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the case of Spanish and Otomí

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A FUNCTIONAL APPROACH TO LINGUISTIC CHANGE THROUGH LANGUAGE CONTACT: THE CASE OF SPANISH AND OTOMÍ

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0. Introduction

Within Functional Grammar, little attention has been paid so far to language contact, and linguistic change resulting from it. We think, however, that contact-induced language change is potentially very interesting for the theory, because the clash between two linguistic systems is bound to reveal something about the grammatical systems involved, something that may not have come out in the study of the grammars in isolation. At least, it should confirm certain observations about grammatical systems rather than contradict them. In this article we hope to illustrate that the changes originating from the contact situation between Otomí, an Otomangue language from Mexico, and Spanish, the official language of that country, are in no way haphazard, but induced and constrained by aspects of both grammars. Indeed, as we will see, changes in Quechua, likewise as a result of contact with Spanish, turn out to be of a rather different nature. It is our conviction that a linguistic theory should be able to explain - and partially predict - such differences. Or, stated differently: adequacy in this respect should be added to the list of requirements for the theory. The final goal of this contribution is to see whether what happens in the two language contact situations mentioned above may be fitted into the FG framework as it has been developed so far.

Before we plunge into the specificities, we will first, in section 1, discuss language change through contact from a more general perspective. Next, in section 2, we will discuss the sociolinguistic and linguistic parameters that represent our observations concerning the contact situation between Otomí and Spanish. In section 3 we will introduce our hypotheses and the way we collected our data. In section 4 we will give an analysis of the linguistic facts that we observed. We will concentrate on five examples of borrowing: prepositions, subordinators, relative pronouns, adjectives and numerals. Finally, in section 5, we will draw some conclusions from this for the theory of Functional Grammar.

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In this article, we look only at the results in one direction, i.e. the elements of Spanish (the 'source' language) that are adopted by Otomí (the 'target' language). It is our conviction that this type of research is 'complete' only if at the same time an assessment is made of the reverse situation. In this case it means that we should also describe the influence of Otomí on Spanish, in the language community at large and even more so per speaker. This will be left, however, for an other occasion.

1. Language change from the functional perspective

In the literature on contact-induced language change an important question is which factors may play a role here. In order to explain the corresponding phenomena, several types of factors have been adduced so far, both linguistic and non-linguistic. Among the latter we subsume social, areal and pragmatic motives. Authors assign different weights to different factors, and exclude some of them altogether. For instance, Thomason & Kaufman (1988:35) claim that "it is the socio-linguistic history of the speakers, and not the structure of their language, that is the primary determinant of the linguistic outcome of language contact. Purely linguistic considerations are relevant but strictly secondary overall". In a comprehensive study on contact between Otomí and Spanish in the State of Hidalgo (Mexico) from the first contact in the colonial time until now, Zimmermann (1992) assumes that the introduction of the huge number of Spanish function words and the resultant linguistic changes in Otomí can be explained from a desire of the Otomís to imitate the faulty Otomí of the Spanish missionaries. Stolz & Stolz (1996) show that many Spanish function words are found not only in Otomí, but also in other indigenous languages of Mesoamerica, indeed of the whole Latin-American and Austronesian area, and they point out that pragmatic factors may play a substantial role in the adoption of those function words. In this connection, Hekking & Bakker (1998) suggest that borrowed numerals, discourse particles and adverbials and the use of double, partially Spanish forms give status to the discourse in Otomí, much as the use of English words does to some sociolects of spoken Dutch. On the other hand, Hekking and Muysken (1995) have not discovered a regular pattern in the adoption of grammatical borrowings within Meso-America,

otherwise a well-established linguistic area (cf. Campbell et al. 1986; Van der Auwera to appear). Different Spanish function words are borrowed by the respective languages within this region. And in the research for the present study we observed that types and numbers of Spanish borrowings vary for the several Otomí dialects. Therefore, we assume here that areal factors do not play an important role in this type of language change, at least not in the Meso-american context.

Muysken (1996) claims that borrowing of both content words and function words is induced and constrained by aspects of the grammars of the languages in contact. This claim gets support from several often repeated observations in the literature, which have more or less gained the status of universals of contact-induced language change (cf. Aitchison 1981; Thomason and Kaufmann 1988). According to these universals, elements are copied more easily from one language to another to the extent that they fill a functional gap, fit in with innovation possibilities, and are structurally compatible with the receiving language. In other words, a language preferably borrows those elements for which it is 'ready'. However, Campbell (1993) provides counterexamples to each of these general rules, showing that borrowings occur despite the fact that the receiving language does not provide a slot for them. And Stolz & Stolz (to appear) point out that the functional gap theory is not correct, basing their idea on the fact that in the receiving languages many double forms are used, i.e. we find vernacular forms in combination with borrowed forms. According to Stolz & Stolz, the usage of a double form shows that the receiving language already has a form at its disposal, and that there being a gap cannot be the motivation for borrowing in these cases. Indeed, this parallelism suggests that there is no complete gap in the receiving language. However, if we look somewhat more closely at such cases, as we will do below, then we may find that the synonymy between the original element and the loan is only partial. More often than not, the loan turns out to be semantically more specific than the original element, at least in the reading in which it is borrowed. Interestingly, Muysken (1996) points out that the introduction of functional borrowings takes place quite regularly through alternation with an original form rather than through insertion of a new form.

