhausted', at least with respect to the more frequent elements. But the borrowing from the open classes, and particularly

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4 Cf. Bakker and Hekking (2010) for more discussion. They argue, however that Otomi might be in the process of developing such a category of its own under the influence of the presence of borrowed Spanish adjectives.

5 In this respect it is interesting to note that, according to Muysken (1997), Media Lengua, though basing its morphosyntax and the grammatical part of its lexicon more or less completely on Quechua, nevethess borrows discourse markers from Spanish, from which most of its content words are derived.

6 Though, they are not completely resistant. In the Quechua and Guarani corpora, we found some Spanish prepositions, used postpositionally, and typically by only a few speakers. Both languages use *hasta* 'until' and *según* 'according to'. Apart from that, in the Guarani corpus there are some occurences of *contra* 'against', *entre* 'between' and *para* 'for'. Highly frequent Spanish *con* 'with', *por* 'by, for', *de* 'of, from' and *a* 'to', which abound in the Otomi corpus were not encountered in the other languages. This more marginal borrowing of syntactically 'unfijitting' material may in fact apply to the borrowing of prepositions from Arabic and Persian by postpositional Urdu and Turkish respectively, as reported by Campbell (1993: 101). Apparently also here, functional motivations may overrule syntactic constraints, and invoke adaptation.

constraints on morphological borrowing   197

nouns, just goes on, since there seems to be no natural limit to the amount that can be taken from there. Finally, it is important to make a distinction between the relative amount of tokens as opposed to types among the borrowed elements, and also the percentage of the speakers and sources that use them. Elements from open classes, such as nouns, may be represented by a large number of diffferent types, which will often be used rather infrequently and by only a few speakers in a corpus. And, by defijinition, there will be fewer types available from closed classes, such as adpositions and articles. But these, once introduced, will typically occur rather frequently, or even get obligatory status, for most speakers. Authors who discuss hierarchies do not always distinguish between these diffferent types of frequencies.

With so many grammatical elements borrowed in all three languages, we might expect some bound material to have made the transition from Spanish, an inflecting language with several highly productive derivational processes, as well. In the next section, we will have a closer look at the morphological dimension of our corpora.

3   Borrowing   Morphology

Morphological material is considered by most of the authors on this topic to be borrowed only in a rather advanced stage of a language contact situation and after several types of function words have been introduced, such as adpositions, articles, and co- and subordinators. Furthermore, it is generally assumed that derivational morphology should be easier to borrow than inflectional morphology. If we would apply these expectations to the nature and the distribution of borrowed material in our respective corpora, then we might expect borrowed morphology in Otomi, to a lesser extent in Guarani, and in Guarani more so than in Quechua. This would go counter the historical contact situation as much as borrowing at the lexical level would if the hierarchies would be applied in a straightforward, unqualifijied fashion.

Before looking at the actual data in our corpora in this respect, let us fijirst have a look at the morphological systems of the languages involved since this may have implications for the likelihood of Spanish morphological elements to be integrated in the system of the borrowing languages. Table 3 gives a short overview of these systems. In the top row, we mention the characterization given by Dryer (2005) in his WALS map representing the overall morphological typology of 894 languages of the

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world. This is an aggregated scale based on 9 other WALS maps showing diffferent types of morphological operations on nouns and verbs (cf. Dryer 2005, 110).7 The information in the other rows of the table is only meant to give a global impression of the morphological categories of our languages; we do not claim to be exhaustive in any respect. The overview is mainly based on Cole (1982) for Quechua, Gregores and Suarez (1967) for Guarani, and Ecker (1952), Hess (1968), Lastra (1992, 1994, 1997), Hekking (1995), Hekking and Bakker (1998), Bartholomew (2004), Palancar (2009), and Hekking et al. (forthc) for Otomi, among other sources. The part of

Table 3: Morphological typology of the four languages

	Afffijix	Spanish	Quechua	Guarani	Otomi
Dryer (2008)		Strong Sufffijixing	Strong Sufffijixing	Strong Prefijixing	Weak Prefijixing
Noun	Pfx	–	–	Res	Dim, Loc Asp=, Def=, Mod=, Num=, Pers=, Poss=, Tns=
	Sfx	Ag, Dim, Num	Abl, Ag, All, Aug, Ben, Caus, Com, Depr, Dim, DO, Dur, Eq, Ess, Instr, IO, Lim, Loc, Pl, Poss, Purp, Res, So, Temp, Top, Val	Ag, Col, Dim, Fut, Loc, Temp	=Act, =Cit, =Clus, =Com, =Emph, =Foc, =Num, =Pers
Verb	Pfx	–	–	Clus, Com, Des, DO, Fact, Imp, Pers, Rec, Refl, Subj	Impers, Refl, Stat, Asp=, Mod=, Pers=, Tns=
	Sfx	Asp, Imp, Num, Pers, Subj, Tns	Caus, Cond, Dur, Hab, Inf, Ingr, Intr, Num, Pers, Prf, Prog, Prt, Obl, Rec, Refl, Subj, Tns, Val	Caus, Neg, Tns	DO, IO, Ben, =Act, =Clus, =Com, =Deic, =Emph, =Foc, =Lim, =Loc, =Num, =Pers, =Priv
Adj	Pfx	Neg	–	–	–
	Sfx	Gnd, Num, Sup	–	–	–

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7 This is the outcome of Dryer's selection and interpretation of morphemes in the respective languages. We would characterize Otomi as both prefijixing and sufffijixing.

speech in the fijirst column is the category resulting from the morphological process. E.g. the Agentive (Ag) noun in Spanish is derived from a verbal stem by sufffijixation. An overview of the abbreviations used here and below may be found after the last section. The categories mentioned for Spanish, Quechua and Guarani are realized by inflection or derivation. Many of the categories mentioned for Otomi are realized by proclitics or enclitics. In that case, the label is preceded or followed by a = sign.

