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INDICATIVE IMPACT OF BERBER LANGUAGES ON MOROCCAN ARABIC: TASHELHIYT EVIDENCES

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Abstract

Morocco's multilingual setting creates fertile ground for continuous language contact, particularly between Moroccan Arabic (MA) and Tashelhiyt Berber (TsB). This paper investigates the extent TsB's influence on MA, identifying features in MA that are traced to sustained interaction with TsB. Although the two languages are distinct, their prolonged contact has led to systematic transfer. One reason is that TsB speakers learning MA bring their prior linguistic competence into the acquisition process. The analysis highlights four major domains of influence: lexical borrowing, morpho-phonological feature integration, syntactic restructuring, and semantic calquing. By situating the analysis within the broader framework of language contact, the study shows that TsB has had a profound and enduring effect on MA, underscoring that the foundations of Moroccan Arabic are rooted primarily in Berber rather than Literary Arabic.

Introduction

Morocco can be characterized as a linguistically diverse society, distinguished by the coexistence and interaction of multiple languages. Among the indigenous varieties of Amazigh/Berber languages, at least three are widely recognized: TsB, Tamazight (TmB), and Tarifit (TrB). In addition to these native spoken varieties, MA serves as a primary medium of everyday communication (cf. Abbassi, 1977; Youssi, 1983, 1992). Formal education further introduces additional linguistic requirements. Moroccans are obliged to learn Literary Arabic (LA) and French, and as students progress,

English, Spanish, or German.[1] This extensive exposure to multiple linguistic systems positions Morocco as a society in which multilingualism is not merely present but constitutes an integral and pervasive feature of daily life.

As a result of prolonged linguistic contact, it is commonly anticipated that languages influence one another by transferring both lexical and structural features. In the specific case of MA and Amazigh languages, their extended coexistence has fostered mutual interference, producing reciprocal borrowings not only at the lexical level but also in grammatical domains. This interaction has given rise to considerable structural convergences between the two systems. The present study investigates some of the traces of TsB elements in MA. The contact between TsB and MA reveals profound similarities that transcend mere lexical exchange, extending to syntactic and morpho-syntactic patterns. Such resemblances are best explained by the geographical proximity and close social interaction of the two speech communities. In these settings, TsB speakers inevitably transfer features of their native language into MA, which is acquired as a second language. It can further be suggested that this transfer is driven by the challenges TsB speakers face in mastering the structural properties of MA.

This study is situated within the broader field of language contact research and aims to systematically investigate structural correspondences between TsB and MA. Its primary objective is to explain these correspondences by analyzing the mechanisms through which prolonged bilingual interaction has shaped the development of MA. To achieve this, the paper presents detailed case studies that highlight instances where TsB has exerted a tangible and observable influence on MA, encompassing phonological, morphological, syntactic, and semantic domains. The findings reveal that Berber contact has produced significant structural modifications in MA, resulting in a linguistic system that is typologically and grammatically distinct from LA. In particular, the analysis underscores that many of MA's structural peculiarities, including word order patterns, agreement mechanisms, and negative constructions, reflect Berber influence, reinforcing the argument that MA cannot be understood merely as a simplified derivative of LA (cf. Kossmann, 2013). This approach situates the study at the intersection of contact linguistics and Moroccan sociolinguistic dynamics, offering insight into the profound role of TsB in shaping MA.

The article is organized as follows. Section one introduces a variety of specific background facts about TsB and MA, as two Moroccan native languages in contact. Section two discusses the outcome of the contact situation. It shows two principal areas where TsB influence is evident on

MA: lexical borrowing and morpho-phonological feature transfer. Section three extends the domain of influence to syntax. It exposes two areas of influence where two MA syntactic attributes are traced back to TsB properties. These are agreement in word order variation and negative concord between negators and verbs.[2]