So, in our view, the critique of the assumed 'universals

of borrowing' does not make them less important or interesting as factors. Rather, our view on this and indeed other types of language change is a dynamic one. We assume that there exists a complex of factors which motivate and constrain the borrowing process between languages, of which the structural 'readiness' of the receiving language is just one, which cooperates and competes with others (cf. Bakker 1998 for a more comprehensive discussion of this). In organizing the factors relevant for the discussion here we start out from the Principle of Functional Explanation as first developed in Dik (1986). This principle orders the factors that are thought to explain the shape of languages in a hierarchy. Our interpretation of such a hierarchy will be that higher factors give the motivation for languages to adopt and incorporate external elements. The lower factors provide the constraints on processes of language change while at the same time motivating still lower factors, in a cascade-like way. Globally, our hierarchy looks as follows:

NON-LINGUISTIC: Social > Areal > Discourse

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LINGUISTIC: Functional: Pragmatic > Semantic

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Formal: Syntactic > Morphological > Phonological

Thus, non-linguistic factors take a higher position within the hierarchy than linguistic ones. In the non-linguistic context, discourse factors comprise all aspects of communicative interaction which are not part of the sentence grammar of the language. Examples are the borrowing of discourse markers, the adaptation of honorific systems and the change from the vigesimal to the decimal system. Apart from this, all changes fall under this heading which seem to be lexical on first sight, but which do not fill a semantic gap. The real motivation for these then could be the assumed status-raising effect that the use of such borrowings provides to the

speaker.[1] Within the realm of grammar, functional factors motivate formal ones. Among the former, pragmatics goes before semantics. In this case we refer to pragmatics at the clause level, i.e. the copying of material related to the illocution, pragmatic functions etc.

The objective of the following discussion is not so much to compare this hierarchy with other explanatory scenarios. Although we will briefly evaluate its fruitfulness in the concluding chapter, we will take it as a point of departure here, and derive our major research parameters on the basis of it. It is these that we turn to in the next section.

2. Sociolinguistic and linguistic aspects
Thus, following Thomason and Kaufmann (1988) we assume that linguistic change through contact is motivated in the first place by the sociolinguistic aspects of a language community and only in the second place by linguistic factors. As far as the latter are concerned, motivation will mainly stem from functional factors, while the formal aspects of the languages involved put constraints on what is borrowed and what not. Since in any language contact situation bilingual speakers are important introducers of linguistic change, we have looked at the sociolinguistic factors that link up with bilinguality. These factors are discussed briefly in section 2.1. The correspondences and differences beween the grammars of Otomí and Spanish are the topic of section 2.2.

2.1 Sociolinguistic aspects
Otomí, with around 220,000 speakers, is among the most important of the 17 languages of the Otomangue family. It is part of the Otopame group, the most northern subgroup of the Otomangue family, to which the Mazahua, Pame, Chichimeca, Ocuilteca and Matlatzinca languages also belong (cf. Barthelomew 1993). Otomí has nine dialects according to the Ethologue (Grimes 1977), but four according to Bartholomew (1993) and is spoken in six states of the high plateau of Mexico, notably in a number of villages in the State of Querétaro, some 200 kilometers to the north of Mexico City.

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[1] According to Treffers-Daller (to appear) French participles have this effect in the Dutch dialect of Brussels.

The dialect we will focus on is that of the village of Santiago Mexquititlán.

The speakers of Otomí are possibly the descendants of the most ancient inhabitants of the high plateau of Mexico. They played an important role in the era of the Toltec culture. But later they were humiliated both by the Aztecs and the Spaniards. The present day Otomís form an ethnolinguistic group with a low socio-economic and historical position. The Otomís of Santiago M. are poor peasants with small plots. Relatively recently a process of linguistic and cultural change has started because of migration, the construction of a paved road to the Spanish-speaking world, the introduction of the official Spanish educational system and the influence of the mass media.[2] The Otomís do not write their own language and do not possess written sources in which they have recorded their own culture and history. As a result, the mother tongue of the Otomís is stigmatized by the Mestizos - the people of mixed Spanish-Indian origin - and the Otomís themselves generally have an ambivalent attitude to their language.

Our sociolinguistic data reveal that it is in the first place the young and better educated speakers who are more or less fully bilingual. They have most contact with the Spanish-speaking world and often live in a Mestizo neighbourhood, where Spanish is the only language. The other social groups know Spanish to a lesser extent. When, in 1989, we interviewed 122 Otomí speakers from Santiago M. about their preferred language in a number of formal and informal situations, using the same method that Rubin (1968) used in Paraguay, we found that in more informal and intimate situations Otomí is the preferred language for most speakers, but that Spanish is the language used in contact with the political authorities, in the Catholic church, at school, when visiting the non-indigenous doctor etc. A breakdown of the results of this survey is found in table 1 below.

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[2] When we use linguistic change here it is meant in the technical sense, i.e. changes in the Otomí language under the influence of Spanish. This is not to say that the overall process may one day give rise to language shift, i.e. the disappearance of the Otomí language, and its replacement by Spanish as a means of communication. In general, we think that both processes take place in the Otomí community at the same time.

Table 1 Selection of one of the languages according to the discourse situation

		spanish	spanish + otomi	otomi
I.	informal	6%	18%	76%
II.	neither formal nor informal	14%	40%	46%
III.	formal	63%	24%	13%

These figures, however, differ considerably for the respective social groups. We found that for almost all situations investigated the younger Otomís (9-30 years) significantly more often stated that they use Spanish than the older ones. This corroborates the fact that young Otomís are more bilingual. It is also an indication that a process of language shift is going on in Santiago M. and that Spanish is replacing Otomí little by little, also in more informal situations. This inevitably has implications for Otomí as a linguistic system, too.

2.2 Linguistic aspects

In this section we will present some linguistic data, highlighting the correspondences and differences beween the grammars of Otomí and Spanish that are relevant for the rest of this article. We will focus our attention on the Otomí dialect spoken in Santiago M. For more details about this dialect, see Hekking & Andrés de Jesús (1984, 1989) and Hekking (1995). For more information on other Otomí dialects see Hess (1968) and Lastra de Suárez (1989; 1997).