Quechua seems to be typologically closest to Spanish from the morphological perspective. They are given the same characterization by Dryer. And if we compare the rows for nominal and verbal morphology, we fijind a complete lack of prefijixing for Quechua and Spanish. There is only sufffijixing, often for the same morphological categories. Guarani and Otomi have a fair amount of prefijixing, which is the dominant strategy for verbs in Guarani, and for nouns in Otomi.

Exploring the corpus data, we established that there is actually hardly any systematic and autonomous borrowing of bound morphemes from Spanish in any of the three languages. The examples that we did fijind are few and far between, or even anecdotal.

Guarani, to start with, does not seem to provide any examples of Spanish derivational or inflectional markers attached to native stems. In the Otomi corpus, we found the pair illustrated in (2) below.

(2) a. 'be:t'o   'grandchild, grandson'

   b. 'be:ta   'granddaughter'

The form *'be:t'o* was used 54 times by a total of 22 out of 59 informants. And the form *'be:ta* occurred 5 times in the corpus, used once by each of 5 informants. However, *'be:ta* is not an original Otomi word. There is only one, gender neutral form, *'be:t'o*, in the classical language, meaning 'grandchild'. It is all but certain that the sufffijix *–a* has been borrowed from Spanish, where it is in systematic and productive opposition with *–o* to distinguish masculine from feminine in both adjectives, participles and certain nouns, as shown in example (3).

(3) a. un-ø   secretari-o   perezos-o
       a-Masc   secretary-Masc   lazy-Masc
       'A lazy secretary.'

   b. un-a   secretari-a   list-a
       a-Fem   secretary-Fem   clever-Fem
       'A clever secretary.'

Note that the vast majority of Otomi words end in a vowel, and that there is no gender marking in the language expressed by morphological means.8 Apart from this, we have not found any other use of Spanish morphology on Otomi forms in our corpus.

On the other hand, we encountered three potential examples of a transfer of Spanish morphology to Quechua. The fijirst is the sufffijix *–ero* (Fem *–era*), which has also been observed as a productive loan element in the Mexican language Sierra Popoluca by Gutiérrez-Morales (this volume). Hill and Hill (1986) also encountered it in Nahuatl, a language that shares a contact history with Otomi. The function of the sufffijix is to derive denominal Agentives and Instrumentals, as in *carnicero* 'butcher', from *carne* 'meat'; *ropero* 'closet', from *ropa* 'clothes'; and *cenicero* 'ashtray', from *ceniza* 'ash'.9 Apart from quite a few examples of loanwords with this sufffijix, which will be discussed in the next section, we found the following combinations with Quechua nouns.

(4) a. huasipunguero   'villager, farmer'   < huasipungo 'village'

    b. warminero   'womanizer'   < warmi 'woman'

Huasipunguero was found nine times, used by four speakers. *Warminero* occurred once, in a context where the characteristics are given of a man who is also called a *chalanquero* 'huckster' and a *bandido*.10 As we will see in the next section, there were a few derivations with *–ero* on the basis of Spanish stems of which we are not sure whether native speakers of Spanish would use them. These may be creative productions suggestive of the potential activation of the corresponding derivation in a Quechua context.

Another Spanish Agentive sufffijix that we found on some Quechua stems is *–dor* (Fem *–dora*). We encountered the following combinations, both used by only one speaker.

(5) a. tacuridor   'disturber'   < takurina 'disturb'

    b. p'ucuchidor   'magician'   < p'ucuchina 'work magic'

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8 In fact, gender mistakes are among the most common errors Otomi speakers make when using Spanish. Cf. Hekking and Bakker (2006).

9 Below, we will use Agentive (Ag) as a cover term for the combined functions of such afffijixes.

10 *Warminero* seems in fact to be a rather common term, also used in the Spanish of Peru. We found it in the (Spanish) biography of Telmo Luis Pardo Novoa, a legendary Peruvian freebooter of the late 1800's. It is not impossible that both words were fijirst introduced into Spanish, and then borrowed 'backwards'.

This is the morphological category which several authors suggest would be the fijirst to be borrowed, being both derivational and apparently rather transparent. Cole (1982, 176) states that Quechua derivation by way of *–dur* (< Spanish *–dor*) is preferred to the use of native *–j* when the implied action is characteristic of an individual, as in (6) below (his example 696).

(6) wagra   michi-*dur*-mi   ka-ni
     cattle   herd-Ag-Val   be-1
     'I am a cattle herder.'

Hajek (2006) mentions the borrowing of Portuguese *–dor*—a cognate of the Spanish marker—by Tetun Dili, a language from East Timor. Indeed, the sufffijix seems to be quite productive when we consider its use in the Spanish corpus of Davies (2002). Among the approximately 20 million words of the 20th Century Spanish subcorpus—15 million written, 5 million spoken—we found 22,872 occurrences of a noun ending in *–dor* (424 types), as well as 3006 of the feminine variant ending in *–dora* (164 types). This averages to 104 occurrences per 80.000 words, the size of our Quechua dataset.

A third, maybe less convincing example of morphological transfer, is the diminutive marker *–ito* (Fem *–ita*). In line with Cole's (1982, 173) observation, its use seems to be limited to proper nouns. We found, among others: *Juanito*, *Maurita*, and *Pachito*. Given this restriction, it might in fact be a lexical phenomenon—i.e. a complete borrowing—rather than the product of an active morphological operation. This is especially likely since the names are all of a Spanish origin. We did not fijind clear examples of the occurrence of a Spanish diminutive sufffijix on other noun types, nor examples of double coding, i.e. the cooccurrence in a single form of Spanish *–ito*/*-ita* and the productive Quechua diminutive sufffijix *–gu*/*-ku*.