1. Arabic–Berber Interactions in Morocco

The emergence of MA cannot be accounted for as a simple continuation of LA; rather, it is the product of centuries of sustained contact with the indigenous Berber languages, which generated intricate patterns of mutual influence. While LA provided the dominant lexical base and many structural features, Berber contributed significantly at the phonological, morphological, and syntactic levels, shaping MA into a distinct linguistic system. In addition to Berber influence, prolonged contact with Latin during antiquity, and later with French and Spanish during colonial and postcolonial periods, further enriched MA's lexicon and structural forms. Far from being a reduced or simplified form of LA, MA developed its own internal grammatical rules, complex morpho-syntactic patterns, and rich expressive capacity, enabling it to function as a full-fledged medium of everyday communication and cultural identity. It is therefore best understood as the outcome of a dynamic interplay between LA and Berber linguistic traditions, with Berber influence playing a particularly decisive role during the formative stages of LA's spread in North Africa.

Within this broad picture of contact, the present study limits its scope to the influence of TsB on MA. While other Berber varieties such as TmB and TrB have also contributed to the development of MA, focusing on TsB allows for a more detailed and coherent account of the specific contact mechanisms at work. TsB's phonological systems, morpho-syntactic patterns, and substrate features provide a particularly rich field for tracing the imprints of Berber in MA, offering valuable insight into how bilingualism and language shift shaped the linguistic identity of Morocco.

1. 1. Background Contact between TsB and MA

TsB and MA are two distinct languages that have independently evolved in Moroccan society. Their coexistence in the same context has resulted in mutual linguistic interferences and produced reciprocal influence between the two languages (cf. Kossmann, 2013). Over the years, speakers of both languages have interacted closely in domains such as business, culture, and

education. Due to the nature of these connections, each language managed to make a linguistic transfer of its properties into the form of the other[3] (cf. Chtatou, 1997). In fact, TsB managed to pass on a great deal of its lexical and morpho-syntactic properties onto MA.

Reversely, MA seems to be related to LA. Given the fact that the former contains a great deal of LA vocabulary, it is very tempting to consider MA a degenerated dialect of LA (cf. Aune 2008). However, loanwords alone do not accurately prove kinship ties in linguistics. The two languages are very different. That is why Arabs, especially from Middle East, do not understand MA (cf. Chtatou, 1997; Aune, 2008). They find it unintelligible because of its distinctive phonology[4] and heavy lexical borrowing from Berber. It is also distinct with its unique morphosyntactic patterns. Moreover, MA contains word lists not only from LA, but also from so many languages, including TsB/Amazigh, French, Spanish, etc.[5] Moreover, MA differs considerably from LA. The two languages are not quite intelligible. As a rule, illiterate people do not understand LA messages at all. Absence of intelligibility is simply due to excessive dissimilar morpho-syntactic features. In the same way, the divergence between the two languages is related to Berber effects. MA is distinguished by deep-rooted Berber influence, which explains absence of any rudimentary structural connection between MA and LA.

Genealogically, LA is classified as a member of the Semitic branch of the Afro-asiatic family. Historically, it originates from the Arabian Peninsula where it existed since pre-Islamic periods. During the great Muslim expansions, Arabic passed on to the conquered additional territories (cf. Chtatou, 1997). The fact that many forms of Arabic exist today may be the consequence of an evolutionary process of contact between LA and the languages spoken in the conquered regions. That is why today's dialects of Arabic coexist in a diglossic situation with LA. In fact, there are two major sets of Arabic dialects: Maghrebi and Mashriqi (cf. Harrat, et al., 2017). The former includes Morocco, Algeria, Tunisia and Libya. The latter consist of three groups: Gulf Arabic, Shami Arabic (Syria, Jordan and Palestine) and Egyptian.

In conclusion, TsB and MA are deeply intertwined within their shared speech community, a relationship that necessarily entails reciprocal transfer of linguistic features. Nonetheless, the impact of TsB on MA appears to be more substantial. Similarly, although MA incorporates a considerable amount of LA vocabulary, the latter's influence is comparatively marginal when measured against the pervasive effect of TsB.