Spanish and Otomí are both predominantly postfield languages, Spanish having SVO and Otomí VOS and SVO as their basic orders. Spanish has a large variety of prepositions; Otomí marks the relations between the predicate and the other parts of the sentence by a small set of prenominal particles that functionally resemble prepositions. Apart from this Otomí marks relations by verbal suffixes, or it leaves them unmarked.

While Spanish has many adjectives, Otomí has very few

members of this category at its disposal. It may well be that the category of adjectives does not form part of the grammar of Classical Otomí at all. Instead, Otomí uses verbs or nouns.[3] Spanish adjectives in their attributive function generally come after the head of the noun phrase, while in Otomí, nominal modifiers are always placed before the head of the noun phrase.

Although Spanish and Otomí both have postnominal relative clauses, they use different strategies for their formation. In Spanish a complicated system of relative pronouns is used, while in Classical Otomí two strategies are found. In terms of Comrie (1996), the strategy most often applied is 'gapping'. In that case there is no referent to the antecedent in the relative clause at all. A less frequently encountered strategy is to be positioned between pronoun retention and the use of a relative pronoun. That is, there may be a demonstrative in the relative clause that is co-indexed with the antecedent. It is usually found in the first position of the relative clause, irrespective of its semantic or syntactic function.

In both Spanish and Otomí adnominal numerals precede the noun, but in Otomí they are separated from it by a definite article or a possessive. Spanish follows the ordering principle Dem/Art-Num-N, coinciding with the universally preferred order mentioned by Dik (1997:415), while Otomí deviates from that schema, showing the order Num Dem Art N.

In Otomí definite articles are frequently used, while in Spanish they are omitted when a demonstrative, a quantifier, an interrogative or a possessive are present.

In Otomí numerals often behave syntactically as intransitive verbs and as such they are conjugated. It is also important to mention here that the Otomís use a vigesimal system while Spanish employs a decimal system.

In order to coordinate or subordinate two or more clauses, Spanish has a wide range of coordinators and subordinators at its disposal. However, in Otomí only a restricted set of such markers exist. For example in satellite positions, subordinate clauses may be marked by special verbal prefixes. Regularly, however, mere juxtaposition of clauses and other constituents is used, without the presence of any marker whatsoever. More often than not in discourse, the

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[3] It would then be a type 5 language in the classification of Hengeveld (1992).

semantic and structural relations therefore have to be inferred from the context. Evidently, this is a feature of spoken language as opposed to written variants in general. As a consequence of this, it is bound to be part of the 'received grammar' of a language that is mainly, or only, spoken, in contrast to a language that has a long literate tradition.

So much for a short survey of the relevant aspects of both grammars.

3. Hypotheses, method and data

As discussed in section 1, we assume that the driving force behind linguistic change in language contact situations is the social position of the languages involved with respect to each other. In section 2 we saw that the importance of Spanish in the language community is increasing, at the cost of the role of Otomí. Non-linguistic pragmatic factors enhance this process. We propose the following hypotheses:

H1. Given the nature and the time span of language contact between Spanish and Otomí, we expect current spoken Otomí to be affected by Spanish, both lexically and grammatically.

H2. The effects are greater for younger speakers, for speakers who interact more regularly with the Spanish-speaking world, and for speakers who have a more extensive education.

H3. The effects of Spanish on Otomí follow a pattern in which the correspondences and differences between the two grammars play a decisive role.

In order to test these hypotheses against the linguistic facts we collected two types of data. First we collected data on the process of language shift by interviewing 122 Otomís on the basis of a sociolinguistic questionnaire inspired by the work of Fishman (1971). This questionnaire consisted of 81 closed questions about language acquisition and use, language ability and attitude. This sample was stratified according to age, sex and the extent of external contact among the population. These are the parameters that we expect to play a central role in the process of language change.

Taking the outcomes of this first survey as a point of departure, we collected spoken texts from 31 Otomís. For this

we used a questionnaire composed of 40 open sociolinguistic and cultural questions. Furthermore, there were a series of 88 Spanish sentences to be translated into Otomí. The answers were taped and transcribed at a later stage. This provided us with a corpus of about 65,000 tokens of spoken Otomí. This corpus is the basis of the analyses to be presented in the next section.

In order to check our observations and conclusions, we will compare our results with observations on language contact between Spanish and Quechua (Adelaar 1977; Cole 1982; Lefebvre & Muysken 1988). We think that this is an interesting comparison since Quechua is genetically not related to Otomí, while the sociolinguistic conditions of its speakers, including the role of Spanish, are highly comparable to those of the native Otomís.

4. Analysis

In our corpus of spoken Otomí, we noticed that the speakers adopted many Spanish borrowings in their mother tongue. We found 10,710 of them, which is around 17% of the total text in terms of tokens. Table 2 gives a breakdown of these borrowings according to their parts of speech in Spanish. It is important to notice that in this table under 'types' all phonological variants are counted as such. The actual number of 'underlying' types is therefore lower, sometimes considerably so.

Table 2 Numbers of Spanish borrowings according to category

	types	tokens
nouns	649 (51.0%)	4911 (45.9%)
verbs	130 (10.2%)	717 (6.7%)
conjunctions	108 (8.5%)	1904 (17.8%)
prepositions	73 (5.7%)	1153 (10.8%)
adverbs	56 (4.4%)	539 (5.0%)
adjectives	39 (3.1%)	155 (1.4%)
numerals	32 (2.5%)	202 (1.9%)
interjections	25 (2.0%)	792 (7.4%)
indefinites	13 (1.0%)	39 (0.4%)
interrogatives	6 (0.5%)	13 (0.1%)
relatives	4 (0.3%)	43 (0.4%)
articles	3 (0.2%)	11 (0.1%)
demonstratives	2 (0.2%)	3 (0.0%)
possessives	1 (0.1%)	3 (0.0%)
total	1272	10710

As can be read from table 2, the most important contribution is from nouns, as is usually the case. Surprisingly, however, we found large numbers of Spanish function words, such as prepositions, coordinators and relative pronouns. Furthermore, many discourse particles and adverbials, and a lot of Spanish numerals. On the other hand, there is a rather low number of Spanish adjectives.

