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The attributive possessive in Moroccan Arabic spoken by young bilinguals in the Netherlands and their peers in Morocco*

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Moroccan Arabic has two competing syntactic constructions for possessive marking: a synthetic one and an analytic one. The distribution of these constructions is investigated in semi-spontaneous narratives (frog stories) from four Moroccan cities and from the diaspora community in the Netherlands. This distribution is found to depend very much on the individual lexical items that head the construction, and on the form of the dependent, pronominal dependents favouring the synthetic form. Regional variation in Morocco is linked to the sociolinguistic history of the regions. The northern town of Tangier, where language contact with Berber (and Late Latin) had the greatest impact on the formation of Arabic dialects, shows the greatest preference for the analytic genitive. The immigrant community in the Netherlands shows an increased preference for the analytic form in comparison with their peers in Morocco. This concerns possessives with NP dependents in particular, which suggests a direct influence of Dutch as the socially dominant language.

1. Introduction

1.1. Analytic versus synthetic possessive

There is a general tendency for language acquisition under sub-optimal circumstances to lead to new varieties of the language that are more analytic as compared with the input variety (Andersen, 1982; Dorian, 1983, p. 162). This is the case for (adult) second language learners' varieties as well as for speakers whose mother tongue is a minority language with limited domains of use, as in the case of the European-born Moroccans. The underlying explanation for the shift towards more analytic forms in such circumstances is that these forms convey the

information in a more explicit manner than the synthetic alternative.

Attributive possession in Moroccan Arabic (MA) constitutes a testing ground for hypotheses concerning the impact of language contact on the distribution of analytic and synthetic constructions. Present-day MA has a synthetic and an analytic genitive construction. Following Nichols (1986, 1992), I will refer to the possessed as the HEAD and the possessor as the DEPENDENT element in the construction. The SYNTHETIC GENITIVE (SG) consists of juxtaposition of the nouns referring to the head and the dependent, as in (1a).¹ The dependent renders the head noun definite, and the latter cannot be marked with the definite prefix in this construction. For certain noun classes, the SG also involves morphological marking of the head noun. The ANALYTIC GENITIVE (AG) makes use of a separate word, the so-called genitive exponent, which expresses the relationship between the two referents (1b). Note that in this construction, definiteness is marked independently on both the head and the dependent noun. (The constructions will be discussed in more detail in section 3.)

* A preliminary version of this paper was presented at the 4th AIDA Conference, held in Marrakech in April 2000 (Boumans, 2002a). A more elaborated version was presented at the colloquium 'Dynamiques du développement de langues', organised by the University of Osnabrück in June 2000. At both occasions I benefited from the comments of those present. Jonathan Owens's valuable feedback on a draft version of this paper is gratefully acknowledged, as is the feedback of three anonymous reviewers. Part of the research for this article was carried out within the framework of the TCULT project, a multi-disciplinary project financed the Dutch organisation for scientific research NOW, the Meertens Institute, the municipality of Utrecht and the universities of Leiden, Utrecht and Tilburg. I wish to thank all anonymous speakers, who agreed to have their narratives recorded, and Petra Bos and Abder El Aissati for generously sharing their data with me.

¹ Abbreviations used in the glosses: ASP = mood/aspect, DEF = definite article, DEM = demonstrative, F = feminine, M = masculine, NEG = negation, PL = plural, POSS = possessive, PRES = presentative particle, REL = relative clause marker, SG = singular. Orthography: a dot underneath marks pharyngealised consonant phonemes; x, ġ = voiceless and voiced uvular fricative, respectively; ħ, ʕ = voiceless and voiced pharyngeal fricative, respectively; ʔ = voiceless laryngeal stop.

- (1) a. \dot{r} as l-kelb
 head DEF-dog
 b. \dot{r} - \dot{r} as dyal l-kelb
 DEF-head of DEF-dog
 “The dog’s head.”

The construction in (1b) is considered analytic because it shows a one-to-one relationship of form and meaning. The relationship between two noun phrases is expressed by a separate word, and the information status of each is marked by its own prefix and/or other determiners. In the SG, the genitive relationship and the definiteness of the head noun are implicit in the juxtaposition and the morphological marking of some head nouns.

In Classical Arabic, analytic constructions are limited to a few rare syntactic contexts, but both constructions coexist in nearly all contemporary Arabic vernaculars (Versteegh, 1997, p. 101, 107; Boucherit, 1999). If language contact favours analytic ways of expression, we hypothesise an increased use of the AG in, for example, the Moroccan diaspora in Europe, similar to the development Dorian (1981, pp. 130f) observed among the younger speakers of the dying Gaelic language in East Sutherland. In Morocco itself, the AG is expected to be most common in those regions where historically contact with speakers of other languages has been most intense.

1.2. Moroccan Arabic as a minority language

The Moroccan community in the Netherlands constitutes one of the many ethnic minorities that arose from international migration to industrialised countries during the past decades. Moroccan migration to the Netherlands started in the late 1960s and continues today in the form of family formation. On 1 January 2003 there were 295,332 Moroccan immigrants of the first and second generation in the Netherlands’ total population of 16.2 million; 132,052 of them belonged to the second generation (Statistics Netherlands, s.a.).² The Moroccans constitute the second-largest ethnic minority, and are concentrated in the larger cities. The majority of this diaspora community speaks a variety of Berber, notably Tarifit, as their first language. This article focuses on that part – about one third – of the community whose first language is Moroccan Arabic.

Questionnaires (Extra, Aarts, Van der Avoird, Broeder and Yağmur, 2001; Extra, Mol and De Ruiter, 2001; Jongenburger and Aarssen, 2001) and interviews (El Aissati, 1997, 2002; Boumans, 2002b) provide a general image of the language use of second-generation Moroccans in the Netherlands. Either Moroccan Arabic or Berber is the dominant language inside the home, in

communication with the parents and with older siblings who grew up in Morocco. Peer group interaction, however, is predominantly in Dutch, even if the peers are of Moroccan descent. As Dutch is also the language of education and in work places and the media, most children shift to using Dutch most of the time as they grow up and spend more time outside the home. Still, this speaker group continues to use the Moroccan languages with members of the parent generation and during holidays in Morocco. Until now, the majority of the second-generation Moroccan immigrants import their marriage partner from Morocco (e.g. 50–60% in 1999–2001, Van Rijn, Zorlu, Bijl and Bakker, 2004). Boumans and De Ruiter (2002) and Boumans (2004) give further sociolinguistic background information on MA in the Netherlands and western Europe in general.

Textbooks on language contact and language change (e.g. MacMahon, 1994; Thomason, 2001) mention the recourse to analytic structures as one of the symptoms of language death. One classic example concerns the verbal paradigm of Arvanítika, the variety of Albanian spoken in Greece, where the morphological marking of conditional tense is being replaced by periphrastic forms (Trudgill, 1978).

The shift towards analytical constructions in linguistic minority communities can, at least in theory, be attributed to distinct sources of change: pragmatic factors, characteristics of the community language and characteristics of the dominant contact language (superstratum influence). In each case, the acquisition of the minority language under adverse conditions with limited input facilitates the change.

Analytic constructions may be favoured under such circumstances because, as mentioned above, they express semantic relationships in a more transparent manner. In addition, earlier studies of language shift revealed three other general trends of change that might favour the analytic possessive in MA, and which refer to the characteristics of the changing language itself. Firstly, in minority languages under pressure, two competing constructions with the same semantic value, but conditioned by different constraints, are replaced by a single preferred construction (Andersen, 1982; Dorian, 1983: 160). Secondly, lexically bound grammatical rules tend to disappear (Gonzo and Saltarelli, 1983, p. 191; Schmidt, 1985, p. 85f.). The extent to which the selection of the MA SG is lexically bound will be discussed in sections 3.2 and 4. Thirdly, morphological complexity is typically reduced to fewer forms in minority languages (Andersen, 1982). As the SG involves morphological marking in some cases (cf. section 3.1), abandoning this construction simplifies the nominal paradigm.

If incomplete acquisition of MA leads to an increase of the AG, it is of interest whether under normal circumstances SG and AG are acquired at the same age.

² A person is considered to belong to the second generation if s/he is Dutch born and has at least one parent born in Morocco. There is no register of third generation immigrants.

Bos (1997) found that the bilingual MA speakers in the Netherlands were behind their peers in Morocco with respect to the mastery of temporal adverbs, complex relative clauses and other types of subordinate clauses. It is likely that they were behind in other skills that were not tested. If the diaspora speakers turn out to use the AG more often, and the SG is normally acquired at a later age than the AG, then the change in the diaspora situation can also be interpreted as a delay or stagnation in first language acquisition.

As for superstratum influence, the dominant Dutch language also abets the AG in the Moroccan immigrant community. In Dutch, attributive possessives with noun phrase (NP) dependents are expressed in a way that is entirely analogous with the Moroccan Arabic analytic construction:

- | | | | | |
|-----|-----------------------|-----|------------|---------|
| (2) | ī-ras | dya | l- ġzala | (MA) |
| | de kop | van | de gazelle | (Dutch) |
| | DEF-head | of | DEF-dog | |
| | “the gazelle’s head.” | | | |

There is no morpheme-by-morpheme analogy of Arabic and Dutch in the case of the pronominal dependent. In this case, Dutch uses possessive pronouns (e.g. *zijn hond* “his dog”), which is closer to the MA SG, though the Dutch pronouns are not affixed and they precede the head noun. Thus, superstratum interference predicts an increased use of the AG in possessives with NP dependents but not with pronoun dependents.