1. 1. 1. TsB LANGUAGE

TsB is one of the indigenous languages spoken in Morocco. It is a branch of the major Amazigh / Berber group of the Afro-Asiatic language family. It is basically used in the Souss area. Its usage extends horizontally from Essaouira, to Marrakesh in a southward direction to Ourzazate, Tata and Guelmime. Although, TsB is the most widely spoken Amazigh variety in Morocco, the exact number of its speakers is still somehow difficult to determine. Some of the major impediments behind absence of a clearly defined TsB-speaking community are definitely the confusion of linguistic boundaries and migration.

TsB is the mother tongue of the Soussi population. It is their main means of communication. It is roughly restricted to family domains and informal communication. It is hence a symbol of their solidarity (cf. Benzakour, 2002). The majority of the inhabitants of the rural areas in Souss have never known of the existence of any other speech variety apart from TsB (cf. Abbassi, 1977; Boukous, 1995; Benzakour, 2002). However, in urban areas, TsB has enormously gotten in contact with MA. Yet the majority of TsB natives speak MA with an accent. In addition, with the advent of media and telecommunications, at this cybernetics period today, the residents have started to hear of foreign and distinct languages. Nevertheless, they always consider them unusual and strange oral communication. It is very common to hear TsB natives react uncomfortably or restlessly to an unknown language. It is common to hear expressions, such as:

1) a. ma i-sbalʕttiš γaj(a)d ?

what he-mumble this (pejorative)

"What is this thing /(strange) muttering?"

b. matta isbalʕttišn aj(a)d ?

what mumblings is-this

"What inarticulate speech is this?"

c. matta /man lžmiʕt aj(a)d ?

what / who(m) speech is-this

"What incomprehensible speech is this?"

d. matta lžmiʕt-ad juʕrn ?

what the-speech-this twisted

"What kind of a twisted speech is this?"

Unfortunately, the number of TsB native speakers is today in a constant process of diminution. The language is steadily dying out progressively. It may be argued that three principal factors account for the gradual decline of the TsB native-speaking community: mixed marriages, urbanization, and formal schooling. In the case of mixed marriages, particularly when the mother

is not a TsB native speaker, children are more likely to acquire another mother tongue, most often MA. Likewise, urban residence fosters a shift toward MA as the primary medium of everyday communication. Finally, formal education notably accelerates language loss, largely through acculturation processes (cf. Wong-Fillmore, 1991).

As a matter of fact, formal education appears to constitute the most decisive forces in escalating language loss because it functions as a primary mechanism of acculturation.[6] In the Moroccan context, the school system prioritizes the dominance of LA and French languages, as the exclusive means of instruction and literacy. Thereby, it associates academic achievement and social mobility with their mastery. For children from minority backgrounds such as TsB speakers, this institutional emphasis reduces the functional domains of their heritage variety, which becomes confined largely to domestic or informal use. Over time, as Wong-Fillmore (1991) notes, such educational environments foster acculturation by encouraging children to adopt the linguistic and cultural practices of the dominant community, while simultaneously weakening intergenerational transmission of the minority language. Consequently, parents may also promote the dominant language to secure better prospects for their children, further accelerating the decline of TsB in favor of socially and economically privileged languages.

Despite these challenges, TsB occupies a central place among Morocco's linguistic resources, with a substantial community of speakers. Historically characterized as an oral language, it has also been transcribed using both the Arabic and Latin scripts. Since the creation of the Royal Institute of Amazigh Culture in 2001, the Tifinagh alphabet, long regarded as the traditional script of the Berber, has been officially adopted. Beyond its communicative function, TsB serves as a powerful emblem of the cultural heritage, values, and identity of the Soussi people, who have consistently endeavored to safeguard it. Nevertheless, the language continues to confront serious challenges, including the pressures of linguistic erosion and the attendant threat of ethno-cultural identity loss

1. 1. 2. MA LANGUAGE

Historical sources indicate that Morocco has long maintained sustained interaction with a wide range of neighboring and distant civilizations, including the Punic, Phoenician, Greek, Latin, Arab, Spanish, Portuguese, and French (cf. Benzakour, 2002; Zouhir, 2013). Among these, however, contact with the Arabs proved to be the most transformative. The introduction of Islam in the seventh century facilitated the spread of LA in Morocco, while the large-scale migration of

Arab tribes in the eleventh century further entrenched its influence through channels such as commerce, intermarriage, and education. LA's presence was further consolidated during the fifteenth century, after the expulsion of Muslims from Spain. These series of migrations and settlements led to significant demographic and cultural reinforcement of LA in the country.