The influence of Spanish on Quechua diverges from this in an interesting way. This is shown in table 3.[4]

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[4] From Hekking & Muysken (1995). The figures are based on a count of Spanish loans in a collection of stories in Potosí Quechua compiled by Federico Aguiló. The overall percentage of loans in this corpus is around 20%.

Table 3 Comparison between Spanish loans in Otomí and Quechua

Otomí	types	Quechua	types
nouns	51.0%	nouns	52.4%
verbs	10.2%	verbs	23.1%
co/subordinators	8.5%	adjectives	10.8%
prepositions	5.7%	adverbs	5.4%
adverbs	4.4%	prepositions	2.0%
adjectives	3.1%	co/subordinator	2.0%
numerals	2.5%	interjections	2.0%
interjections	2%	articles	0.9%
indefinites	1%	negations	0.6%
interrogatives	0.5%	pronouns	0.6%
relatives	0.3%	numerals	0.3%

In this case, too, nouns make up around 50% of the loans, in terms of both types and tokens. It is striking that Quechua borrows more loanwords for the categories of verbs and adjectives than Otomí but relatively few numerals, prepositions, coordinators and pronouns.

In the next sections we will have a more detailed look at five of these categories.

4.1 Prepositions

Prepositions are one of the categories which are most frequently borrowed by Otomí. They comprise 5.7% of the tokens and even 10.8% of the total number of the borrowed types. Our supposition is that functional factors motivate this huge amount. Otomí has a limited number of prenominal particles at its disposal to express the relation between the constituents of the sentence. These forms have a wide range of application, generally wider than those of Spanish prepositions, as can be

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seen in examples (1a-c).

(1) a. Di ñä-he   dige ma b<u>o</u>ni-he   pa Maxei.
       Prs1 speak-PlExc about Pos1 trip-PlExc to Querétaro
       'We speak about our trip to Querétaro.'

    b. 'Nar jä'i   pwede da   du dige-r t'ete.
       IndSg person may   Fut3 die by-DSg witchcraft
       'A human being may die by witchcraft.'

    c. Tengu   t'-uni dige-r fani?
       how-much Vi-give for-DSg horse
       'How much do they give for the horse?'

Here, the particle *dige* functions to mark 'reference', 'cause'
and 'purpose', respectively. Apart from these particles, Otomí
expresses object marking on the verb using several suffixes
that mark number and exclusivity, and furthermore such
semantic relations as company, beneficiary, locative and time.
This is shown in examples (2a-b) below.

(2) a. Ar Xuwa mi   ñä-wi   ár   to.
       DSg John CPst3 speak-DuInc PosSg3 mother-in-law
       'John spoke with his mother in law.'

    b. Ar hy<u>o</u>ngú   bí   hy<u>o</u>m-bi   ar ngú   ar möjä.
       DSg constr.wrk. Pst3 build-Ben3 DSg house DSg priest
       'The construction worker built the house for
       the priest.'

Furthermore, in Otomí many grammatical relations are simply
not expressed overtly, but are implicit in the semantics of
the verbs, as shown in example (3).

(3) Nu'bya di ne   ga ts<u>o</u>ni Nx<u>u</u>ni.
    today Prs1 want Fut1 arrive Morelia
    'Today I want to arrive at Morelia.'

We found the following two types of borrowing. First, quite
frequently there are double forms, as in example (4), where we
find the Spanish preposition *con* 'with' next to an Otomí
suffix that expresses a general sort of comitative.

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(4) Ar xudi   ga   ñuñ-h<u>u</u>   *ko*   nge-'ñ<u>u</u>-h<u>u</u>.
    DSg tomorrow Fut1 eat-IncPl with Dem-Rec2-IncPl
    'Tomorrow I will eat with you.'

In (5) we have an example in which the Spanish preposition
para 'for' expresses the implicit beneficiary aspect of the
verb.

(5) Nu-ya   tsi-bätsi <u>o</u>t'<u>u</u> 'nar mixa *para*
    Dem-RhPl Dim-son   make IndSg mass for
    nu-ya   tsi-hwek<u>u</u>te.
    Dem-RhPl Dim-ancestor
    'The children celebrate a mass for the ancestors.'

In both cases, we can say that the addition of the Spanish
preposition makes the clausal relation involved more explicit.
This is in harmony with the functional gap theory of borrowing
mentioned in section 1. If we assume that the two highly
frequent Spanish prepositions *con* and *para* are taken in one
meaning - probably the prototypical one - then these
borrowings may be motivated by the fact that the relevant
relations are expressed more clearly than their Otomí
alternatives do. This is trivially the case, of course, if
there was no marker at all as in (3) and (5) above. The
examples that we have seen so far suggest that such borrowed
prepositions do not cause a semantic function shift, i.e. they
become the marker of the original semantic function in Otomí,
and not necessarily of the functions that they may express in
Spanish. It is likely, however, that it is one of the latter,
and even the prototypical one.
    In both (4) and (5) the Spanish preposition is
incorporated right before the noun phrase, its original place
in the Spanish grammar, and also the location of the Otomí
particle. In other words, there seem to be no syntactic
constraints to this loan.
    In this context it is interesting to observe that in
Quechua, an OV/prefield language with postpositions, very few
Spanish prepositions are borrowed (only 2% of the types). This
suggests that there may be formal constraints on the potential
loaning of Spanish prepositions to Quechua.

4.2 Coordinators and subordinators

These two categories are even more frequently borrowed than prepositions. In table 2 above we saw that, taken together, borrowed coordinators and subordinators comprise 8.5% of the types and as much as 17.8% of the tokens. We suggest that for this huge number a comparable explanation can be adduced as for prepositions. As already mentioned in section 2.2, Classical Otomí has only a limited number of coordinators and subordinators at its disposal. Examples (6a-b) show the juxtaposition of clauses which is frequently found.