1.3. MA dialects: second language learning in historical times

The development from synthetic to analytic genitive is a well-known topic in historical and dialectological studies of Arabic. In Classical Arabic, the oldest well-documented stage of Arabic, the synthetic form was used almost exclusively. In nearly all modern dialects, this form coexists with an analytic alternative construction, with distributions varying from one dialect to the other. This situation has been interpreted as a replacement of the SG, associated with the Arab expansion since the 7th century, which led to the populations in the conquered territories acquiring Arabic as a second language. Both in Arab grammarian tradition and in contemporary linguistics, the analytic genitive is cited as an example of ‘simplification’ resulting from second language learning in historical times (Versteegh, 1984, p. 91–96; 1997, p. 101, 107).³ This traditional perspective on Arabic linguistics is contentious, mainly because

³ The notion of simplification has triggered a lot of debate. For a discussion of morphological simplification, see Kusters’s thesis (2003) on the development of verbal inflection in Arabic and other language families.

Classical Arabic cannot be equated with the vernaculars spoken in the 7th century Arabian Peninsula, while those oral varieties are very poorly documented. They may have had more in common with the present-day vernaculars than traditionally assumed, and the AG may have been already widespread before the rise of Islam (Owens, 1998b, a).

Nonetheless, the AG is more widely used in Moroccan dialects than in the more eastern parts of the Arabic speaking world (Eksell Harning, 1980, p. 160),⁴ so that local circumstances may still be held responsible for change towards the analytical form.

It has often been noticed that the AG is more common in the urban dialects and least common in the bedouin dialects, with the rural sedentary dialects occupying an intermediary position. These observations apply to Modern Arabic in general (Eksell Harning, 1980, p. 161; Boucherit, 1997; Versteegh, 1997, p. 143) as well as to the dialects of Morocco (Loubignac and Brunot, 1952; Heath, 2002, p. 463). This is explained on the one hand by the idea that urban societies are more open to outsiders, so that urban dialects are continuously influenced by second language learners’ varieties. On the other hand, urban dialects typically represent the older stages of Arabisation in regions where Arabic was introduced in historical times.

In North Africa, urban and bedouin dialect types are known as pre-Hilali and Hilali dialects, respectively, with reference to two phases of the region’s Arabisation (Colin, 1945; Lévy, 1996; Heath, 2002, p. 2ff.). Pre-Hilali dialects date back to the 7th and 8th centuries AD and are considered to be the most innovative and much influenced by substrate languages. While most authors identify Berber as the major substrate language, Heath (2002) stresses the importance of North African Late Latin in the formative period of the northern dialects of MA:

The earliest specifically Moroccan Arabic was probably spoken by the children of Arab soldiers and Roman women in Tangiers, Volubilis, and perhaps a few other garrisons. (...) Without being a true creole, early MA probably underwent extensive phonological restructuring and grammatical simplification in one or two generations, as a Latin- and Berber-speaking population shifted rapidly to Arabic. (Heath, 2002, pp. 3f.)

Nowadays Moroccan pre-Hilali dialects (called ‘northern type’ in Heath 2002) are spoken in the northwest, from the Strait of Gibraltar to Ouazzane, and from Ouazzane to Taza (so-called mountain dialects). Pre-Hilali dialects are also found in old urban centres like Fes and Rabat (urban dialects) but these dialects are on the decline due to large-scale immigration from rural areas (Caubet, 1998; Messaoudi, 1998). So-called Hilali dialects result

⁴ Leaving aside the high incidence of the AG in Daragözü in Anatolia, an Arabophone Sprachinsel surrounded by speakers of Turkish and Kurdish (Eksell Harning, 1980, p. 160).

from the invasion of the Beni Hilal and other bedouin tribes in the 12th and 13th centuries. These dialects, which are more conservative, have become predominant in Morocco, including most of its cities. The linguistically most conservative type of Arabic in Morocco is spoken in the pre-Saharan oases of the far South. This type of Arabic, known as Hassaniya, goes back to the immigration of the bedouin Ma'qil tribe in the 13th century. With respect to attributive possession, analytic genitives are known to be more common in the urban and mountain dialects, and least common in Hassaniya (Eksell Harning, 1980, pp. 135f.).

In sum, it is likely that the AG was part of the Arabic that was introduced into Morocco, but it gained wider applicability there, and particularly in the northwest, where contact with speakers of other languages was most intense.

Here again, the potential role of language contact is twofold. Firstly, adult learners of Arabic may have had a need for more explicit, transparent ways of expression (cf. section 3.5). Other factors related to second language acquisition, such as second language learners abandoning lexically bound rules and reducing two competing constructions to one, may have further enhanced the AG. Direct influence of the substratum languages is the second type of explanation. In Late Latin genitive case marking had largely or entirely given way to the analytic construction with the particles *de* (and *ad*) by the time the Arabs arrived (Vossler, 1954; Väänänen, 1963). In the Berber languages of Morocco, possessive relationships are usually expressed in a way that is analogous with the Arabic analytic construction, except that pronoun suffixes are used with certain kinship terms (Eksell Harning, 1980, p. 166; Bentolila, 1991). There is no indication that this latter synthetic genitive was used more extensively any time beyond Proto-Berber (Maarten Kossmann, p.c. July 2004). The Berber substrate can account for the increased use of the AG with both pronominal and NP dependents; as the Romance substrate had possessive pronouns (as in Dutch), its influence would be limited to the Arabic AG with NP dependents.

1.4. *An outline of the article*

This paper is concerned with the empirical testing of the hypothesis that Arabophone Moroccans growing up in the Netherlands make more use of the analytical genitive constructions than their peers in Morocco. The data that form the basis of this study have been extracted from elicited, semi-spontaneous narratives, known as frog stories, recorded in Morocco and in the Netherlands. Section 2 is a description of this database. Before we go into the testing of the hypotheses, section 3 will provide preliminary information on the expression of attributive possession in MA.

In order to provide for the necessary background information on the distribution on possessive types in MA, the following hypotheses will be tested first. Firstly, the selection of genitive construction depends very much on a) the lexical item that serves as the head of the construction and b) the form of the possessor, i.e. the dependent element in the construction. These hypotheses, inspired by the work of Nichols (1988, 1992), will be treated in section 4.

Secondly, the distribution of both genitive constructions is subject to dialectal variation in Morocco itself. In section 5 empirical data will be used to verify the common observation that pre-Hilali dialects make more use of the analytical alternative. Knowledge about the amount of variation in Morocco is, of course, a prerequisite for the identification of a possible change in the migration setting.

The possible change in MA in the Netherlands is the topic of section 6. In this section we will also discuss some other changes in possessive marking in the diaspora community. Section 7 investigates whether the distribution of AG and SG is dependent on the speakers' age. A discussion of the findings and outlooks to future research conclude this paper.

2. **Data and methods**

In order to investigate the distribution of genitive types quantitatively, I used semi-spontaneous narratives that had been recorded and transcribed for earlier research projects. These are the so-called frog stories: children and adolescents were asked to retell Mayer's (1969) picture book *Frog, where are you?*, a popular tool in child language acquisition research. The largest collections stem from research by Bos (1997) and El Aissati (1997) on bilingual language acquisition and language loss. Bos collected 175 narratives from Moroccan children in the Netherlands and 72 stories from Rabat, Tangier and Oujda. Her data from the Netherlands follow a semi-longitudinal design, that is, two cohorts of 25 children each were recorded in consecutive years. Cohort 1 was recorded at ages four, five, six and seven; cohort 2 at ages eight, nine and ten. Bos's stories from Morocco are all told by different narrators.

El Aissati collected thirteen stories from teenagers in Nijmegen and another 25 from their peers in Casablanca, Tangier and Oujda. Finally, I myself recorded another twelve stories with adolescents in the Utrecht neighbourhood of Lombok (Boumans, 2002b). Table 1 presents an overview of all Moroccan Arabic frog stories.⁵

⁵ All metadata and annotations are contained within the Dutch Bilingualism Database (DBD), which is hosted by the Max Planck Institute in Nijmegen. These data are available as an online resource from (<http://www.mpi.nl/world/corpus>). From the menu, choose IMDI-corpora, DBD and Moroccan Arabic.

Table 1. Overview of narrators and frog stories in Moroccan Arabic.

Collection	Place of residence	Age (m)	N speakers	N stories
El Aissati 1994	Casablanca	9–16 (13)	11	11
El Aissati 1994	Tangier	11–17 (13)	11	11
El Aissati 1994	Oujda	13–16 (15)	3	3
Bos 1992	Rabat	5, 7, 9 (7)	24	24
Bos 1992	Tangier	5, 7, 9 (7)	24	24
Bos 1992	Oujda	5, 7, 9 (7)	23	23
total Morocco			96	96
Bos 1992	Netherlands	4–10 (7)	50	175
El Aissati 1994	Nijmegen	12–17 (13)	13	13
Boumans 1999	Utrecht	13–21 (16)	12	12
total Netherlands			75	200

m = mean age, rounded off to nearest year

The average age of the speakers in Morocco was 8.6 years. If each speaker is counted once, the average age of the speakers in the Netherlands was 9.5 years; if one speaker is counted for each story, the average age of the narrators in the Netherlands was 7.9. This discrepancy comes from the fact that Bos recorded her Dutch speakers three or four times. The average frog story is about 300 words long.

The speakers were recorded individually. Bos and El Aissati made their recordings in kindergartens, primary and secondary schools; Boumans' recordings are made in a less formal setting of local youth centres, a snack bar and in the street. In the Netherlands, general instructions about the procedure were given in Dutch, but the researchers switched to MA when they took on the role of listener and gave feedback signals or encouragements when necessary. In Morocco, the researchers interacted with the children in MA.

The frog stories permit an empirical, quantitative testing of various hypotheses concerning the distribution of possessive constructions both in Morocco and in the diaspora. The elicitation material used in the story telling task leads to many informants expressing the same possessive relations in their narrative, like "his dog" or "the dog's head".