Arabic is intrinsically tied to the spread of Islam, and with the conversion of the indigenous Moroccan population to this newly introduced religion, the language secured a lasting presence in the region for religious, educational, and economic purposes, among others. From the outset of the Arab conquest, the inhabitants of Morocco were compelled to acquire the language of the newcomers, which initially fostered widespread bilingualism. Given the inherent complexity of Classical Arabic, however, it is plausible that MA gradually emerged as an independent communicative system. Contrary to Gravel's (1979) view, which attributes the genesis of MA primarily to the large-scale migrations of nomadic Arab tribes such as the Banu Hilal, evidence suggests that its origins are more closely related to the adaptive strategies of local populations attempting to learn LA. In this process, speakers relied on structural elements of their native languages, while adopting lexical items from Arabic. The outcome was the crystallization of MA as a hybrid system, combining the lexicon of LA with the grammatical patterns of TsB/Berber (cf. Chtatou, 1997).[7]

MA is also known as the Moroccan dialect of Arabic the vernacular/colloquial form.[8] It has practically a prevalent use in everyday life. It is the most broadly spoken language in the country. More than 90% of the population uses MA in daily communications (cf. Aabi, 1999; Youssi, 1983). It is the lingua franca of all Moroccans (Zouhir, 2013; Redouane, 2016). In fact, there are many MA dialects in Morocco. However, all of them are commonly comprehensible by all speakers, regardless of geographical locations, social status or education (Albirini, 2016). Although MA is generally used in casual everyday conversations, it has frequently started to be used in media, cultural or political debates and literature.[9]

In this context, MA is the second language of TsB speakers, who typically acquire it in informal settings, particularly in communal interactions, and street-level conversations. Their acquisition of MA is driven by the necessity of daily communication rather than by formal instruction. This second-language status rendered MA especially susceptible to substrate influence from TsB/Berber (Schoofs, 2013). More generally, sustained contact between speakers of different linguistic backgrounds fosters continuous structural change, as properties of the first language

are transferred into the evolving configurations of the learned variety. This contact-induced restructuring further explains the distinctive hybrid character of MA, which reflects both the lexical imprint of Arabic and the grammatical substrate of Berber

Given that languages in close geographic and social proximity always trigger reciprocal or partial influence on one another, TsB and MA are no exception. Their coexistence within the same speech community has naturally induced fertile grounds for mutual processes for structural convergence, lexical borrowings and the diffusion of grammatical patterns across systems. This reciprocal influence has led to ongoing mutual transmissions which have shaped their linguistic structures. Over time, such dynamics have provided mutual remodeling of both varieties, reflecting the broader mechanisms of contact-induced change.

2. TsB and MA Contact Results

In multilingual contexts, speakers frequently alternate between languages, a practice that extends beyond conversational interaction to long-term structural outcomes in the recipient language.[10] Such influence is often realized through lexical borrowing, phonological adaptation, and morphological convergence. Building on this perspective, the present section investigates areas in which distinctive features of MA can be attributed to contact with TsB, thereby illustrating the role of language contact in shaping the structural configuration of MA

2. 1. TsB Vocabulary Borrowing

Chtatou (1997) has noticed that MA is greatly affected by various linguistic (tarifit) Berber features. For him this effect resulted as Berber natives transferred properties of their mother tongue into the learned Arabic form. Assuming this claim to be right, I state that the most outstanding influence of TsB on MA comes from lexical borrowings. The reason is that a large list of TsB words has incorporated into MA (cf. Chtatou,1997; Heath, 2002; Dell & Elmedlaoui, 2002). Some customary examples are provided below.