(6) a. Ar bätsi bí nzoni, bí ntsät'i nts'editho.
     DSg child Pst3 cry Pst3 burn_oneself badly
     'The child cried, because it burned itself badly.'

   b. Ya goxthi ya zá wa ya bojä,
     DPl door DPl wood or DPl iron
     tx'utho ya 'nandi pets'i ya nhñe.
     few DPl time have DPl glass
     'The doors are made from wood and iron,
     and rarely do they have glass.'

Sometimes, in subordinate clauses, special verbal proclitics are used, as shown in example (7). *Mbi* expresses past tense in dependent clauses.

(7) Mbi wadi bí hyo ar k'eñä,
   PDep3 finish Pst3 kill DSg snake
   bí zogi ya erramyenta mi kuhu.
   Pst3 leave DPl tool CPst3 carry
   'When he had killed the snake,
    he left the tools he carried.'

Often we find Spanish adverbials being used to further specify the temporal (or other) relation between the state of affairs of the subordinate clause and the main clause. In example (8), the subordinator *mbi* is further specified by the Spanish loan *ndezu* (from *desde* 'since').

(8) *Ndezu* mbi   tho   ya   tsi m̲eti,
    since PDep3 Vi-kill DPl Dim animal,
    ja   mi   usa'bya nuya   fani.
    make CPst3 use-Act DemRhPl3 horse
    'Since the animals were killed, we use horses.'

As in the case of prepositions we have found double forms
composed of an Otomí subordinator preceded by a borrowed
subordinator. In example (9) we find such a double form.

(9) Ar   mäzo bí   neki,
    DSg mule Pst3 appear,
    kwando nu'bu̲ bí   thoki   ar 'ñu j-ar   hnini.
    when   when Pst3 Vi.make DSg road Loc-DSg village
    'The mule appeared, when the road was made
      in the village.'

The borrowed subordinators are inserted in the first position
of the subordinate clause. This is their original position in
Spanish, and also the location where the Otomí subordinators
are found, if they are expressed at all. The constituent order
is typically VSO in these subordinate clauses. Thus, Spanish
subordinators seem to fit into Otomí syntax quite naturally.
Temporal subordinators are borrowed quite often. Possibly they
were the first Spanish subordinators to be adopted by Otomí,
but we lack sufficient diachronic evidence to be sure of this.
The subordinator of purpose *pa* (from *para* 'for') and the
causal forms *porke* 'because' and *komo* 'since' are also
borrowed frequently.
    In comparison to this Quechua adopts only few
subordinators: 2% of the borrowed types while Otomí has over
four times as many. This may be explained by the way
subordination is generally organized in Quechua. The usual
strategy is by way of nominalization. (10) is an example from
Imbabura Quechua (Cole 1982:33):

(10) Ñuka-ka Juan kay-pi ka-shka-ta ya-ni.
     I-Top   Juan this-in be-Nom-Acc think-1
     'I think that Juan was here.'

Another strategy is subordination via a switch reference
system. The embedded clause is marked by one of a set of
switch reference markers, which indicate whether the subject

of the subordinate clause is the same as that of the main clause or not. The marker is a suffix on the verb of the subordinate clause, which is in clause-final position. These strategies are completely different from the Spanish one. There is no element with a the function corresponding in a transparent way to the Spanish subordinator, nor is there a structural position for such a marker in the Quechua subordinate construction.

4.3 Relative clauses

In our Otomí corpus we have also found a number of Spanish relative pronouns. As we will see, for this category of borrowing a scenario may be given similar to that for prepositions and subordinators. As mentioned above in section 2.2, the standard relativization strategy in Classical Otomí is 'gapping'. This is demonstrated in examples (11a) and (12).

(11) a. Nä-r   jä'i   [xi   xiku̱-gö-nu̱]
       DemRdSg3-DSg person Prf3 say-Obj1-RsSg3
       m-tiyo-gö.
       Pos1-uncle-Emph
       'The person who said that is my uncle.'

(12) Ar k'amuza   [di   theti ar tsibi],
     DSg young-wood [Prs1 light DSg fire]
     hingi ne   da   nzo̱ xi hño.
     not   want Fut3 burn well
     'The young wood with which I light the fire,
      does not want to burn well.'

As can be seen from the latter example, the (unexpressed) relative position is fully accessible in the sense of Comrie (1996). Here we are dealing with an instrumental. In some cases we found a demonstrative in the relative clause which was coreferential with the antecedent, as in example (11b).

(11) b. Ar jä'i [nä'ä   bí   xiku̱-gö nuna]
       DSg person DemRdSg3 Prs3 say-Obj1 DemRhSg3
       ge m-tiyo-gö.
       Dem Pos1-uncle-Emph
       'The person who said that is my uncle.'

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These demonstratives are typically found in the initial position of the relative clause, and they are not normally marked for their function in that clause. We are not sure whether this strategy is classical or more recently acquired. Whatever the case is, this may be seen as the start of the development of a relative pronoun. In our data we find two other relativization strategies. The first one is exemplified in (11c), and contains the Spanish relative pronoun *que*.

(11) c. Nä-r   jä'i   [*ke* xka xi-ki]
        DemRdSg3-DSg person who Prf3 say-Obj1
        ge m-tiyo-gön̲u̲.
        Dem Pos1-uncle-Emph
        'The person who said that is my uncle.'

In our corpus, this relative clause strategy with the Spanish relativizer *que* was used in 32% of the cases. The form *que* is very frequent in Spanish, since it is also used as a general subordinator and an interrogative pronoun. In Otomí, we have only found it in its relativizing function so far. We found examples where it was combined with the borrowed preposition *con* 'with'. Thus, the role of the relative pronoun is made fully explicit in a way not possible in Classical Otomí. Interestingly, the fourth variant of relative clause strategies in our corpus is a clause initiated by *to* 'who', an Otomí interrogative pronoun. See example (11d).