We did fijind double coding of the plural: apart from the Quechua plural sufffijix *–kuna*, we found a few forms that also had the Spanish *–s* marker directly attached to the stem. One example is given under (7) below.

(7) /CastillaNMR/   /flautaN/   chai   /flautaN/
     Castilla   flute   Dem.Dist   flute
     /huacuNHR/-cuna-ta-pash,   cai-cuna-pi-lla-ca
     hole-Pl-Acc-Addit   Dem.Prox-Pl-Loc-Lim-Top
     chai   /flautaN/   /suco-*s*/-*cuna*-pash   na   tari-ri-cpi
     Dem.Dist   flute   reed-Pl-Pl-Addit   Neg   fijind-Refl-Cond

> A Castillian flute, that flute also has holes, in those holes [you]
> only [blow], that flute [is] also made from reed, although it is not
> found.

Thus, apart from the few examples above, we may conclude that, as far
as our data are concerned, there seems to be no systematic application of
Spanish morphology to native stems in any of the three languages. The
only potential cases that we have found are that of the agentive sufffijix
–*ero* in Quechua, and possibly the diminutive –*ito* in the same language,
although its domain seems to be restricted to proper names. So, in terms
of Matras (2009, 209), there seems to be hardly any 'backwards difffusion',
i.e. the application of borrowed morphology to existing lexical items, let
alone 'forward difffusion', i.e. its productive application to newly acquired
words in the languages under consideration. There may be structural rea-
sons for the lack of morphological borrowing related to the systems con-
cerned, such as the opacity of Spanish morphology or its incompatibility
with respect to the grammars of the basic languages. The fact that only
Quechua, the language typologically closest to Spanish in this sense, bor-
rows some morphology may be indicative of this. Or there might simply
not have been enough time paired with a sufffijiciently high degree of bilin-
gualism of a crucial amount of speakers for the two systems involved to
merge to the extent that borrowed morphology be applied to BL elements.
Whatever the reasons, we may conclude that the amount of borrowing of
grammatical elements such as adpositions, articles, co- and subordinators
as observed in the previous section, which put Otomi fijirmly in the lead,
in itself does not predict anything about the borrowing of morphology, as
most hierarchies do. In fact, quite the opposite seems to be the case.

   This does not mean, however, that there would be nothing more to
say about borrowing and morphology with respect to our corpora. In the
next section, we will investigate the extent to which Spanish words are
borrowed along with Spanish morphology. Thus introduced into the basic
language, as it were, through the back door, one could predict that bound
morphemes might eventually make their way to native elements.

4   Borrowing with Morphology

In this section, we will explore the extent to which Spanish morphology
may be borrowed alongside Spanish forms. We will have a look at bor-
rowed nouns fijirst, then verbs, and fijinally adjectives.
   There are not very many morphological operations on nouns in Spanish,
but these tend to be highly productive. Complete productivity is found for

plural marking by the inflectional suffffijix –(e)s. More or less the same goes for the derivation of diminutives, marked by the suffffijixes –*ito* and –*illo*, which themselves inflect for the gender of the noun that they are modifying.11 The speakers of Spanish in the Americas seem to be especially fond of using these forms, often with an afffectionate rather than a purely diminutive flavour. And thirdly, less productive, mainly for semantic reasons, is the derivation of agentive nouns by way of the deverbal –*dor* (Fem –*dora*) and denominal –*ero* (Fem –*era*). The feminine forms may indicate either a female agent or an instrument used for the execution of the corresponding activity. The verb, which is the basis of the derivation via –*dor(a)*, may be transitive or intransitive, but should, in principle, have an Agent-like fijirst argument. Many of the nouns derived with –*dor(a)* and –*ero/a*, however, are established as such in the lexicon with a specifijic meaning, rather than produced 'on the spot'. This is especially the case for the denominal –*ero* forms, as can be seen from the examples in the previous section.

  Table 4 gives an overview of the borrowed nouns with a plural marker. As opposed to most other inflectional operations, which tend to be context dependent, plurality is 'inherent', i.e. directly related to the referent of the noun itself. It might therefore be easier to transfer than other inflectional categories, such as agreement, which is typically context-dependent. However, while plural marking on nouns is obligatory in Spanish, this is not the case in our three Amerindian languages. In Quechua, the plural suffffijix -*kuna* is optional in a case where there are other markers of plurality to be found in the context, e.g. a numeral (Cole 1982, 128). In Guarani, Plural is not a morphological category, but it is optionally coded by an independent marker only for [+Hum] nouns. In Otomi, there is no independent marker for plurality at all, but it is coded in the proclitics that mark defijiniteness, and in verb agreement markers.

Table 4: Nouns borrowed with their plural marker

	Quechua	Guarani	Otomi
N of Respondents	22 (88%)	6 (16%)	4 (7%)
Types	95	9	8
Tokens (perc. of borrowed nouns)	208 (2.5%)	10 (0.27%)	9 (0.14%)

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  11 The choice between the two forms depends on the lexical element in question, is purely formal, and has no implications for the meaning. Some nouns take both suffffijixes.

Many of the Spanish loans with a plural marker also fijigure in our lists in their bare stem form, often used by the same speaker. In most of the cases, the context makes it clear that the plural was indeed intended, so the addition of the Spanish marker *–(e)s* seems to have been a conscious operation. Therefore, these forms must not be seen as mere notational variants of the respective singulars, borrowed as such. The fijigures in Table 4 make it clear that Quechua speakers apply this operation much more often than the speakers of the other two languages. Virtually all Quechua informants employ Spanish nouns in the plural, several of them for more than 10 diffferent stems, while for both other languages it is just a small minority of the speakers that produced them. An explanation for this may be the typology of Otomi and Guarani: as opposed to Quechua, these languages have no morphological plural marking on nouns.