The use of semi-spontaneous data instead of direct elicitation implies some limitations. Only a few possessive relations occurred with sufficient frequency in the data set to allow for quantitative analysis. For our purposes we are interested in those relationships that are variably expressed by the analytic and synthetic genitive. These are listed in Table 2.

Table 2. Possessive relationships extracted from the frog stories to investigate research questions.

Head noun	Dependent type	Research question
<i>ras</i> "head"	pronoun + NP	effect of head noun + effect of dependent type
<i>dar</i> "house"		
<i>wlad</i> "children"		
<i>grun</i> "horns"		
<i>ras</i> "head"	pronoun + NP	regional variation + minority context + age
<i>kelb</i> "dog"		

Bos's recordings contain descriptions by the same children of six additional, much shorter cartoons that were especially designed for her investigation of topic continuity.⁶ Boumans's frog story recordings are accompanied by short sociolinguistic interviews, and some informants also gave an interview on interior decoration. The transcripts of this additional material were also searched. These non-frog story data provided no extra instances of the possessive relations required for quantitative analyses. However, the other possessives present in these data are considered in the qualitative discussion of the Dutch research population in section 6. Cited examples are from the frog stories unless indicated otherwise.

The informants in the Netherlands were all either Dutch-born or had immigrated before the age of four. Moroccan Arabic was their home language; Berberophones were excluded from participation in these studies. The frog story narrators are typical for the 'second-generation' Moroccans, in the sense that all grew up speaking MA with their parents and gradually shifted to Dutch when they entered school and started to spend more time outside the home (cf. section 1.2).

The majority of these immigrants' children had received some teaching in Classical or Modern Standard Arabic in mosques or at school in the form of institutionalised 'home language instruction' (abolished by political decision in 2004). This type of literary Arabic is quite different from MA, their real home language, which has no written form. In the relevant period, the teaching of Arabic in school suffered from many organisational problems, and pupils generally attained only a very low proficiency in this school language (more details in El Aissati, 1997, pp. 35f.). For the above reasons I presume that formal instruction had little effect on the speakers' proficiency in MA.

⁶ These cartoons are available on the internet, see note 4.

Within the general framework sketched here, individuals differed, of course, in their competence in MA and Dutch, due to personal abilities and circumstances (e.g. household and neighbourhood composition, visits to Morocco). As an indication of their bilingual abilities, all speakers were able to retell the frog story in both Arabic and Dutch. Many children lacked certain vocabulary items in Arabic, such as the words for FROG or BEEHIVE. They used different strategies to overcome this obstacle: insertion of Dutch lexical items, lexical approximations and paraphrases in MA or asking the researcher to provide the items. However, this did not interfere with the possessive constructions studied in this paper. Information on the individual bilingual speakers' language choice patterns and linguistic performance can be obtained from the original studies (Bos, 1997; El Aissati, 1997; Boumans, 2002b).

Bos and El Aissati collected the frog stories from Morocco as control data for their research on Moroccan Arabic in the Netherlands. For optimal comparability they collected the control data in the regions from which most of the Arabophone immigrants originated. Obviously, the dialect match between informants in both countries could only be approximate: the parents of the Dutch informants originated from many different localities. Moreover, only El Aissati and Boumans recorded the origin of the Dutch informants' parents.

The available data cover only part of the dialectal variation in Morocco. Conspicuously absent are southern dialects as well as rural and nomadic communities. Nonetheless, the narratives represent major dialect divisions of Moroccan Arabic. Tangier represents the pre-Hilali or northern dialects, whereas Hilali (or bedouin) dialects are spoken in the other three cities, with Oujda representing a branch clearly distinct from Casablanca and Rabat. A pre-Hilali urban dialect is spoken in Rabat, but this variety is now only to be found among speakers above the age of 35 (Messaoudi 1998). The informants from the four cities constitute random samples of local school populations. No criteria were applied to select 'authentic representatives' of the local dialects, as is customary in dialectology.

Bos and her assistants transcribed the stories in Chat format, using Clan software (MacWhinney, 1991). Bos made her data available on the CHILDES website.⁷ I myself transcribed the stories collected by El Aissati and myself. I used Clan software to search the data for genitive types and head nouns.

The difference between pronoun and NP possessors of the same head noun was submitted to an unweighted paired-samples t-test (see section 4). An unweighted test was chosen in order to show that the difference between

the two possessor types is a general tendency. In a weighed test, the large number of tokens in the case of *ras* "head" could outweigh a possible reverse tendency in one of the lower-frequency words.

Differences between the four Moroccan cities, and between the data from Morocco and those from the Netherlands were tested at two levels. First, the average linguistic behaviour of the speaker populations was investigated. I compared the number of tokens from each genitive type (SG and AG) using crosstabs in the statistical software package SPSS. The same speaker may oscillate between both constructions, and a difference between two locations may be due to a larger (rather than exclusive) preference for one construction in one group.

Second, I used crosstabs to investigate whether the populations in different places are composed of different speaker types. For this purpose the speaker populations were divided each into three categories: speakers who used only SG, only AG or both genitive types.

The comparison between the speakers in Morocco and those in the Netherlands was methodologically complicated by the fact that Bos's Dutch informants were each recorded three or four times, while all others were recorded only once. The solution adopted here was to treat the three or four recordings of the same speaker as one large recording.⁸

Language change is often accompanied by variation and linguistic insecurity. For this reason a separated procedure was used to test whether diaspora speakers were more inclined to alternate between the SG and AG. For this test, only those speakers were retained who produced at least two tokens of the relevant possessive relationship during the same recording session. In addition, crosstabs were used to test whether diaspora speakers avoided possessive constructions more often than their peers in Morocco.

Finally, I used Spearman's rank order correlation coefficient to test the relationship between age and the proportion of SG. To this aim, the proportion of SG was calculated for each story with the formula $N_{SG}/(N_{SG} + N_{AG})$, separately for *kelb* + pro "his dog" and *ras* + NP "x's head". All recordings from the Netherlands were used; for Morocco, only Bos's collection was taken into account, because her three age groups have the same dialect composition.

⁷ (<http://childes.psy.cmu.edu/data>).

⁸ One might object that speakers with longer text files have a higher chance to produce infrequent forms. However, Dutch speakers, and especially the younger ones, generally produced far fewer tokens of possessive relations (see section 6.4). Merging the files of the Dutch four-to-seven-year-olds and the eight-to-ten-year-olds to some extent compensates for this problem.

3. Moroccan Arabic possessives

This section provides preliminary information about the form and the distribution of the synthetic and analytic genitive types. Double marking by means of both synthetic and analytic devices constitutes a third type that will be discussed at the end of this section.

3.1. Synthetic versus analytic

The synthetic construction consists of juxtaposition of the nouns referring to the possessed and the possessor. The AG makes use of a separate, the so-called genitive exponent, to express the relationship between the head and the dependent. In Morocco the most common genitive exponents are *d*, *dyaɫ* and *(n)taɕ*. In some northern dialects use the Berber particle *n* occurs instead of *d*, e.g. *yemma n l-qayḍ* ‘the judge’s mother’ (Durand 1994, p.103), cf. example (10) below. Synchronically, such forms in *-n* are better analysed as ‘construct state’ allomorphs of certain kinship terms (Heath 2002, p. 410). In some dialects, *dyaɫ* and *(n)taɕ* show gender and/or number agreement with the possessed noun, as in example (3) below. Only a single instance of gender agreement occurred in the frog story collection.

The SG involves morphological marking of the head noun in some cases. The feminine ending *-a* of the possessed head noun changes into *-t* or *-at*. Furthermore, plurals of the so-called pseudo-dual type, ending in *-in*, lose their final *-n* if the dependent is a pronominal suffix. So *yeddin* ‘hands’ yields *yeddi-ha* ‘her hands’, but *yeddin Malika* means ‘Malika’s hands’. Table 3 shows the

Table 3. *Attributive possessive constructions in Moroccan Arabic illustrated for three types of head nouns: masculine singular (ras ‘head’), feminine singular (jellaba ‘robe’) and pseudo-dual (yeddin ‘hands’).*

Possessor type	Synthetic	Analytic	
pronominal	<i>ras-ha</i>	<i>r-ras</i>	‘her head’
		<i>dyaɫ-ha</i>	
	<i>žellabt-ha</i>	<i>ž-žellaba</i>	‘her jellaba’
		<i>dyaɫ-ha</i>	
	<i>yeddi-ha</i>	<i>l-yeddin</i>	‘her hands’
		<i>dyaɫ-ha</i>	
NP	<i>ras Malika</i>	<i>r-ras dyaɫ</i>	‘Malika’s head’
		<i>Malika</i>	
	<i>žellabt Malika</i>	<i>ž-žellaba</i>	‘Malika’s jellaba’
		<i>dyaɫ Malika</i>	
	<i>yeddin Malika</i>	<i>l-yeddin</i>	‘Malika’s hands’
		<i>dyaɫ Malika</i>	

synthetic and analytic constructions with different head noun types.

In the analytic construction, the head noun is typically marked for definiteness by means of the prefix *l-*, which assimilates to coronal consonants. In the synthetic construction this prefix cannot precede the head noun. The possessive implies the head noun to be definite, but in both constructions it can be marked for indefiniteness by using the indefinite articles *ši* or *wahed*, e.g. *ši haĵa dyaɫ-ha* ‘something of hers’, *wahed šaĥb-i* ‘a friend of mine’.

The synthetic and analytic constructions have different distributions. The AG is a versatile construction that is acceptable in all contexts, though uncommon in some. The use of the SG is restricted in a number of ways that will be discussed below.