(11) d. Nä'ä-r   jä'i   [to bí   xik̲u̲-gö]
        DemRdSg3-DSg person who Prs3 say-Obj1
        nä'ä   ma-tiyo-gö'ä.
        DemRdSg3 Pos1-uncle-Emph
        'The person who said that is my uncle.'

This strategy was used in no less than 26% of the cases. Such examples of loanshift were also found in other language contact studies, as in Hill & Hill (1980) on Nahuatl. In the case of relatives, too, we have found double forms.

    Overall, we can say that the innovative relativization strategy is not in disharmony with Otomí syntax. Possibly, the way for the introduction of the Spanish relativizer *que* was already paved by the Otomí demonstrative. Besides, the Spanish construction pinpoints more precisely the location where the relative clause starts than the classical gapping construction

does.

Quechua, on the other hand, does not borrow Spanish relative pronouns at all. We suppose that this is because Quechua employs an entirely different relativization strategy. Just as in the case of other types of subordinated clauses, nominalization prevails here, leading to a strategy of the non-reduction type in terms of Comrie (1996), i.e. with the nominal head as part of the relative clause. Structurally therefore, there is no room for borrowing relative pronouns in that language.

4.4 Adjectives

Unlike the Spanish function words that we discussed above, Otomí borrows very few adjectives from Spanish. Table 2 shows that they make up only 1.4% of the total number of tokens and only 3.1% of the types. However, in Quechua, adjectives make up no less than 10.8% of the types, and about the same figure was found by Poplack et al (1988) for English loans in Ottawa French. So we assume that there must be reasons for this. Our main point is that, in our view, the category of adjective does not in fact exist in Otomí. This is in line with the observation, made by Rijkhoff (forthc.), that languages which have classifiers do not have adjectives as a type of predicate.[5] In Otomí, the lexical function normally assigned to adjectives is fulfilled by verbs and nouns. This is exemplified in (13) and (14).

(13) a. Ar jwä xi   t'axi.
        DSg fish Prf3 white
        'The fish is white.'

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[5] In fact, the situation is somewhat more complicated. Languages may have adjectives only if the nouns in that language are specified for the feature [+Shape] in terms of Rijkhoff (1997). Such languages do not normally have classifiers, but they do have plural marking on the noun. Modern Otomí does not have classifiers, but the classical language mosst probably did, just like the genetically related languages $$ and $$ have them today. Otomí does not have plural markers on the noun.

```
      b. ar   t'axu̱-jwä
         DSg white-fish
         '... the white fish ...'
```

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(14) a. Ar   he̱'mi ar   dätä.
         DSg book   DSg big
         'The book is big.'
```