Turning now to diminutive markers, we found the occurrences reported in Table 5 below. Quechua scores by far the highest here, both in terms of number of occurrences and number of speakers that use the sufffijixed forms. Most of these concern the sufffijix *-ito*/*-ita*, and maintain the Spanish gender. Derivations with *–illo* do occur, but these might be seen as lexical transfers rather than the result of the application of a morphological rule. Obvious examples of this are *guerrilla* and *tortilla*, historically derived from *guerra* 'war', and *torta* 'cake', respectively, but given their semantic specialization, may be viewed synchronically as separate lexical items. A slightly less clear example is *campana* 'bell', with regular diminutive *campanilla*, of which we found 13 occurrences produced by 5 diffferent speakers. One speaker produced two occurrences of *campanita*, which is uncommon, and which we consider to be the result of a rule application.12 For Guarani, we found a few examples of both *–ito*

Table 5: Nouns borrowed with their diminutive marker

	Quechua	Guarani	Otomi
N of Respondents	15 (60%)	12 (32%)	6 (10%)
Types	33	5	4
Tokens (perc. of borrowed nouns)	72 (0.87%)	37 (0.99%)	7 (0.11%)

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12 In the 20th Century section of the Spanish corpus of Davies (2002; around 20 million tokens), we found 378 occurences of *campana(s)*, 80 of *campanilla(s)*, and 10 of *campanita*. In the spoken subset of the corpus (around 5 million words), the latter form occurred only once, so we assume that this form will not be heard very often, and might, therefore, be an active derivation.

and *–illo* derivations, used by around a third of the respondents. Otomi has the lowest score also here. For this language, we found three examples of *-ita* and one of *–ito*, the latter occurring just once. Apart from the cases that we consider to be lexical loans of the diminutive form, in none of the three languages did we fijind an example with both a diminutive and a plural *–s*. Despite the fact that none of the three languages has grammatical gender, we did not fijind an *–ito* form on a word with feminine gender, nor an *–ita* form on a noun with masculine gender. However, all relevant forms we found for each of the languages were based on words ending in *–o* or *–a*, which is almost always indicative of the gender. We did not fijind any diminutive based on a word ending in a consonant, such as *cárcel* 'jail', for which the gender cannot be inferred from the form alone. The most frequent diminutive overall was *escuel-ita* < *escuela* 'school', which occurred 24 times, used by 10 speakers in the Guarani corpus.

A fijinal case in point with respect to nominal morphology are agentives derived by *–dor(a)* and *–ero/a*. Starting with the fijirst type, again it is Quechua that takes the lead in terms of number of speakers and tokens produced. We found fijive forms ending in *–dora*, four representing agricultural equipment, plus *computadora* 'computer'. We will assume all of these forms to be lexical and underived. For many of the *–dor* forms, the same principle applies. The forms we found typically refer to well-known functions. They might be diachronically interpretable as derivations but we think they might better be considered as unanalyzable elements synchronically. Examples are *trabajador* 'worker', *gobernador* 'governor', *labrador* 'farmer', and *administrador* 'administrator', as well as *volador* 'kite' and *mirador* 'viewpoint'. Other cases are less straightforward and may or may not qualify as active derivations. An example is *criticador* < *criticar* 'criticize'. This form is quite transparent, however, it does not occur in the 20th century subcorpus of Davies (2002), nor in Schroten (1989), a Spanish-Dutch dictionary based on sources from both Spain and Latin America. Both sources give *criticón* for the intended meaning ('nitpicker'), a word also common in Mexican Spanish.13 So this may indeed be a partial creation. The same kind of derivations we found in Guarani and Otomi, though, again the fijigures are much lower than for Quechua. Table 6 gives the total number of relevant forms that we found for the three languages. We also mention the number of types of these that we

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13 It is also the title of a famous 17th century novel by Baltasar Gracián (1601–1658).

Table 6: Nouns borrowed with agentive marker *–dor(a)*

	Quechua	Guarani	Otomi
Tokens	80	19	4
Types	29	11	2
Types not in Davies (2002) and Schroten (1989)	7	1	1

Table 7: Nouns borrowed with agentive marker *–ero/a*

	Quechua	Guarani	Otomi
Tokens	91	36	41
Types	33	22	7
Types not in Davies (2002) and Schroten (1989)	5	2	1

did not fijind in either Davies (2002) or Schroten (1989). The latter number might be considered as an indicator of potential real formations. We did not fijind occurrences of Spanish plural forms for these agentives in any of the languages.

Spanish loans with the second agentive marker, *-ero/a*, are more frequent in all three languages, both in terms of types and tokens. The same pattern evolves with Quechua having by far the most instances, then Guarani and then Otomi. The relatively high number of tokens for Otomi is mainly caused by the frequent use of the word **curandero** 'shaman, quack'. Again, words that should be considered as synchronically unanalyzable prevail. Examples are **bandolero** 'bandit', **compañero** 'friend', **herrero** 'smith', **torero** 'bullfijighter', and **frutera** 'fruit bowl'. As before, several were not found in the corpus or the dictionary, which might be an indication of active rule application.

We may conclude that, as far as borrowed nouns are concerned, Quechua has by far the largest amount that is morphologically complex. There are good reasons to assume that at least the plurals are created 'on the spot', and maybe some of the diminutives. As for the agentives, the fact that some Quechua speakers use *–ero* on a native stem, possibly after using these forms fijirst in Spanish, and that they derive some Spanish-based forms that they may not have observed in Spanish at all, seems to suggest that *–ero*, and possibly also *–dor*, are on their way into the Quechua system. We have to add, though, that it concerns only a very small number of speakers. It is completely unclear whether this use will

'catch on' rather than remain restricted to a few isolated forms. The same may be the case for the agentives in Guarani, although the facts are even less convincing here. The numbers for the plural and the diminutives for Guarani, and all numbers for Otomi are too low to draw any conclusions about the productivity of Spanish morphology on borrowed nouns in these cases. It seems to be safest to assume that they are de facto absent in terms of productivity.