2)	TsB vocabulary in MA	Glossary
	Xizzu/xajzzu	carrots
	Timižža	woolly/apple mint
	Bzziz	unwillingly/ reluctance

Šš^{w}ʕkaka (from ašakka “hair”) Thick hair

Lm^{w}šš (from amušš) cat

All the words in (2) can be traced back to their TsB origins. *Xizzu* is an authentic TsB word, as it exists in various Berber dialects. The same holds true for *timižža* and *bzziz*, as shown by:

3) šš-i-γ kra uγrum n tmižža s-bzziz.

eat-perf.-I some bread of woolly mint with- reluctance

“I ate some woolly-mint bread reluctantly.”

The last two words are easily tracked down to TsB, as they contain the original Amazigh form in their structure.

However, some items have become integral expressions of the current asset of MA to the extent that they are overlooked as foreign words. The following entries are a case in point:

4)	TsB vocabulary in MA	Glossary
	zzakrun	The bolt
	žžanwi	The knife
	ssarut	The key
	aγg^{w}mmj	The entrance hall
	ašku[11]	Because

All the lexical items in (4) are originally from TsB.[12] Owing to the interactive junction between the two languages, these TsB words managed to become integrated in MA. Since all the nominal forms in (2) and (4) lack case-endings, they do not thus have any roots in LA.[13]

Alongside this observation, all the items in (2) and (4) are extensively found in TsB. Their presence in MA is certainly not a case of code switching procedure. Interestingly, they are not documented in any other neighboring language, except (Berber and especially) TsB. Over the

years, the words were borrowed as a by-product of contact between TsB and MA. Today, the majority of them have become fundamental parts of MA lexicon.

2. 2. The Socio-phonetic Status of /*g*/ in MA

It is a well-established principle within contact linguistics that when languages coexist in a context of sustained intercultural interaction and communicative exchange, they exert reciprocal and dynamic influences upon one another. These influences are not limited to the superficial borrowing of lexical items but may extend to phonological adaptations, morphological restructuring, syntactic convergence, and pragmatic or discourse-level shifts. The extent and directionality of such changes are often conditioned by sociolinguistic factors such as the relative prestige of the languages, patterns of bilingualism within the speech community, and the historical depth of the contact situation. Consequently, language contact operates as a promoter for structural innovation and cultural negotiation, producing outcomes that range from subtle convergence to the emergence of entirely new linguistic varieties.

One of the most subtle outcomes of language contact is phonological modification (Weinreich, 1963). Yet, even more striking than sound adaptation is the phenomenon of sound borrowing. It occurs when a segment not originally belonging to the phonological inventory of a language and yet gets incorporated into it. This process emerges from sustained interaction between linguistic communities, whereby patterns of speech diffuse across groups and become socially established as part of the recipient language.

The presence of the voiced velar stop /*g*/ in MA merits particular attention regarding its provenance. The account advanced here is that /g/ entered MA not through direct inheritance from LA, but rather through substratum influence from TsB. The reason is that the status of /*g*/ in MA presents a paradox. On the one hand, /*g*/ is absent from the phonemic inventory of LA. The LA consonantal system, traditionally consisting of twenty-eight letters, does not include the palatal-velar stop. Both pre-Islamic poetry and the Qur'an, two of the most authoritative linguistic corpora, attest to this absence. Given that the Qur'an represents the highest culmination of Arabic eloquence, its lack of /*g*/ confirms that the sound was not part of the LA system. Evidence from pre-Islamic and early Islamic Arabic poetry similarly suggests the absence of the voiced velar stop /*g*/ as a phoneme in the ancient Arabic phonological system. Classical poetic collections consistently attest to the use of /q/ and /k/, while systematic occurrences of /*g*/ are lacking. This absence indicates that /*g*/ has never been part of the

phonemic inventory of early Arabic. Its later emergence in certain modern dialects, such as MA, can be attributed to processes of internal phonological change and language contact rather than direct inheritance from LA. These canonical sources of eloquence could not have omitted a sound if it truly belonged to the Arabic phonological system.