3.2. Head noun

The selection of the SG depends mainly on the noun in the possessed position. As in many other languages with competing possessive constructions, the SG typically expresses ‘inalienable possession’, as when the possessed item is a family member (e.g. *xu-ha* ‘her brother’) or a body part (e.g. *šeŕ-i* ‘my hair’). Nichols (1988) provides the following implicational hierarchy of the semantic membership of the inalienable closed class, based on a large survey of mainly native North American languages.

- I kin terms and/or body parts
- II part-whole and/or spatial relations
- III culturally basic possessed items (e.g. arrows, domestic animals)

In MA we find the SG construction with nouns from all these three classes. To the kin terms in class I we may add, for MA, a few other human companions like friends (*šaĥb-u* ‘his friend’) and neighbours (*jaɕ-u* ‘his neighbour’). MA culturally possessed items may not include arrows but they do include, for instance, *ḍar* ‘house’, *smiya* ‘name’ and items of clothing. Finally, the SG occurs in various fixed expressions, e.g. *ṭiɕ l-lil* ‘bats’, literally ‘birds of the night’ (Harrell, 1962, pp. 194–201; Caubet, 1993, pp. 302–306). Apart from the semantic domain, the selection of the genitive construction is dependent on various other features of the possessed noun. Data from the narratives recorded in Morocco show the following tendencies:

- PHONOLOGICAL SHAPE With nouns ending in the vowel *u* or *i*, speakers seem to prefer the analytic construction, with the exception of the pseudo duals (see above), cf. *wlad-hom* ‘their children’ versus *d-drari dyaɫ-hom* (idem).

- NATIVE VERSUS BORROWED When Standard Arabic or French words for kinship terms or body parts are used as possessed forms in MA, they occur in the analytic construction, in contrast with the MA equivalents; cf. *wlad-hom* versus *l-abna? dyal-hom* “their children”, *ras-u* versus *r-ra?s dyal-u* “his head”. Loan words ending in *-a* are treated like native words, however (see section 8.1 for a discussion).
- FREQUENCY Not all words from the same semantic domain are equally liable to occur in the synthetic construction (cf. Youssi, 1992, p. 163). This factor is worked out in section 4.

Semantic notions of alienability or conceptual distance are sometimes invoked to explain competing possessive constructions in a language (e.g. Haiman, 1985; Croft, 2001). However, as the above examples illustrate, not all kinship terms or body parts belong to the closed class of words affected by the SG. Section 4 provides a quantitative evaluation of the role of the head noun.

3.3. Noun versus pronoun dependent

From a cross-linguistic perspective, the ‘inalienable’ (here synthetic) possessive construction is restricted first of all to a class of possessed nouns, but features of the possessor also influence the selection of the possessive construction. Nichols (1988) mentions the following ‘possessor hierarchies’:

- PART OF SPEECH OF THE POSSESSOR Pronominal possessors take the SG more often than noun possessors (*ras-ha* “her head” versus *r-ras dyal l-ġzala* “the head of the gazelle”)
- ANIMACY OF THE POSSESSOR human > animal; 1st person > 2nd > 3rd

In section 4 we will return to the distinction between pronominal and nominal possessors. The investigation of the animacy hierarchy is not feasible on the basis of the presently available data, and cannot be dealt with here.

3.4. Syntactic factors

Syntactic constraints on possessive marking are mentioned here for the sake of completeness. In a number of syntactic contexts, the more versatile analytic construction is preferred (Eksell Harning, 1980, p. 141; Youssi, 1992, p. 164). This is the case when there are two or more coordinated possessor NPs, as in (3), although counter-examples do occur, as in (4).

- (3) *l-werga taʕ-et tiġes wella l-ʕeṣṣam*
 DEF-leaf.F of-F soapwort or DEF-assam
 “Leaves of soapwort or [a plat called] assam.”
 (from Loubignac, 1952, p. 73,
 cited in Eksell Harning, 1980, p. 141)
- (4) *ha huwa uh bba-t⁹ hadik*
 PRES 3M er father-POSS DEM.F
l-bent u l-weld
 DEF-girl and DEF-boy
 “Here is er the father of this girl and the boy.”
 Lubna (9), Rabat (description of additional cartoon)

Youssi (1992, p. 164) contends that only the AG can be used when an article marks the head noun. However, forms like *wahed xu-ya* “a brother of mine” or *wahed sahb-i* “a friend of mine” are not uncommon, so the effect of definiteness is not clear.

3.5. Stylistic factors: explicitness and standard language influence

Among the various stylistic factors that come into play, need for greater explicitness is of particular importance for the present discussion. Because a specialised morpheme expresses the relationship between the two NPs, the AG is more explicit. This factor is often seen as the driving force leading to more analytic ways of expression in language contact situations (Koptjevskaja-Tamm, 1996). This point is illustrated by two examples in which Moroccans resort to the AG when they repeat a preceding utterance to non-native speakers of MA.

The first example stems from Bos’s frog story corpus. One of the transcripts shows an interaction between a nine-year-old informant in Tangier, the Dutch researcher Petra Bos and the Moroccan research assistant Khadija Latifi. When Petra indicates she did not understand the child’s last utterance, Khadija repeats the utterance, replacing the informant’s synthetic expression *ħnak-u* “his cheeks” by the analytic form *l-ħnak dyal-u*.

- (5) *child ja hada ta-ye-lhes l-u*
 come DEM.M ASP-3-lick to-3M
f ħnak-u
 at cheek.PL-3M
 “This one [= the dog] came to lick his cheeks.”
 Petra huh?
 Khadija *ta-yelhes l-u f l- f*
 ASP-3-lick to-3M at DEF- at
l-ħnak dyal-u
 DEF-cheek.PL of-3M
 “It licks his cheeks.”

The second example comes from a conversation I had with two Fassi women on the topic of proverbs. In her

⁹ The possessive form *bba-t*, analogous with *mra-t* “wife”, is a rather rare feature of certain Atlantic coast dialects, cf. Heath (2002, p. 464).

explanation of the proverb first cited as in (6a), Ghizlane replaces *hdebt-u* “it’s bump” by *l-hedba dyal-u*, cf. (6b).

- (6) a. j-jmel ma ka-y-šuf š hdebt-u
 DEF-camel NEG ASP-3-see NEG bump-3M
- b. j-jmel ma ka-yšuf š l-hedba dyal-u,
 DEF-camel NEG ASP-3-see NEG DEF-bump of-3M
 ka-yšuf l-hedba dyal lli ħda-h
 ASP-3-see DEF-bump of REL next.to-3M
 “The camel doesn’t see its bump. It sees only the
 bump of the one next to it. (i.e. The pot calls the
 kettle black.)” Ghizlane, Fes

This admittedly anecdotal evidence from Moroccan foreigner talk illustrates that Moroccan speakers experience the AG as a more explicit alternative to the synthetic construction.

A stylistic factor of a very different kind, and favouring the synthetic construction, comes from the association of the SG with the Classical and Standard language. Still, the effect of the Standard on possessive marking in MA is ambiguous. In the frog stories, the occasional use of Standard Arabic words for “head”, “father” or “mother” actually triggered the AG, while the native Moroccan words were used with the SG.

3.6. Double marking

In addition to the forms mentioned above, there are redundant possessives in which the analytic and synthetic constructions are combined. There are in fact two types of double possessive marking. One occurs with kinship terms as the head of the construction and NP dependents, and appears to be characteristic of certain urban and mountain dialects (Fischer, 1907; Eksell Harning, 1980; Boucherit, 1999). Assad and Iraqui-Sinaceur note that the double genitive is characteristic of kinship terms in the Tangier dialect, citing examples like *xt-u d l-uzir* “the vizier’s sister” (Assad, 1978, p. 115) and *baba-h dl-ŷruš* “the groom’s father” (Iraqui Sinaceur, 1998, p. 136). This construction is generally believed to be a Berber substrate feature.

The second type of double genitive occurs with pronominal dependents. Messaoudi (1998, p. 162) gives the example *ktab-u dyal-u* “his book” for the urban dialect of Rabat. The addition of a second, analytic genitive has a stylistic function. *ktab-u dyal-u* is an emphasised form similar to *ktab-u huwa* [book-3M 3M] “HIS book”. As a stylistic variation it is probably widespread, though infrequent. In the first type of double marking, the pronominal suffix could be left out without loss of information, whereas in the second type the analytic form is a redundant repetition. We will return to redundant marking when we discuss anomalies in the data from the diaspora population.

4. Head nouns and possessor types

In a seminal study, Eksell Harning (1980) counted the number of genitives of both types in miscellaneous

texts from the entire Arabophone world, and provided a first quantitative empirical basis for the comparison of different regions and nomadic, rural and urban communities. However, this study does not distinguish between pronominal and NP possessors, nor between different head nouns. These factors greatly influence the distribution of the possessive constructions (Nichols, 1988). Some texts may contain considerably more pronominal reference than others, or refer more to nouns that are prone to occur as head nouns of synthetic genitives. Therefore, a valid comparison of populations of speakers requires that the same head nouns and possessors types be used in all groups.

The relevance of the head nouns as well as that of the difference between pronominal and nominal (or NP) possessors can be illustrated with the words *ras* “head”, (*dar* “house”, *grun* or *qrun* “horns” and *wlad* “children” from the frog stories. In the data from Morocco, these four words occur as heads in analytic as well as syntactic constructions.

Table 4 shows the occurrence of these four words with either NP or pronoun dependents, divided over the two construction types, in the 96 frog stories from Morocco. In the case of *ras* there is an overall preference for the synthetic construction, but a minority of the speakers used the AG with NP possessors, as in *ɾ-ras dyal l-ğzala* “the gazelle’s head”. In the case of *grun* the situation is reversed. Most speakers use the AG, but the synthetic construction occurs as the less frequent pattern with the pronominal suffix (attested: *grun-ha* “her horns” alongside *l-grun dyal-ha*; also *l-grun taŷ l-ğzala* “the gazelle’s horns” but not *grun l-ğzala*).