The second category that we will consider here are borrowed verbs. In terms of conjugation classes, Spanish has three types of verbs, with infijinitives ending in –*ar*, -*er* and –*ir*, respectively. These syllables are stressed. Apart from a number of typically highly frequent irregular verbs and auxiliaries, the infijinitive type more or less completely predicts the rest of the verbal paradigm. The Spanish verb inflects for person and number, has a synthetic present, perfective, imperfective, and future tense, a present and past subjunctive, all heavily fused, an imperative, and an infijinitive, a gerund, and a past participle. The –*ar* verbs are by far the most frequent in terms of existing types. An estimated 80% of the verbs are in this class, and it is also the productive class in the case that new verbs are coined. The two other classes cover around 10% of the types each. However, since some of the highly frequent main verbs and auxiliaries are in the latter two classes, token frequencies are clearly skewed towards them. When we look at the infijinitive forms with over 500 occurrences in the 20th century subcorpus of Davies (2002), then the proportions are an estimated 50% (-*ar*), 27% (-*er*) and 23% (-*ir*).

A fijirst overview of the borrowed verb forms in the three corpora may be found in Table 8 below. The fijigures in the cells represent the number of types, with the number of tokens in brackets.

For all three languages, the form of the loan verb is almost exclusively that of the infijinitive without the fijinal –*r*. For the -*ar* and -*er* classes, this happens to be also the form of the third person singular, however, the third person of the –*ir* class ends in /e/, not in /i/. The fijinal syllable of

Table 8: Borrowed verb forms

Ending	Quechua	Guarani	Otomi
-a	416 (2074)	405 (1224)	127 (453)
-e	57 (203)	82 (357)	46 (125)
-i	106 (384)	80 (242)	13 (160)
-do	6 (6)	–	–
Total	585 (2667)	453 (1638)	186 (738)

the infijinitive in Spanish is stressed. The ultimate of the third person is unstressed, and stress goes to the penultimate. In that case, many verbs with an /e/ or an /o/ in the penultimate then substitute the vowel by a diphthong, /e/ becoming /ie/ and /o/ becoming /ue/. In Quechua and Otomi, the borrowed verbal forms have the stress on the penultimate, while in Guarani we fijind them with both stressed (75%) and unstressed (25%) fijinal syllables. So, it is not immediately clear whether the loans are based exclusively on the Spanish infijinitive or also partially on the third person singular. As for relative frequencies in spoken Spanish, neither form—infijinitive or 3rd singular present tense—seems to be used much more often than the other. The 5 million word spoken subcorpus of Davies (2002) contains 106,561 infijinitives and 136,141 3Sg present tense forms. So, no strong argument for one or the other as the basis for borrowing can probably be derived from frequency alone. We therefore assume that both forms—and the rest of the paradigm—contribute to the borrowing process in general. However, as for the form that is manifested by the borrowing, the arguments for the infijinitive are stronger than for the third singular present tense. Infijinitives are the semantically most neutral form of the two, which makes integration easier in more contexts. Consequently, it is the infijinitive rather than another form that is borrowed in many other bilingual situations. The most convincing argument in our particular case seems to be that, in all three languages the borrowed *–ir* verbs are typically found with a fijinal *–i* rather than an *–e*, while the latter would be the paradigmatic form for the third person singular. The lack of the fijinal /r/ of the infijinitive in all cases may be explained by the fact that none of the three languages have more than a few native forms ending in *–r*, if at all. Furthermore, in many of the Spanish dialects of the Americas—and the Peninsular dialects on which they were mainly based—the fijinal /r/ is weak, and is dropped often in the pronunciation, especially by non-fijirst language speakers. In Guarani, Spanish trill [r] in borrowings where it is non-fijinal is pronounced as a flap [ɾ], which is considerably weaker (cf. Gómez Rendón 2008, 280). With stress on the penultimate rather than the fijinal syllable of loan verbs, Quechua and Otomi simply follow the prosodic rules of these languages, which never put stress on the last syllable. Quechua systematically stresses the penultimate syllable, while Otomi stresses the fijirst syllable of multi-syllable words. This makes the position of the fijinal /r/ even weaker. In Guarani, stress on the last syllable is common, and is probably for that reason also found on around a quarter of the borrowed verbs. It is not altogether clear to us why the majority are nevertheless unstressed. In this context, it is interesting

that Gómez Rendón (2008, 278) reports that in the Spanish of Guarani speakers non-fijinal stress often goes to the fijinal syllable in loanwords with deletion of the fijinal consonant. Since in our corpora stress patterns were coded occasionally rather than consistently, the low amount of fijinal stress on loan verbs in Guarani may simply be due to the underrepresentation of this kind of information. A fijinal argument in support of the infijinitive hypothesis may be that, while many Spanish 3Sg present tense forms get a diphthong in their stressed syllable, this is quite rare in our corpora. In Quechua, of the 24 types that should get a diphthong, only 3 had it, and not even consistently. For Guarani we found none, but here the stress pattern might play a role. Only in the Otomi corpus did we fijind some forms with a diphthong, although the same verbs, as well as others were found without it. Arguably however, the absence of diphthongs from Quechua and Guarani may simply be due to the fact that these languages lack such phonemes altogether. Otomi, on the other hand, does have native forms with /we/ and /ye/.

As for the relative frequencies of the three stem types, for Guarani and Otomi these seem to be more or less in line with the frequencies found in Davies' (2002) corpus of Spanish. And although the *-a* stems are by far the most frequent also for Quechua, the *-i* stems seem to be overrepresented here. When we look at the actual forms, however, we fijind that many of these are in fact *-e* verbs. However, /e/ is not a native phoneme of Quechua, and it only occurs in loans, where it is often adapted to the Quechua phonology, pronounced as native /i/ (cf. Gómez Rendón 2008, 272).