On the other hand, /*g*/ is attested in numerous modern Arabic dialects. For instance, in Egyptian Arabic, the historical post-alveolar affricate /ž/ of LA is realized as /*g*/, as in *gami:l* "good-looking" which comes from LA *žami:l*. Moreover, a typological feature of Arabic spoken in the Gulf region[14] is the systematic realization of /q/ as /*g*/. The word *qalam* "pen(cil)" from LA is pronounced *galəm*. In Bedouin dialects, /q/ may likewise surface as [*g*], as in *ga:l* "he said". In Levantine dialects, /q/ fluctuates between [*g*] and [ʔ]. MA itself exhibits similar variation. The sound /*g*/ may alter between [q], [*g*] and [ʔ]. This changeability has sociolinguistic and pragmatic rationalization. The sound [*g*] is associated more with rural and Bedouin speech, whereas [q] and [ʔ] are manifestations of urban prestige and influential education.

This widespread, though inconsistent, distribution raises the question of whether /*g*/ is an inherited phoneme that was lost in some dialects or reintroduced through contact dynamics. Comparative Semitic evidence lends support to the subsequent view. For example, Hebrew retains /*g*/, as in /gavri:l/ "Gabriel". In LA, the form is shifted to /žibra:ʔil/, where /*g*/ is realized as /ž/. This suggests that /*g*/ was probably present in Proto-Semitic but subsequently palatalized or lost in LA. The presence of /*g*/ in MA may therefore be instigated by its contact with TsB or any other Berber languages, in this respect.[15]

Since comparative Semitic linguistics accounts do not explain the systematic presence of /*g*/ in MA, due to its absence in LA, it is viable to trace it back to other sources. The most plausible explanation lies in substratum influence from Berber, particularly TsB. The consonant /*g*/ is obviously integral to the phonological inventory of TsB and occurs in numerous lexical items,[16] as in:

5) a. gr b. g^{w}ma c. agajju d. tigmmi e. amarg f. asarag

'between' 'brother' 'head' 'house' 'love' 'stable or barn'[17]

The regularity with which /*g*/ occurs in TsB strongly suggests that this sound constitutes the primary historical and phonological source for its systematic presence in MA. In other words, the

consistent distribution of /*g*/ across lexical items in TsB, whether in native vocabulary or in morphologically derived or borrowed forms, indicates that this phoneme is not an incidental or recent innovation within TsB, but rather a stable and genuinely rooted feature of its phonological system. Given the prolonged contact and bilingualism between Berber-speaking and Arabic-speaking communities in Morocco, especially in regions where TsB is dominant, it is reasonable to posit that the transfer of /*g*/ from TsB into MA occurred through processes of substratum influence and phonological borrowing. This view is actually reinforced by the fact that LA lacks /*g*/ as a distinct phoneme, while it is systematically found in MA, mainly in areas with a strong Berber substrate.[18] Consequently, the persistent regular occurrence of /*g*/ in TsB serves as convincing evidence that its phonology has played a decisive role in shaping the phonetic and phonological profile of MA. Consequently, the sound has become fully integrated into the phonological structure of MA, functioning as a stable and productive element within its phonological system. Consider:

6) a. fi-jja lgṃaḷ b. lgalb djal-i bγ-a j-ttartaq

in-me the-lice the-heart mine want-it it-explode

“I have lice.” “I feel very sad.”

Additional confirmation comes from systematic correspondences between LA, TsB, and MA. In numerous instances, LA /q/ and /ž/ correspond to TsB /*g*/, which is in turn mirrored in MA:

7) a. ʔal-qanṭaṛatu (LA) → lgntṛt (TsB) → l-gnṭṛa (MA)

‘The bridge’ ‘The bridge’ ‘The bridge’

b. ʔal-žazzaru (LA) → agzzar (TsB) → l-gzzar (MA)

‘The butcher’ ‘The butcher’ ‘The butcher’

These phonological correspondences indicate that MA did not inherit the voiced velar stop /*g*/ from LA, but acquired it through contact with TsB. The substitution, as exemplified in (7), appears to be both systematic and socially widespread. These observations strongly suggest a process of contact-induced borrowing rather than an instance of isolated or spontaneous innovation.