Table 4. *Pronominal and nominal possessors with four head nouns in Morocco: ras “head”, dar “house”, wlad “children” and grun “horns”.*

Genitive type	N speakers	Tokens		p	d
		SG	AG		
<i>ras</i> + pro	73	157	4	0.98	
<i>ras</i> + NP	15	11	5	0.69	0.29
<i>dar</i> + pro	8	5	3	0.63	
<i>dar</i> + NP	5	1	7	0.13	0.50
<i>wlad</i> + pro	18	24	0	1.00	
<i>wlad</i> + NP	3	1	2	0.33	0.67
<i>grun</i> + pro	9	5	7	0.42	
<i>grun</i> + NP	3	0	3	0.00	0.42

N speakers = number of speakers expressing the specified possessive relationship

p = proportion SG = SG / (SG + AG)

d = difference between pronoun and NP dependent = p_{pro} – p_{NP}
 shading indicates the dominant pattern

The data in Table 4 illustrate, first of all, how much the selection of the genitive construction depends on the lexical item serving as the head. Both *ras* “head” and *grun* “horns” belong to the semantic domain of body parts, but the preference for the synthetic construction is clearly larger with the former. Also illustrative in this respect is the utterance in (7), in which two NPs referring to body parts of the dog are co-ordinated. The SG is used for the dog’s head and the AG for its tail.

- (7) l-kelb kan ġir řas-u w z- zentiř dyal-u
 DEF-dog be only head-3M and DEF-tail of-3M
 lli kan yban f l-ma lli lli kan
 REL be 3-appear in DEF-water REL REL be
 yban fug l-ma
 3-appear above DEF-water
 “As for the dog, only its head and tail were visible above
 the water surface.”

Rabie (13), Oujda

Secondly, NP possessors favour the analytic construction. This is shown in the rightmost column in Table 4, where the proportion of SG with dependent NPs is subtracted from the proportion of SG with pronominal possessors. Abstracting away from the variation in sample size between these four head nouns, an unweighted paired samples test of the data in Table 4 shows that the greater preference for the SG with pronominal possessors is highly significant ($p = 0.010$).

5. Regional variation in Morocco

5.1. Pronominal dependents

The analytic genitive is used much more frequently in Tangier than in the other cities. The variation in the expression of “his dog” demonstrates this for pronominal dependents. As for the distribution of both token types (SG and AG), the differences between the four cities are highly significant ($p = 0.000$); see Figure 1 in section 6.1 below.

About half of the speakers from Casablanca, Rabat and Oujda opted for the synthetic construction *kelb-u*, while the other half chose the analytic form *l-kelb dyal-u* (where *dyal* stands for any of the genitive exponents *d*, *dyal* or *(n)tař*); see Table 5 in section 6.1. In Tangier only one out of seventeen informants used the synthetic form.¹⁰ Note that a few speakers oscillate between the two constructions. Crosstab analysis confirms that the distribution of the three speaker categories (SG, AG or both) depends on the location ($p = 0.030$ exact test).

¹⁰ The most common word for “dog” in Tangier is *řru* (or *řru*), which never occurred as the head of the SG, was not taken into account.

The greater preference for the AG in Tangier is also found with other head nouns that occur less frequently in the data. Thus, we find predominantly *d-řar dyal-u* “his house” in Tangier and *řar-u* in the other cities, and similarly for *řwayej* “clothes” and *grun ~ řrun* “horns”. No difference between the cities is found for *řas* “head” and *wlad* “children”, where the analytic form is exceptional in all four cities. The four instances of *ř-řas dyal-u* “his head” mentioned in Table 4 were recorded in three different cities: Rabat, Tangier and Oujda (twice).

5.2. NP dependents

The only head noun that occurs in SG and AG with NP dependents in a large number of narratives is *řas* “head”. The elicitation material occasions reference to the heads of three protagonists of the story: the dog, the boy and the deer. Apart from pronouns, the informants used various nouns to refer to these three protagonists. When the possessor of the head is referred to by a noun phrase, we find variation between the two constructions, for instance *ř-řas dyal l-řzal* and *řas l-řzal* “the gazelle’s head”. Here too, speakers from Tangier displayed a greater preference for the analytic construction than their peers in the other three cities (see Table 6 in section 6.2 below). With this small number of observations, the difference between Tangier and the Hilali dialect cities is not significant, however. None of the respondents produced possessives of both types.

6. The Moroccan community in the Netherlands

6.1. Pronoun possessors

6.1.1. kelb “dog”

Figure 1 compares the occurrence of *kelb-u* and *l-kelb dyal-u* “his dog” in the data from the Netherlands and the four cities in Morocco. In the narratives from Netherlands, the proportion of SG tokens was considerably higher than in the data from Morocco as a whole ($p = 0.000$). As the graph shows, the proportion of SG is also higher in the Netherlands than in each of the Moroccan cities. A crosstab comparison of the Dutch population and the three Hilali dialect cities (Casablanca, Rabat and Oujda) shows no significant differences between these groups, however.

As for the distribution of speakers over the three categories – users of SG, AG and both constructions – the difference between the Dutch group and the Moroccan group as a whole is just above significance level ($p = 0.068$). The proportion of speakers preferring the SG in the Netherlands lies within the range of dialectal variation in Morocco (cf. Table 5). In sum, it cannot be established that a change in either direction has occurred in the diaspora community because we do not know the dialect background of all speakers.

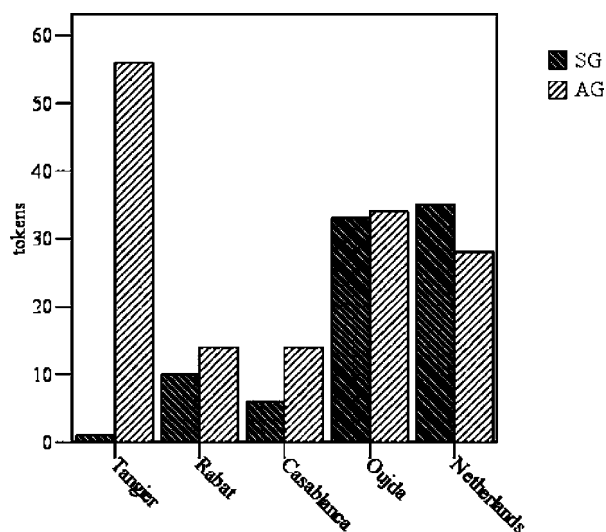


Figure 1. Synthetic (SG) and an-alytic (AG) genitive tokens from four Moroccan cities and the Netherlands with the head noun *kelb* “dog” and a pronoun dependent.

Table 5. The number of speakers in four Moroccan cities and the diaspora community using synthetic (SG), analytic (AG) or both genitive expressions with *kelb* as the head noun and a pronoun dependent (“his dog”).

Location	SG	AG	Both
Tangier	1	16	0
Rabat	5	5	2
Casa	4	3	0
Oujda	6	11	3
Netherlands	13	15	8

Interestingly, the Dutch speakers alternated more often between both constructions during the same recording session ($p=0.018$ exact sig.). Fifty per cent of the speakers who produced at least two tokens did so, against 14% of the narrators in Morocco. This is even more striking when we know that the narratives recorded in Morocco contain on average more tokens of the possessive relationship between the dog and the boy (4.1 versus 3.2 in the Netherlands in the sub-group with two or more tokens).

6.1.2. *ras* “head”

A second head noun of interest is *ras* “head”. Recall from the previous sections that only four instances of analytic genitives with pronoun dependents occur in the data from Morocco, distributed over three cities. Assuming that the regional variation can be neglected in this case, we can compare the Moroccan data as a whole with the diaspora community. In the Netherlands the synthetic form is still the most common one by far, but we find a larger

proportion of the AG (14 tokens). In terms of tokens, the difference between the two countries is significant ($p=0.014$). In terms of speakers, the difference between Morocco and the Netherlands is just above significance level ($p=0.063$ exact sig.).

Half of the Dutch tokens of analytic *r-ras dyal-u* are concentrated in the narratives of only two informants. (This explains that the difference between Morocco and the Netherlands is significant at the token level, but not at the speaker level.) For Naima and Abdelilah, two teenage informants from Utrecht, *r-ras dyal-u* has become a normal way of expressing “his head”, cf. (8) and (9).

- (8) dik s-saʕa šaf l-tīr, eh fuq menn-u,
 DEM DEF-hour see DEF-bird er above from-3M
 fuq men r-ras dyal-u
 above from DEF-head of-3M
 “Then he saw the bird, er above him, above his head.”
 Naima (16), Utrecht
- (9) u taḥ hadik l-ʕayel men r-ras dyal-u
 and fell DEM DEF-boy from DEF-head of-3M
 f l-ʔerḍ
 in DEF ground
 “And the boy fell from its [= the deer’s] head on the ground.”
 Naima (16), Utrecht

Naima produced four tokens of *r-ras dyal-u*. There is no instance of the SG at all in her data, but this can be due to the short duration of the recording; her narrative does not include kin terms, for instance. As for Abdelilah, he shows a moderate overgeneralisation of the AG. He uses *ras-u* (2 tokens) besides *r-ras dyal-u* (3 tokens), and we find the analytic form *n-nif dyal-i* “my nose” as well as the synthetic *wedn-u* “his ear”. He does not overuse the AG in expressions of kinship relations.

Note that language change on the individual level is best recognised in the case of head nouns like *ras* “head” that show little variation in Morocco. Individuals overgeneralising the AG cannot be identified in the case of “his dog”, for instance, because both *kelb-u* and *l-kelb dyal-u* are common in Morocco.