Turning now to verbal morphology, virtually the only forms we found in the three languages were those ending in the stem vowel as discussed above. In Quechua we found a few Spanish gerunds, but in their context these seem to be used as adjectives rather than verbs, not uncommon in Spanish, and arguably borrowed as such. Furthermore, we found almost no borrowed forms of the quite frequent and highly irregular Spanish auxiliaries and copula such as *haber* (Prf), *ser* 'be' and *estar* 'be'.14 If we take the stem vowel as an integral part of the verb form rather than a separate inflectional element, be it Inf or 3Sg, then for all three languages verb borrowing is of the type 'Direct Insertion', step 3 on the 4-level hierarchy

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In some Otomi compositions written by Otomi students from the High School in Santiago Mexquititlán, which are not part of the corpus used here, we found the loanword *ta* in combinations such as *ta txutx'ulo* 'is small'. This is almost certainly an instantiation of the Spanish auxiliary *estar*, so possibly we are witnessing the early stages of the borrowing of an auxiliary by young and fully bilingual speakers.

Table 9: Borrowed adjective forms

Ending	Quechua	Guarani	Otomi
All Forms	367 (1272)	296 (750)	21 (152)
-o	214 (689)	171 (501)	13 (112)
-a	52 (154)	47 (96)	1 (3)
-s	4 (7)	1 (1)	-
Other	97 (422)	77 (152)	7 (37)

presented by Wichmann and Wohlgemuth (2007). This is indicative of the fact that verbs are borrowed as verbs, not as 'neutral' lexemes without a part of speech. The latter would make a special device necessary, such as a light verb 'to do', or a loan verb marker in order to let these loans operate as verbs. We did not fijind any evidence of such devices in our languages. Interestingly in this respect, even Guarani, which employs the quite productive factitive prefijix *mo-*, that can be found on a large number of native N and V stems in our database, turning them into transitive verbs, does not apply this device to loan verbs. According to Wichmann and Wohlgemut (2007), this type of verb borrowing is indicative of a relatively high degree of bilingualism in the speech community.

The third and last part of speech we will discuss in this section is the adjective. Spanish defijinitely possesses an open class of adjectives, extended by the verbal gerund and past participle, some of which have established themselves diachronically as adjectives in their own right. Spanish adjectives inflect for number by adding the plural sufffijix *–(e)s*. When ending in *–o*, they also agree in gender with the modifijied noun, changing the fijinal vowel in /a/. The database presents us with the following fijigures with respect to borrowed adjectives.

Quechua has the highest number of inflected adjectival loans, both in terms of types and tokens. Of the 52 types ending in *–a*, about a third are used as nouns in the Quechua context, and represent female individuals. Examples are *enemiga* 'enemy' and *viuda* 'widow'. Many of the attributively used feminine forms refer to female individuals, represented by a Quechua word. Examples may be found in (8) below. A few modify a Spanish word with feminine gender. These pairs may have been borrowed as a combination. In (9), a few of these are presented.

a. caprichosa[A]   warmi
   unaccountable   woman

b. rica[A]   cashca

                rich   fijiancée/lover

    a. santa[A]   tierra[N]
        holy   earth

    b. antiwa[A]   oración[N]
        old   prayer

In the Guarani corpus, we also found Spanish adjectives in the [Fem] form. A quarter of these were used nominally, representing female individuals, such as *campesina* 'peasant [Fem]', and *española* 'Spaniard [Fem]', but also gender neutral ones, such as *comunista*, *capitalista* and *anarquista*. By far most of the *–a* adjectives used attributively combined with Spanish [Fem] nouns. E.g. the pair *otra cosa* 'something else' was used six times by fijive diffferent speakers, and may be seen as a fijixed pair. The few combinations that we found with Guarani nouns turned out to be cases of female referents, as in the examples under (8) above.

    For Otomi, we found three [Fem] forms of the adjective *puro* 'pure, only, just', which is the most frequently borrowed adjective, used a total of 63 times by 28 speakers. An example of it may be found in (10) below. Note that Otomi has no grammatical gender, but that the Spanish word for house, *casa*, is feminine. Alternatively, it may be interpreted as an adverb, and would be a short version of puramente 'purely'.

        nu-r   albeni[N]   pura[A]   hok-wa-ra Deic-
        Def.Sg   construction.worker   pure make-Ben-Def.Sg
        ngú-r   tsi   ts'u:t'u:bi
        house-Def.Sg   Dim   major
        'The construction worker builds only the house of the major.'

Only Quechua speakers used a few plural adjective forms, all in the masculine. Two out of four types here are adjectives with an inherently plural meaning, and which only appear in the plural: *ambos* 'both' and *varios* 'several'. Thirdly, *tantos* 'so much, so many' often appears in the plural as well. Almost all of these function as modifijiers of Spanish nouns with a Quechua plural marker. (11) below shows an example of this. Note that there are also two postnominal modifijiers present, and that the rightmost of them bears the Quechua plural marker as well.

(11) ambos[A]   ganado[N]-kuna-mi   blanco[A]   blanco[A]-kuna
      both   cattle=Pl-Val   white   white-Pl
      'Both cows were very white.'

We also looked at two types of adjectival derivation. Superlatives in Span-
ish may be derived via the sufffijix *–isimo*, which inflects for gender and
number. We only found it used with proper nouns related to the Catholic
faith, e.g. **Santísima Cruz** 'Holy Cross', and **Purísima** 'Most Pure'. Secondly,
adverbs in Spanish may be derived from adjectives via the sufffijix *–(a)
mente*. In Table 10 below, the second row gives the number of speakers
that produced these forms, and the third row presents the overall number
of types and tokens found for each of the languages. In the fourth row, the
number of types of these are given of which the corresponding adjective
was not used by any of the informants. Row fijive contains the total number
of borrowed adverbs in terms of difffferent types, and row six the percent-
age of these that are derivations with *-mente*.