```
      b. ar   dätä he̱'mi
         DSg big  book
         '... the big book ...'
```

In (13a), *t'axi* 'white', is inflected like a verb, in this case iwth the perfect marker *xi*. In (14a), *dätä* 'big' has the definite article. In their attributive uses in the b sentences, the structures have the character of nominal compounds. The few Spanish adjectives that are borrowed are typically found in predicative position. One of them is *vivo* 'alive', which very much resembles the Spanish verb *vivir* 'to live'. Apart from the mere absence of the adjective as a type, which we think is a functional constraint, a second possible constraint on adjective borrowing is structural. Whenever Otomí uses nominal modifiers, either from a verbal or a nominal root, these are located before the nominal head that they modify, as in (13b) and (14b). The unmarked location for Spanish adjectives however is after the noun. Only in their marked, non-restrictive use are they to be found before the noun in Spanish.

Quechua, on the other hand, does have adjectives, or at least predicates that are neutral as to their nominal or adjectival status.[6] These may be found both before and after the nominal head in the noun phrase, be it that prenominal is the unmarked location. This means that there seem to be no functional and formal constraints on the borrowing of Spanish adjectives in this language.

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[6] It is therefore a type 2 in Hengeveld's (1992) classification.

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4.5 Numerals

The last category we want to discuss here are numerals. Otomí borrows these easily and in larger numbers than adjectives: we found over 200 Spanish numerals in our corpus. Witness the example in (15).

(15) Ar *dose*   ar disyembre, ar *kinse*   r-mäyo,
     DSg twelve DSg December   DSg fifteen DSg-May
     ar *beyntisinko* ar hulyo, ar *otxo* ar septyembre,
     DSg twenty five DSg July   DSg eight DSg September
     honse̲-'u̲.
     only-EmphPl
     "The twelfth of December, the fifteenth of May,
     the twenty-fifth of July, the eighth of September,
     only those dates."

Our assumption is that Spanish numerals are borrowed mainly because of pragmatic motives. While Classical Otomí has a vigesimal system of counting, the (Spanish) decimal system is playing an increasingly more important role in daily life: in dates, in financial transactions, in education etc. We assume that the continuation of the vigesimal system would imply that speakers frequently would have to apply complex arithmetical operations. As for the structural aspects, there seem to be less problems with the incorporation of numerals than with adjectives. Firstly, they are a category in Otomí in the first place, so functionally there are no constraints. Furthermore, numerals are more peripheral in Spanish noun phrases than adjectives. They even occur quite frequently as independent constituents, as in calculations. Therefore they are much more recognizable to the speaker of Otomí than Spanish adjectives are. Spanish numerals take the position of Otomí numerals in the clause. This is a somewhat more independent position than in Spanish, where they are part of the noun phrase. As shown in (15) above, in Otomí numerals have their own article and are not part of the corresponding noun phrase, even though they immediately precede it.

Quechua hardly copies Spanish numerals. As opposed to Otomí, Quechua has a decimal system, so there seems to be no

need to copy the Spanish system.[7]

5. Some implications for FG

Now given the observations and the analyses above, let us look at some of their implications for the theory of Functional Grammar. A general point is that the phenomena seem to fit quite well into the functional explanatory hierarchy given in section 1. Indeed, even if we have largely ignored the non-linguistic aspects, we could well make a point in assuming that the motivations we proposed are mainly functional. Formal aspects, on the other hand, operate as possible constraints to borrowing rather than motivations for it. We may see a language at a certain stage as a result of competing principles. Being a compromise between the latter, the state of a language at any one time will be suboptimal from the perspective of the individual principles. The possible tensions between the principles will then operate as internal forces that cause language change on the long run. In a multilingual situation, where many speakers know the grammar of two (or more) languages to some extent, aspects of the second language may tip the balance within the first language for those areas where the second seems to be more 'functional' in relation to the less optimal solutions that the first language ended up with. Such a scenario does indeed provide a rationale for the large amount of subordinators borrowed by Otomí: they are quite outstanding in Spanish, while Otomí has only a few, while mere juxtaposition of main and subordinate clauses is frequently found. The fact, however, that there are subordinators in Otomí makes the inclusion of more of such elements unproblematic from the formal perspective. This scenario gets support from the comparison with what happens in the Quechua-Spanish contact situation. There would be functional 'space' for adpositions since the existing ones are few, and more implicit ways of marking subordination are used, such as nominalization and switch reference. Indeed, a few subordinators are included. However, there are formal constraints to their being more numerous, since Quechua is a prefield language, that would have such markers towards the

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[7] Interestingly, ordinals, which are not part of Classical Quechua, are copied from Spanish, at least in some variants (cf. Adelaar 1977:264).

end of the embedded clause rather then the beginning, as in postfield Spanish. In order to deal with these facts, a scenario of a more formal nature seems to be less obvious to provide.

As such, the phenomena we have observed fit into the functional gap, innovation and compatability scenarios mentioned in section 1. As a consequence, we think that these principles should be added to the explanatory apparatus of FG, be it as forces in competition with others, not as universals. This might strengthen the cognitive, and possibly also the diachronic, adequacy of the theory.

As for the large-scale borrowing of Spanish prepositions, we have assumed that Classical Otomí was already on the way to developing prepositions out of particles. There is some evidence for these particles in their turn having developed out of verbs, probably in a serial verb context, according to the diachronic scenario presented in Lord 1993. If this was indeed the state of affairs for Otomí at the time that language contact intensified, then no completely new category 'preposition' was in fact added in this process to the inventory of Otomí grammatical markers. The process was simply speeded up, and they fell in the right place, as it were. However, if this was not the case, then the preposition is an externally provoked innovation of Otomí. In that case it becomes important to determine whether adult speakers might acquire such elements, as in the case of many content words, or whether they have to be acquired before a certain age. In our data, although younger speakers have relatively more prepositional (and other grammatical) borrowings than older speakers, Spanish prepositions are definitely present in the data of even the oldest subjects (aged above 70). Although we have no diachronic material at hand to really substantiate this point, this nonetheless suggests that Spanish prepositions were acquired by speakers when the first language acquisition stage was well completed, at least for the oldest of our subjects. And even if prepositions were no novelty to Otomí speakers as grammatical types, at least the finer grained functions that were added to the Otomí inventory on the basis of the borrowed Spanish prepositions mean an extension of the semantics of that language. If they were not already expressible by lexical means in Otomí, we have to assume that they are either cognitively 'available' at a more abstract, language-independent level, and 'woken up

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linguistically' so to speak, or that they are acquired as completely new. In that case there are clearly implications for the cognitive adequacy of the theory, and above all for issues such as language acquisition, learnability and the role of abstract representations and predicates in grammar. On the other hand, if prepositions turn out to be borrowable by speakers long after the completion of the language acquisition stage, just like nouns, then there may be implications for the grammatical versus predicational status of (certain) prepositions in the FG framework (cf. Mackenzie 1992 on the predicational status of certain English prepositions).

We also think that the Functionality Principle as introduced in Bossuyt (1983) (and see Bakker 1998 for a redefinition) should be adapted in the light of the above considerations. According to this principle, diachronic change may not affect the functionality of a language in the sense that no function may be lost during or as a result of such a process. On the basis of the data discussed above we may hypothesize that the Functionality Principle should cover changes due to language contact as well. However, we have seen that such changes may lead to the extension of the range of functions into more specific ones, and thus, trivially, to the loss of the original more global functions. The borrowed markers of these functions may either replace old markers and their functions or mark relations explicitly that formerly had to be inferred from the semantics of the main predicate or from the discourse. In that sense the Functionality Principle should be adapted.[8]