6.1.3. Other head nouns

Other nouns heading possessives with pronominal dependents yielded insufficient tokens to allow for a sound quantitative analysis. The overall impression is, however, that the proportion of SG in the Dutch data lies somewhere between the values for Tangier on the one hand, and the other three Moroccan cities on the other.

6.2. NP possessors

6.2.1. *ras* “head”

In the case of *ras* “head” with an NP dependent referring to either the boy, the dog or the deer in the narrative, the

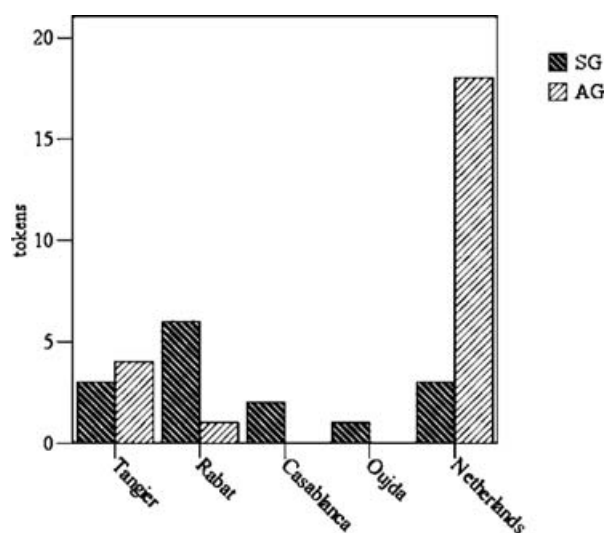


Figure 2. Synthetic (SG) and analytic (AG) genitive tokens from four Moroccan cities and the Netherlands with the head noun *ras* “head” and a NP dependent.

Table 6. The number of speakers in four Moroccan cities and the diaspora community using synthetic (SG), analytic (AG) or both genitive expressions with *ras* as the head noun and a NP dependent (“x’s head”).

Location	SG	AG	Both
Tangier	3	4	0
Rabat	5	1	0
Casa	2	0	0
Oujda	1	0	0
Netherlands	2	14	0

proportion of the SG is lower in the Netherlands than in the data from Morocco. This holds for the distribution of tokens (Figure 2) as well as for the distribution of speaker types (Table 6). However, recall that the comparison between the four Moroccan cities in section 5.2 above indicated that the AG is more common in Tangier. Hence it is not justified to treat the data from Morocco as a single group the way we did in the case of *ras* with pronoun dependent, and we need to compare the Dutch population with the bedouin dialect speakers on the one hand, and with the mountain dialect speakers on the other.

The Dutch group’s preference for the AG is highly significant in comparison with the three cities where a bedouin dialect is spoken ($p=0.000$ for both tokens and speakers). With only seven tokens from Tangier the difference between the Dutch group and this city is not statistically significant ($p=0.144$ for tokens, $p=0.142$ for speakers). Only two out of sixteen speakers in the Netherlands used the synthetic construction (Table 6).

This proportion is even smaller than that found in Tangier, where three out of seven speakers opted for the SG.

6.2.2. Other head nouns

The 96 stories from Morocco contain six tokens of the SG plus NP dependent with kinship terms and body parts other than *ras* “head”. The 200 stories from the Netherlands do not contain a single case of this construction with body parts other than *ras*. With kin terms, we find three tokens, all produced by the same girl in the same story. Two are correctly formed and reproduced here in (10); the third is a morphologically incorrect form, reproduced in (18) below.

- (10) *šaf eh babayn j... baba j-jrana u mama j-jrana.*¹¹
 see er dad.POSS DEF- dad DEF-frog and mum DEF-frog
 “He saw er the dad of the f... the frog’s dad and the frog’s mum.”
 Hafsa (8), Leiden

In the Dutch data, the SG with NP dependent is largely restricted to the following three contexts. First, expressions with the head noun *mul* or its feminine form *mula* “person with” were often elicited by two of Bos’s ‘topic continuity’ cartoons, one showing an ice-cream vendor and the other a balloon vendor; cf. (11). Combinations with *mul* turn out to be very productive.

- (11) *u šad šafet mul mul l-balun*
 and then see-F person person DEF-balloons
 “And then she saw a balloon vendor.”
 Mouhcin (4), Amsterdam
 (description of an additional cartoon)

Second, the construction occurs in some spatial expressions like *f qelb x* “in the heart of x”, i.e. “inside x”; cf. (12).

- (12) *huwa řah řah f west l-ma*
 3M fall fall in middle DEF-water
 “He fell into the water.”
 Imane (15), Nijmegen

Third, there is the expression *aš smiyt hada?* “what’s its name?” and variants thereof with the head noun *smiya* “name” (13). Informants having trouble describing the pictures in Arabic sometimes used this expression to prompt the researcher to provide words (see also (16) and (17) below).

- (13) *aš smiyt hadi ?*
 what name.POSS DEM.F
 “What is its name?”
 Mourad (14), Nijmegen

The first two contexts are atypical examples of the use of the synthetic genitive because they do not allow for

¹¹ Hafsa replaced the northern possessive form *babayn* with the koine form *baba*.

the analytic alternative. The words *mul* and *mula* occur exclusively as the head of an SG. The spatial expressions are in fact complex prepositions that result from the grammaticalisation of particular synthetic possessives. This type of locative appears to be typical of mountain dialects. The third type does allow for the analytic rephrasing (*s-smiya dyal hada*), though it may nonetheless be a rather fixed expression.

6.3. Anomalous forms

Apart from the increased preference for analytic genitives, the frog stories from the Netherlands contain some patterns that are absent from the Moroccan data: double marking, anomalous morphology and inversed word order.

6.3.1. Double marking

No double genitives occur at all in the data from Morocco. Although this may be due to the elicitation technique, it shows that neither of the redundant constructions is very common.¹² Double marking does occur in the Dutch data, however. These 200 stories contain nine instances, all of which have pronominal possessors, cf. (14)–(16).

- (14) u ʕad huwa kan f dehr-u dyal-u
and again 3M be in back-3M of-3M
“And he was still on top of its back.”
Ikram (5), Amsterdam
- (15) lla ma [= mʕa] xa-y dyal-i
no with brother-1SG of-1SG
“No, with my brother.” [response to: “Do you have a room for yourself?”]
Hicham (14), Utrecht (interview on interior decoration)
- (16) ki smiyt-u dyal-u ?
how name.POSS-3M of-3M
“What is it called?” Jalil (15) from Utrecht

This type of doubly-marked possessive is found with three young children in Bos’s data and two teenage boys from Utrecht. One girl, Ikram, cited in (14), produced five tokens of doubly-marked forms (e.g. *baba-ha dyal-ha* “her father”) as well as six instances of normal synthetic genitives with pronoun possessors (*baba-ha*). For the other three informants, the double marking is a minor pattern.

6.3.2. Morphological anomalies

The Dutch data contain four morphological errors, all involving the SG. Similar errors are absent from the data collected in Morocco. In (17), the informant fails to provide the possessive allomorph *smiyt* of the feminine noun *smiya* “name”. In (18) and (19), head nouns bearing the definite prefix *l-* are incorrectly combined with the

¹² Cf. Eksell Harning (1980, p. 137), who did not find a single example in her corpus of about 1200 MA possessives.

head of the synthetic construction. (The expected forms are either *wlad u bnat j-jrana* or *l-wlad u l-bnat dyal j-jrana* and *kelb-u* or *l-kelb dyal-u*, respectively.) Nahid reproduced the anomalous form cited in (19) further down his narrative.

- (17) ki smiya dik l-haja
how name DEM.F DEF-thing
“How do you call this thing?”
Kamar (12), Nijmegen
- (18) l-wlad u l-bnat j-jrana
DEF-sons and DEF-daughters DEF-frog
“the frog’s sons and daughters”
Hafsa (8), Leiden
- (19) u hadak l-kelb-u kan ka-y-xaf ʕla dik
and DEM DEF-dog-3M be ASP-3-fear for DEM.F
l-ʕawd
DEF-horse
“And this his dog was afraid of that horse.”
Nahid (5), Amsterdam

6.3.3. Reversed order

Two informants from the Netherlands produced analytic possessives with a reversed word order, in which the suffixed genitive exponent *dyal* precedes the NP head; cf. *dyal-ha l-hwayej* “her things” instead of the normal MA *l-hwayej dyal-ha* in (20) and *dyal-u l-kelb* “his dog” in (21).

- (20) u Bianca kanet te-lʕeb f remla b dyal-ha,
and Bianca be-3F 3F-play in sand with of-3F
b dyal-ha l-wayej
with of-3F DEF-things
“And Bianca was playing in the sand with her, with her things.”
Hafsa (10), Leiden (description of additional cartoon)
- (21) u dyal-u l-kelb ka-yji l hna
and of-3M DEF-dog ASP-3-come to here
“And his dog comes here.”
Mohamed (5), Amsterdam

In the case of Mohammed, the reversed order is probably incidental. He was recorded in four consecutive years and produced one token of the reversed order and five of the normal order. As for Hafsa, she was recorded at the age of eight, nine and ten. The data collected when she was eight do not contain any relevant genitive construction. At the age of nine, Hafsa produced three tokens with the normal word order (e.g. *l-balun dyal-ha* “her balloon”) and two cases of the reversed order (*dyal-u j-jurnan* “his newspaper”). In the third and last recording the reversed order was predominant: five instances as against one of the normal order. In comparison with her peers in the Netherlands, Hafsa displayed a high proficiency in Moroccan Arabic. The reversed order was neither found with NP possessors nor with the SG.

Table 7. Three age groups in Morocco compared: the number of speakers using synthetic (SG), analytic (AG) or both genitive expressions with *kelb* as the head noun and a pronoun dependent (“his dog”). Numbers in parentheses refer to tokens.