   Given the very low fijigures for Otomi, we will compare only Quechua
and Guarani here. For both, a majority of the respondents use *–mente*
adverbs. This is interesting in itself, since neither language has a separate
lexical category of adjectives (A), but does have a class of lexemes that
may be used both as a nominal head and as a modifijier in a noun phrase
(N/A). Compare example (12) for Quechua and (13) for Guarani (from Bak-
ker et al. 2008; and see Hengeveld et al. 2004 for more argumentation
for this kind of typology). Obviously, as a consequence, there is no rule
that derives adverbs from adjectives in these languages, like the rule from
Spanish.

(12) a. rika-sha-ka: *hatun*-ta   b. chay   *hatun*   runa
        see-pst-1sg big-acc   dem   big   man
        'I saw the big one.'   'That big man.'

(13) a. ko   karai   *tuja*   b. che   tuva   *tuja*
        dem   man   old   1sg   father   old
        'That old man.'   'The old age of my father.'

Table 10: Borrowed adverbs ending in *-mente*

	Quechua	Guarani	Otomi
N of Respondents	13 (52%)	28 (74%)	3 (5%)
Adverbs *-mente*	28 (61)	42 (80)	3 (3)
Corresponding Adjective NOT used	10	21	3
All Adverbs borrowed (types)	89	70	37
Percentage *–mente* (types)	32%	63%	8%

It is relevant in this context to observe that only in around two thirds of the instances of a borrowed adjective in both languages it is functioning as a nominal modifijier, while around a quarter of the uses are as the nominal head of a noun phrase. In between 5% and 10% of the cases, the adjective actually functions as an adverb, which is impossible in Spanish without the addition of the *–mente* sufffijix.15 Given this, even if the mere presence of *–mente* forms among the borrowings, and the fact that they are used as adverbs, suggests a certain awareness of the relevant Spanish rules, though we cannot be sure that they have been derived consciously. Of the 25 informants of Quechua, 19 used Spanish adjectival borrowings in an adverbial function. Of these, six used exclusively unmodifijied adjectives, three used exclusively *–mente* forms, and ten used both strategies. It should be among the second group that the 'conscious' users should be sought, but all three speakers involved used only one single form, which makes conclusions virtually impossible. And of the speakers who use both strategies, four in fact used both some specifijic adjective A and its adverbial derivation A-*mente* as a verbal modifijier.

For Guarani, the corresponding fijigures are rather diffferent though. Of the 38 informants, 30 use loans in an adverbial function. But here, only three use just bare adjectives, and with very low frequencies. All the other respondents use both strategies, though in virtually all cases the 'right' *–mente* form is clearly preferred over the 'wrong' bare form. Furthermore, there were no cases of double use, i.e. adverbial use of the bare adjective and its *–mente* form by one and the same speaker. This points strongly in the direction of a greater awareness of the Spanish rule for Guarani speakers than for Quechua speakers. This may be clear already from the percentages in Table 10 above, showing that two thirds of the adverbial uses in Guarani are a *–mente* form, while in Quechua only one third of such uses are a *–mente* form. But we think that, even in the case of Guarani, it may be a step too far to consider the adoption of the rule as a productive instrument rather than pure lexical coding of the forms as adjective and adverb, respectively. Some of these lexemes may in fact be more frequently used as adverbs than as adjectives in spoken Spanish, which may give support to the assumption of complete borrowing rather than derivation of these adverbs. E.g. the 12 *–mente* forms that occur more than 500 times among the 5 million tokens of the spoken corpus of Davies (2002),

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The situation is much like the *–ly* derivation for adjectives in English.

Table 11: Relative number of morphologically complex types borrowed

	Quechua	Guarani	Otomi
N Pl	11	1	1
N Dim	7	1	1
N Ag	15	5	1
V Prt	(6)	–	–
A Fem	11	10	–
A Pl	4	1	–
Adv-mente	9	15	1

are all more frequent in that corpus than their basic adjectival forms. This may facilitate the derived forms being learned as such.

Wrapping up this section, we may conclude that the relative amount of borrowed elements with Spanish morphology neatly follows the order we found for borrowing in general, as illustrated in section 2. In six out of seven morphological categories discussed here, Quechua beats Guarani, sometimes quite considerably, with the only possible exception being the –*mente* derivation. Guarani, in its turn beats Otomi in all cases. Table 11 gives an overview in relative fijigures, derived from the absolute number of diffferent stems ('types') on which the respective phenomena were attested. Thus, Quechua borrows three times as many agentive nouns as Guarani, and 15 times as many as Otomi.16

Although we have found only very little evidence for any borrowing of Spanish morphology as such, and if so then mainly in Quechua, it could well be the case that the presence of morphology on borrowed stems functions as a stepping stone to its future application to native stems. In that sense, the forms discussed above may well operate as the proverbial Trojan horse. In terms of type frequency, the major candidates are the nominal operations (Pl, Dim, Ag) for Quechua; the adjectival Fem form for Quechua and Guarani; and the –*mente* adverb for Guarani. Whether they would ever apply to more than just Spanish loans is unclear to us. But the use of Spanish bound morphology may become more wide-spread, and conscious, hand-in-hand with an increase in language contact and bilingualism. Quechua has a productive plural marker that fijits perfectly well in its complex sufffijix system, so the application of Spanish -*s* might be restricted to 'doubles' on borrowings. We do not know whether such

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16 These fijigures were not corrected for the size of the three corpora. This would make the contrasts even larger.