Although the examples that we have seen suggest that borrowed prepositions do not change the relevant semantic functions of the original markerless Otomí clause, it remains an open question whether this would always be the case. For

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[8] It is not clear to us whether the relatively rapid changes due to language contact have the same sort of side effect on the rest of the grammar that the generally much slower diachronic changes have. Our assumption is that they have not, i.e. that languages under these circumstances extend rather than adapt. In that sense they become in fact 'richer', at least for some period of time, i.e. there is no immanent process of language shift. However, there is a point where intensive language contact leads to language loss, even for native speakers who once mastered their language fully. So there must be a crucial moment on which the Functionality Principle collapses in such situations of language contact.

instance, a markerless argument analyzed as a Goal in Classical Otomí might get analyzed as an Instrument, Path or Destination after the addition of a Spanish preposition. By implication, we may assume then that a slight change of meaning has taken place or will take place for the predicate involved. In its turn, this may lead to different selection restrictions, constraints on contexts etc. Such a scenario has implications for the theory of the relations between predicate meanings and argument roles. More concretely, it might mean that there is a more or less versatile and bidirectional relationship between meaning definitions, argument structure and expression, more or less as in Jackendoff 1990 (see Siewierska 1993 and Bakker 1994:209f for discussion of these issues in relation to FG).

Mutatis mutandis, the same reasoning holds for the borrowing of subordinators and relative pronouns. In these cases, too, the basic underlying functionalities - i.e. the subordinate clause and the relative clause - are part of the grammar of Otomí, and as such they are recognizable and analyzable for Otomí speakers in other languages. The introduction of the Spanish subordinators expands the set of semantic functions that may be assigned to subordinate clauses, at least in terms of the sentence grammar. In the Classical language, these functions were inferred from the context or from world knowledge rather than coded explicitly, so it makes sense to assume that they have no, or just a very general semantic function in the classical language, and were not part of its grammar. As in the case of prepositions, this process may have implications for the overall cognitive status of the theory.

The borrowing of adjectives is another matter. Unlike nouns, which are typically borrowed with their corresponding referents and denotata entering the culture, a functional motivation for borrowing in terms of a semantic gap is less obvious for most adjectives, since the more frequent ones generally have a semantic parallel in the target language. However, this seems to be no reason for Quechua and French not to borrow large numbers of adjectives from Spanish and English, respectively. This could mean that they are borrowed along with some specific meaning, much like the Spanish prepositions and subordinators in Otomí, indeed filling some 'gap'. Or there are higher, e.g. pragmatic reasons to do so. We may assume, then, that there are constraints which prevent

Otomí from doing the same thing. Above we mentioned the absence of Adjective as a lexical category of Otomí. In terms of underlying representations this means that Otomí does not have a predicate type that may act as a main predicate and a term restrictor but not as the head of a term. An extra complication for Spanish adjectives to be analyzed by Otomí native speakers as term restrictors is that they generally come after the nominal head, while term restrictors in Otomí are exclusively found before the head. Their functionality is therefore not very perspicuous in the sense of being derivable from their structural position.

Finally, numerals are borrowed in spite of the fact that this is functionally unnecessary since they are fully present in the Otomí grammar. However, borrowing nevertheless takes place. We have assumed that this is because the classical system is based on the vigesimal rather than the increasingly more important decimal system. Fully in accordance with the predictions, this shows that non-linguistic considerations may overrule linguistic ones, in this case the lack of a functional gap.

So far, we have seen the expression rules as constraining factors rather than motivating ones. From the perspective of the hierarchy of section 1 this is, in fact, bound to be their major role. Since the shape of the expression rules is, at least in a general sense, derived from the requirements posed on them by underlying representations rather than the other way around, we will expect fundamental changes in the expression rules of the target language only to come about in relation to 'underlying' changes at the functional level, not so much in their own right. A possible exception are changes in word order patterns. In the typological literature on word order it has often been observed that orders frequently change under the influence of language contact. We assume that these changes will replace a basic order in the target language by a marked one which at the same time is a frequent, or basic order of the source language. In fact, this is an example of markedness shift. The introduction of a new grammatical category, however, will be more problematic. If it happens nonetheless, as in the case of prepositions in Otomí, the target language will often found to be on its way to develop the corresponding category in a diachronic fashion anyway, so a functional motivation is provided. By the same token language contact often leads to a certain

'degrammaticalization' of the target language rather than its further grammaticalization. For instance, morphological markers such as affixes may disappear in favour of lexical entities such as adpositions and particles, while the opposite is less often witnessed. An explanation may be that morphological rules are hidden much deeper in the expression rules than the generation of grammatical material of the lexical type, and much more language specific. Furthermore, lexically expressed elements are often more perspicuous functionally than morphlogically expressed ones, especially in the case of flecting languages. All these observations follow more or less naturally from the standard view on the place and role of the expression component in FG.

These are, of course, only a few observations on and implications for FG theory, and the more conspicuous ones at that. We are convinced, however, that contact-induced data may have an important impact on linguistic theory, and that within the overall research programme, they should be studied profoundly. An obvious reason is that for only a small subset of the world's languages the speakers are monolingual. Thus, most grammars may be fully understood only language contact is taken into consideration.

6. Conclusion

In this paper we have discussed a number of changes in Otomí attributable to the influence of its contact with Spanish, and the ensuing bilinguality of its speakers. We hope to have shown that most of the phenomena of language change that were observed could be motivated on the basis of the functional hierarchy of linguistic change through language contact which was presented in section 1. More specifically for the linguistic level, we hope to have shown that the phenomena might well be explained if we assume that in general, functional factors motivate the changes while formal factors of the grammar may put constraints on the kind of changes that may take place. Finally, we have suggested some implications our observations may have for the theory of FG, and more specifically for the adequacy criteria. Other than changes of a diachronic nature, such as the gradual development of a new category of prepositions out of nominal or verbal predicates, changes through language contact go at a much faster pace. Also, they take place against the background of a bilingual

situation, both from the perspective of the language community and that of the individual speaker and learner. Therefore we think that explanatory scenarios for what happens in language contact situations will have more overlap with those for first and second language acquisition, and pidgin/creole situations than with those for diachronic language change. This means that they coincide with criteria for cognitive adequacy rather than for diachronic adequacy.

GLOSSES

In the glosses, the following abbreviations are used. A space indicates a word boundary; a - marks a morpheme boundary.

1	first person
2	second person
3	third person
Acc	accusative
Act	present time
Ben	beneficiary
Cprt	'copretérito' (past tense)
D	definite
Dem	demonstrative
Dim	diminutive
Du	dual
Emph	emphatic
Exc	exclusivity
Fut	future
Inc	inclusivity
Ind	indefinite article
Loc	locative
Nom	nominative
Obj	object
Pdep	past in dependent clauses
Pl	plural
Pos	possessive
Prs	present
Prf	perfect
Prt	'pretérito' (past tense)
Rd	reference distance
Rec	recipient
Rh	reference hearer
Rs	reference speaker
Sg	singular
Top	topic
Vi	passive impersonal voice

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