Age	SG	AG	Both
5 years	1 (8)	6 (18)	1
7 years	6 (13)	10 (32)	1
9 years	5 (23)	8 (22)	3

6.4. Omission of genitive

The speakers who grew up in the diaspora tend to avoid genitive constructions altogether. Although the Dutch stories are not on average much shorter than those of their peers in Morocco, and although most speakers did refer to the boy and the dog in the frog story, relatively few informants in the Netherlands used a genitive to express the relationship between the two protagonists.

Both in Morocco and in the Netherlands the use of this form of textual cohesion increases with the speaker’s age. Comparing the five-year-olds in Morocco with their peers in the Netherlands, we find that 33 and 12 per cent of the respective groups expressed the boy’s ownership of the dog in some form of “his dog”.¹³ As for nine-year-olds, these percentages are 70 and 20, respectively. The difference between the Dutch and the Moroccan group is highly significant ($p = 0.000$ for the five-year-olds, $p = 0.001$ for nine-year-olds).

The same holds for reference to the boy’s boot and clothes and reference to the heads of the boy, the dog or the deer. Instead of “the boy is looking in his shoe”, speakers in the Netherlands tend to say things like “the boy is looking in the shoe”, “the dog has a jar on the head”, etc. The latter forms are not ungrammatical, but they occur much more often in the diaspora data than in Morocco.

7. Age-related variation

Bos’s recordings from Morocco suggest an increase of the SG between age five and nine. In the case of *kelb* plus pronoun dependent (“his dog”), the seven- and nine-year-olds show a higher preference for the SG than the five-year-olds (Table 7). The case of *ras* plus an NP dependent (“x’s head”) suggests an increase of the SG between age seven and nine (Table 8). It is important to note that the data from the different age groups are more or less equally distributed over the three cities.¹⁴

¹³ This count includes both *kelb* and other words for DOG (*jru*, *bubu*).

¹⁴ El Aissati’s teenagers from Morocco use many more AGs than Bos’s nine-year-olds: *kelb* + pro: SG 4 speakers (6 tokens), AG 11 (46);

Table 8. Three age groups in Morocco compared: the number of speakers using synthetic (SG), analytic (AG) or both genitive expressions with *das* as the head noun and an NP dependent (“x’s head”). Numbers in parentheses refer to tokens.

Age	SG	AG	Both
5 years	2 (2)	2 (2)	0
7 years	2 (2)	2 (2)	0
9 years	5 (6)	0 (0)	0

The correlation suggested by the above tables is not significant, but may nonetheless be taken as an indication. The data for *ras* + NP actually show an almost significant correlation between age and proportion of SG if only the positive relationship is tested for (Spearman’s $\rho = 0.472$, $p = 0.052$ one-sided test). The data from the Netherlands are far from even suggesting an age-related pattern.

8. Discussion

8.1. General distribution of genitive types

Section 4 showed that the selection of the genitive type is highly dependent on the head noun. I follow Nichols (1988) in attributing these differences between nouns to their frequency of occurrence as heads in possessive constructions. Nouns occurring frequently in this position have retained the older possessive construction, which has become archaic in some dialects (see also Koptjevskaja-Tamm, 1996; Heine and Lébibkaza, 1997; Heath, 2002, p. 463). The apparent iconic relationship between conceptual distance and linguistic distance, e.g. in the case of kinship terms, is a consequence of this frequency factor and the historical development of the innovative AG.

This implies that the selection of the SG in the process of speech production is in part a feature of individual lexical units. This feature was lost first in the case of infrequent lexical items, giving way to the versatile analytic construction. The distribution of genitive types with *ras* “head”, *dar* “house” and *grun* “horns” can be interpreted as representing different stages in the shift from the old synthetic construction to the innovative analytic form. In the case of *ras* the AG is only a rare pattern with NP possessors; in the case of *grun* the pronominal possessors constitute the last foothold of the old synthetic genitive. Even in the absence of a reliable word count of a large corpus of Moroccan Arabic speech, it can be argued that the word for HEAD occurs more frequently than the words for some other body parts like TAIL or

ras + NP: SG 2 (2), AG 1. But El Aissati recorded relatively many speakers from Tangier (cf. section 2).

HORNS. After all, favourite topics of discourse include human beings, including the speaker and the addressee, who happen to have a head but lack both tail and horns.

Generally, foreign words that were introduced after the SG had become less productive trigger the AG (Koptjevskaja-Tamm, 1996; Heine and Lébikaza, 1997; Owens, 2002). In our frog stories this was the case with some Standard Arabic words, cf. *ras-u* (MA) and *r-raʔs dyal-u* (with glottal stop consonant) ‘his head’. This is an indication that the SG is no longer fully productive. The treatment of loan words is also a further argument against the idea that speakers select the SG when they express semantically tighter relationships.¹⁵

Interestingly, the synthetic construction occurs freely with borrowed nouns ending in *-a* as in *balizt-i* ‘my suitcase’ from *baliza* (French *valise*), and *blašt l-kīran* ‘bus station’ from *blaša* (French *place*). In Morocco, one finds *ʔumubill-i* ‘my car’, from *ʔumubila*, but not **ʔumubil-i* from *ʔumubil*. The final *-a* in borrowings is (treated as) the Arabic feminine gender suffix, and triggers feminine agreement in verbs and adjectives. Owens (2005) describes the same phenomenon in Nigerian Arabic (where the SG is much more common than in MA): inserted English nouns typically head a AG with pronoun dependents, but English nouns with an Arabic feminine or plural suffix head SGs with Arabic pronoun suffixes. This suggests that the selection of the SG construction depends not so much on the noun as a whole, but rather on its final morpheme (Owens, 2005).¹⁶

If the final morpheme of the head noun is decisive, this does not preclude the frequency factor. The central notion is the automaticity of the syntactic, morphological and phonetic procedures involved in speech production (cf. Levelt, 1989). Such procedures will be more automatized in the speaker’s brain if they are reinforced by frequent usage in speech production and perception. In this way frequently occurring combinations are relatively sheltered from innovations like the AG.¹⁷

Difference in frequency – but not semantic considerations like inalienability – also explains why the synthetic construction is so much more common with pronoun possessors than with NP dependents. At this point the findings of section 4 corroborate those for other types of Arabic (Fabri, 1996 on Maltese; Owens, 2005 on Nigerian Arabic).

8.2. Regional variation

The greater preference for the analytic form in Tangier confirms earlier observations on the Tangier dialect (Eksell Harning, 1980; Iraqui Sinaceur, 1998) and northern dialects generally (Heath, 2002, p. 463). The tendency towards analytic genitives in northern and other pre-Hilali dialects can be explained by the more important role of language contact in their formation. It remains difficult to evaluate the intensity of language contact in the history of northern pre-Hilali dialects in comparison with other MA dialects. One argument is that the earliest Arab invasion consisted of military men who settled to live with local women in pre-existing sedentary centres (Heath, 2002, p. 3). The later bedouin invasions that gave rise to the Hilali dialects presumably consisted of mixed populations of men and women.

If we assume that language contact favoured the use of the analytic genitive in Morocco, it remains unclear how this worked. Substratum influence, especially from Berber, would be a straightforward explanation, and Berber influence is undisputed in the case of redundant genitives (type *baba-h d l-ʔrus* ‘the groom’s father’ section 3.6 above) and genitives with *-n*.

8.3. The diaspora community

The investigation of possessives in the Moroccan community in the Netherlands yielded ambiguous results.

speakers may convey an atypical meaning by selecting an AG after a head noun that normally triggers the SG. The marked AG can be of stylistic relevance, as was discussed in section 3.5, or it directs the listener towards a specific interpretation of the possessive relationship. In an often-cited example, the inalienable genitive expresses a part-whole relation as in ‘his head’ while the alienable genitive expresses ownership ‘the [detached] head [e.g. of an animal] owned by him’ (Nichols, 1988, pp. 565f), cf. also Fabri (1996), and Claudi and Heine (1989). Boucherit (1999, p. 177) gives AG *eš-šix ntaʔ oxt-i* ‘my sister’s teacher’ versus SG *šix oxt-i* ‘my sister’s father-in-law’ in the Arabic dialect of Algiers. Such semantic distinctions are not at odds with the observation that the propensity for triggering the ‘inalienable’ SG is lexically bound. I conjecture that at a certain point in the development of the language, layman speakers, like linguists, begin to associate the more restricted construction with inalienable possessive relationships. According to this scenario, the association of the two constructions with the semantic opposition between alienable and inalienable is only a secondary development, however.

¹⁵ Owens uses the iconicity argument in a somewhat different manner. English nouns inserted in Nigerian Arabic phrases require more processing time, he argues, and the ‘less iconic’ analytic possessive ‘allows the inserted word to maintain its discrete integrity’ (Owens 2002, p. 190). The difficulty with a psycholinguistic factor like processing time is that this depends very much on the experience of the individual speaker at a specific point in time. When an inserted foreign word (or any other element) occurs repeatedly in a given discourse, the processing effort decreases accordingly (Levelt, 1989). Frequently used foreign nouns should after some time appear as heads of the SG. If they do not, a logical conclusion is that the SG is not fully productive with new head nouns.

¹⁶ The treatment of loanwords implies that native nouns ending in the *-a* suffix are also more liable to head the SG. Testing of this hypothesis would be worthwhile.

¹⁷ While I argue for frequency of the head noun as the main factor, semantic notions like alienability or conceptual distance may occasionally overrule the unmarked genitive form. In particular,

On the one hand, a significant shift towards the analytic genitive was established for the head noun *ras* with an NP possessor. In addition, the use of the synthetic construction with NP possessor was found to be on the whole very rare in the Netherlands, and some speakers made morphological errors. Recall that the difference between the Dutch speakers and the speakers from Tangier was not significant, so if all or most informants in the Netherlands were speakers of a Tangier type of dialect, language change could not be established. However, the fact that the Dutch speakers often used the SG with *kelb-u* “his dog” proves that the majority spoke Hilali types of MA.