'redundant' codings have endured over longer periods of time in any language. On the other hand, the *–ito* diminutive might spread to general native nouns, since it has made an inroad already on proper names. For the agentive, there is competition from the native *–j* sufffijix. However, if we follow Cole (1982, 176) on this point, the *–dor* agentive has already been borrowed by Quechua, at the least by the Northern Ecuadorian Imbabura variety. We also have evidence for the productive use of the *–ero* agentive by at least some of our Quechua informants.

Neither of the three languages has grammatical gender. However, when more Spanish nouns will be borrowed, this category may be introduced for the relevant Spanish loanwords, as well as any noun referring to female individuals. This might then become clear in case they are modifijied by Spanish loan adjectives. The phonemes /-o/ and /-a/ are very common endings for nouns in Otomi, and also rather frequent as endings in the other two languages. We do not consider it as very likely, however, that over time these endings will be reinterpreted as gender markers for the native nominals when they appear in attributive position. As for adverb derivation, none of the three languages has a specifijic adjectival category: nominal modifijication is done via elements from the N/A class in Quechua and Guarani, and via N and V in Otomi. Therefore, the introduction of *–mente* to all adverbially used elements would imply a fundamental change in the respective grammars, and the parts of speech systems.

5   Conclusions

We think that the data and the analyses that we presented above give strong support to the position that languages do not easily borrow morphology in the sense of productively afffijixing bound material from a contact language to their own lexemes, be it under the original or a new interpretation. All three languages presented borrow quite heavily from Spanish. In the Quechua data, almost every fijifth word of running discourse is borrowed; in Guarani around every sixth; and in Otomi every seventh. This   order reflects quite well what we know about the contact history, and the level of bilingualism in the respective speech communities. In all three cases, borrowing is not restricted to the major lexical classes. A vast number of grammatical items are borrowed as well, including prepositions, articles, coordinators and subordinators. There are remarkable difffferences, however, between the amount of borrowing in the respective lexical and grammatical categories in the three languages. These could be ascribed

partially to aspects of the contact history, above all to its length, but also
to diffferences in typology. But despite the fact that so much grammati-
cal material could be attested in the basic languages, this has apparently
not contributed so far to lowering the threshold for bound morphemes to
cross over in any convincing way. In fact, predictions based on the relative
amount of grammatical versus lexical borrowing seemed to point entirely
in the wrong direction. Thus, apart from some isolated cases, observed in
the contributions of a restricted number of respondents, we found no indi-
cation whatsoever that Spanish bound morphemes and the corresponding
rules have established themselves fijirmly into the native systems of the
languages under consideration. Only Quechua shows some evidence of
developments in this area.

Morphology as such, however, is present in the borrowing data in a
very interesting way, i.e. on the borrowed items themselves. We have seen
that several kinds of morphological markers ride piggyback on Spanish
loan nouns. This is especially the case in Quechua, where we found that
borrowed nouns regularly carry Spanish plural marking, and that there
is good reason to assume that this coding is deliberate or to some extent
productive. Arguably, the same goes for diminutives in Quechua, be it that
their application seems to be restricted to proper nouns. Agentive nouns
marked by *–dor* are probably borrowed as such, while their counterparts
–ero do seem to be on their way to carve a niche in the Quechua system.
Potentially, these morphologically complex loans could operate as Trojan
horses, paving the way for their application to native lexemes. The con-
tribution of verbs in this sense is much less clear: apparently, all three
languages borrow them in their most 'naked' form of pure stems, prob-
ably based on Spanish infijinitives. Loan adjectives sometimes appear in
the feminine form, both with Spanish nouns of this gender, or with female
referents. This is particularly the case in Quechua, and to a lesser extent
in Guarani. It remains very speculative, though, to assume that at a later
stage a gender system for adjectives will be copied by any of the languages
outside this very restricted domain since they all lack grammatical gen-
der in the fijirst place. The alternative would be that the female endings
on the borrowed adjectives would simply disappear, but that is unlikely
given the expected increase in bilingualism. Finally, there seems to be
a clear awareness, especially among the Guarani speakers, to distinguish
between the bare adjective forms of Spanish and their use as adverbs,
with the obligatory *–mente* sufffijix. It is not very likely, however, that this
sufffijix will transfer to lexemes of the Guarani (or Quechua) Noun/Adjec-
tive class, which may appear in adverbial position without any morpho-
logical marking.

Abbreviations

1	fijirst person
3	third person
A	adjective
ABL	ablative
ACC	accusative
ACT	actual
ADDIT	additive
ADV	adverb
AG	agentive
ALL	allative
ASP	aspect
AUG	augmentative
BEN	benefactive
CAUS	causative
CIT	citation
CLUS	clusivity
COL	collective
COM	comitative
COND	conditional
DEF	defijinite
DEIC	deictic
DEM	demonstrative
DEPR	deprecative
DES	desiderative
DIM	diminutive
DIST	distant
DO	direct object
DUR	durative
EMPH	emphatic
EQ	equation
ESS	essive
FACT	factitive
FEM	feminine
FOC	focus
FUT	future
GND	gender
HAB	habitual
HUM	human
IMP	imperative
IMPERS	impersonal
INF	infijinitive
INGR	ingressive
INSTR	instrumental
INTR	intransitive
IO	indirect object
LIM	limitative

LOC	locative
MASC	masculine
ML	model language
MOD	mode
N	noun
NEG	negative
NP	noun phrase
NUM	number
OBL	obligation
PERS	person
PFX	prefijix
PL	plural
POSS	possessive
PRF	perfect
PRIV	privative
PROG	progressive
PROX	proximate
PRT	participle
PST	past tense
PURP	purpose
REC	reciprocal
REFL	reflexive
RES	resultative
SFX	sufffijix
SG	singular
SO	source
STAT	static
SUBJ	subject
SUP	superlative
TEMP	temporal
TNS	tense
TOP	topic
V	verb
VAL	validator (Quechua)

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