With respect to possessives with a pronominal dependent, no clear quantitative difference was found between the Netherlands and Morocco at the level of the speech communities. The immigrant population was found to use more AG with *ras* “head” but not with *kelb* “dog”. This result may be explained by an overrepresentation of speakers from Tangier in the data from Morocco, especially those collected by El Aissati (cf. Table 1), in comparison with the dialect composition of the bilingual speaker group. Since the information on dialect background of the latter group is incomplete, we cannot but conclude that a community-level change has not been established for the possessive with pronoun dependent.

A shift towards the analytic form with a pronoun dependent could not be due to interference of Dutch, and would be indicative of change due to reduced input alone. In other words, the observed changes can be attributed entirely to Dutch as the superstratum language. Naturally, the reduced input of MA in the diaspora situation enhances interference from Dutch (cf. Thomason, 2001). Influence of Dutch was demonstrated by the reversed word order used by some informants in the analytic construction with pronominal dependent (*dyal-u l-kelb* “his dog”). In Dutch, possessive pronouns precede the noun (*zijn hond* “his dog”). As there is no obvious language-internal motivation for the reversed word order in Arabic, it is an unambiguous example of superstratum influence. Parallel changes have been recorded in other minority languages (cf. Sussex, 1993; Leisiö, 2000).

If all attested change can be explained by superstratum influence, be it occasional interference or more stable convergence of MA on Dutch, then there is no compelling reason to invoke pragmatic and language-internal causes like the transparency of the AG or the abandoning of lexically bound rules of the SG. However, there are some indications that possessives with pronoun dependents are changing too. First, it can be argued that since the use of the synthetic construction is more restricted with NP dependents in Morocco itself, it was to be expected that this would be the first context where the construction would lose ground.

Second, two out of 75 individuals in the Netherlands do display an increased use of the AG with pronouns. In an earlier paper (Boumans, 1994) I discussed another MA–Dutch bilingual who overgeneralised the Arabic AG with pronoun dependents in a corpus of conversations.¹⁸

Third, five other Dutch speakers produced doubly-marked possessives, which were not found in the narratives from Morocco, and diaspora speakers varied significantly more often between the SG and AG in the same narrative than did their peers in Morocco. This linguistic insecurity suggests that something is going on with pronoun dependents as well. Perhaps redundant marking and variation are precursors of analytic marking alone, if these speakers’ varieties are given time to develop further. For comparison, Florey (2005) describes similar double marking ‘strategies’ in four endangered languages of the Central Moluccan islands that, according to her, evolve towards analytic marking of the possessive.

An alternative interpretation is that decreased transmission of MA simply leads to a general increase in the variation, both in the behaviour of individual speakers and between different speakers. A shift towards the AG in some individuals could be balanced by a shift towards the SG in others. El Aissati (1997) showed that the reduced usage of Moroccan Arabic by the immigrants’ children gives rise to individual variation at all linguistic levels of their community language, including phonology and noun morphology.

The production of morphologically anomalous forms of the SG is a by-product of the ongoing language shift. It indicates that some of the bilingual speakers experience difficulties in producing this construction. Avoiding the SG could be a strategy to avoid such errors, as it would reduce the complexity of noun inflection. Unfortunately the data set was unsuited for a quantitative investigation of possessives with head nouns that require morphological marking.

The finding that the diaspora speakers tend to omit possessive marking altogether is more difficult to explain and requires further investigation, even though it ties in with Bos’s (1997) conclusion that the development of her informants’ narrative skills lags about two years behind that of their peers in Morocco.

Are characteristics of the Dutch speaker population’s MA symptoms of language change or loss? The truth is that change and loss are not mutually exclusive; it is a matter of perspective. Many individuals of the second generation fail to acquire some aspects of their heritage language, such as the SG with NP dependents. These aspects are thus lost from one generation to the next. But these individuals continue to speak their divergent varieties on a regular basis with members of the parent

¹⁸ This was the corpus described in my thesis on codeswitching (Boumans, 1998).

generation and during holidays in Morocco. They speak (idiosyncratic) varieties that have changed with respect to their parents' varieties.

At the community level, idiosyncratic innovative forms of individual speakers have little chance to spread and conventionalise in the community, because members of the second generation speak Dutch among themselves most of the time. Moreover, many of them will start a family of their own with a partner from Morocco.

Continuing immigration ensures the presence of Moroccan languages in the Dutch linguistic landscape; it delays language shift at the community as well as the individual level. It also means that possibly emerging (idiosyncratic) diaspora varieties are under pressure both from Dutch and from the original Moroccan norms. Finally, as long as immigration continues, there will be new generations of 'second-generation' immigrants comparable with the Dutch speaker group in this study.

8.4. Age

Although the data on the relationship between the children's age and their use of the SG were not conclusive, they add an interesting perspective on language change in the diaspora. If children in Morocco really start using more SG at a certain age, this can mean two things for the second-generation speakers in the Netherlands. Some immigrants' children may lag behind in their acquisition of this construction, but eventually catch up. Others will never catch up, and their adult speech will represent an immature stage of first language acquisition with respect to possessive marking.

Stagnation in a normal acquisition of MA thus becomes an alternative explanation that competes with Dutch superstratum influence and the greater transparency of the AG. If the SG with pronoun dependent is acquired earlier than the construction with an NP dependent, this would also explain why the former construction is less subject to change in the diaspora population. After all, younger children spend more time at home in a MA speaking environment.

8.5. Methodology

For the topic of possessive marking, dialect variation proved to be an important factor. Bos's (1997) and El Aissati's (1997) attempt to match the dialect background of their research groups in the Netherlands and their control groups in Morocco may have been too coarse-grained for possessive marking. Ideally, the dialect factor should be better controlled for. That said, finding Moroccan immigrants willing to participate in recordings is a task that should not be underestimated. Adding criteria for participation obviously complicates the data collection.

The frog story data have the advantage that they are relatively spontaneous. They were not designed to elicit genitives, and I am rather confident that the data reflect normal usage in this respect. It is theoretically possible that the 'unnatural' setting of the story-telling task somehow produces a bias towards either possessive construction. Even worse, this bias can in theory be different for speakers in Morocco and in the Netherlands. Unfortunately, a quantitative comparison of semi-spontaneous and really spontaneous behaviour is impossible. (Just imagine how many hours of spontaneous talk would be needed to make eighteen speakers say "the boy's head".)

Even the limited spontaneity of the frog stories has a clear drawback. In spite of the overall similarity of the stories, they contain few useful identical possessive relations in numbers that allow statistical analysis. More information on possessive marking could be obtained through more controlled elicitation procedures, which is the only way to obtain possessive tokens with the same head noun and the same dependent type from many different speakers.

A picture description task can be designed such that it elicits the target possessive relationship in a more coercive manner than does the frog story, while the researcher who administers the task can pose additional questions in order to elicit a possessive from the speaker. A carefully designed task should avoid a bias towards either construction. For one thing, the AG and SG have a different sociolinguistic status, which comes into play when respondents are aware of the topic of the elicitation. A further pitfall is the priming effect: speakers tend to re-use constructions they used shortly before. Both problems could be attenuated through the use of distracter test items.

The naturalness of data obtained in experiments is always a point of concern. The semi-spontaneous data presented here will enable some verification of this naturalness. For this reason spontaneous, semi-spontaneous and experimental data on genitive marking are complementary.

9. Conclusions and outlooks

Quantitative evidence shows that the use of the SG in MA depends on the lexical item that heads the possessive, while it is more frequent with pronominal dependents. The AG is used more in Tangier than in Casablanca, Rabat or Oujda, and this is true for both pronominal and NP dependents. Immigrants' children who have grown up in the Netherlands display a greater preference for the AG than their peers in Morocco, but on the level of the diaspora community as a whole, this has been established only for possessives with an NP dependent. Both in Tangier and in the Dutch diaspora, the increased usage of the AG can be explained by direct influence of the contact languages, i.e. Berber and maybe Romance

in early mediaeval northern Morocco, and Dutch in the Netherlands of the 20th century. The contribution of general contact linguistic factors, notably the need for transparency, remains plausible but finds no strong support in these data.

As discussed in section 8.5 above, this study might well be complemented by experimental data. In terms of syntactic constructions, we need more pairs of the same head noun with both NP and pronoun dependents, quantitative data on the head nouns that need morphological marking (nouns in *-a*, pseudo-duals) and possessives that are contrastive with respect to the possessor's animacy (human–non-human, 1st, 2nd and 3rd person).

A conceptually related topic that needs investigation is the alternation between synthetic and analytic comparative adjectives. The dialectal distribution of these forms in Morocco is similar to that of the SG and AG (Heath, 2002, p. 332).

In terms of speaker populations, the study on dialect variation in Morocco should be completed with southern, nomadic and rural populations. In the diaspora, the dialect factor can be better controlled for by selecting speakers whose parents originate from a linguistically homogeneous region. The research could be extended to Arabophone minorities in societies where the dominant language does not have a morpheme-by-morpheme equivalent to the Arabic AG; e.g. Arabic spoken in the Turkish province of Hatay may be compared with neighbouring dialects in Syria. The acquisition of spoken Arabic as a second language in untutored circumstances (e.g. foreign workers in the Gulf states) could offer yet another perspective on language contact and analytic constructions. Finally, first language acquisition of the Arabic possessive construction needs more attention and quantitative research. It is a theoretically interesting idea that an immature stage of first language acquisition could under certain circumstances become an adult norm.

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