The occurrence of /*g*/ in MA is accordingly a clear case of phonological transfer resulting from language contact. Although certain Arabic dialects retain /*g*/ as a reflex inherited from Proto-Semitic phonology, the situation in MA stands apart. The absence of /*g*/ in the Qur'an and pre-Islamic poetry corpus indicates that this sound was not part of Classical or Old LA. In contrast, its consistent presence in TsB suggests that Berber has served as the primary source of influence. Consequently, MA represents a contact-induced expansion of its phonemic system, where substratal interference from Berber introduced a sound absent in LA but deeply embedded in the local linguistic and sociocultural environment.

2. 3. MORPHO-PHONOLOGY

Another recognizable effect of TsB upon MA concerns vowel reduction.[19] It is observable that MA words originating from LA undergo a process of lessening or removing vowel segments (cf. Chtatou 1997; Dell and Elmedlaoui 2002; Lahrouchi 2018b). Consider the following expressions:

8) a. žalas-tu taħta š-šažaṛati LA

sit-I underneath the-tree

"I sat down underneath a tree."

b. gləs-t / žləs-t təħt š-šəžṛa MA

sit-I / sit-I underneath the-tree

"I sat down underneath a tree."

In (8a), all the lexical items contain full vowels, as part of the language specification. In (8b), the majority of the vocalic elements are either lost or reduced to a schwa. This reduction is understood to result from the influence of TsB on MA. A solid argument that supports such a claim comes from TsB words that originally come from LA. Consider (9):

9) a. ʔištarajtu ʔal-kitaaba. LA

bought-I the-book

"I bought the book."

b. sɣi-ɣ l-ktab TsB

bought-I the-book

“I bought the book.”

c. šri-t l-ktab MA

bought-I the-book

“I bought the book.”

The word *ʔal-kitaaba* “the book” undergoes vowel loss in (9b-c). The word is an LA item, as is clear from (9a). It managed to be integrated both in MA and TsB, due certainly to the contact between the languages. The interesting thing is that *l-ktab* in (9c) did not come directly from LA into MA. The form is truly inherited from TsB. One argument in favor of this claim comes from the observation that TsB word structure tends to particularly allow words of numerous consonantal sets (cf. Dell & Elmedlaoui, 1985; Ridouane, 2002). The set arrangements may extend from two to six elements, as in:

10) a. gr b. mg^{w}r c. brrm d. sgngr e. ffrttl

to pick up to harvest to rotate to shake to escape

The existence of forms like (10) in TsB indicates that *l-ktab* in (9b) has undergone a process of vowel loss, although it has kept its consonantal skeleton. Moreover, LA words that are directly adopted by MA tend to essentially keep their original consonantal and vocalic form. This view is supported by:

11) a. šri-t *sajjara* ʔuxra b. ɣa(di) n-ʕajjaṭ *l-lʔisʕaf*

bought-I a-car another will I-call to-the-emergencies

“I bought another car.” “I will call the emergencies.”

c. ʕad kun-t f *lmaħṭṭa*

jus was-I in the-bus-station

"I have just come from the station."

The italicized items in (11) demonstrate that MA words that are directly borrowed from LA tend to keep their original form. However, when the borrowing occurs through the interference of TsB, the words acquire TsB properties of vowel reductions when inserted in MA, as is clear from (9c).

A related phenomenon, that demonstrates clear effect of TsB on MA, concerns consonantal harmony. Zellou (2010) has noticed that MA displays a striking phonological process that involves a non-contiguous regressive consonantal assimilation.

12) zuž ----- žuž "two"

sfənž ----- šfənž "doughnut"

zəlliž ----- žəlliž "tiles" (From Zellou (2010), example 1)

She argues that the arousal of this fact in MA correlates to the existence of a similar process in other Berber varieties, especially TsB. In TsB, it is common to construct a causative form by the prefixation of the causative morpheme *ss*-. Hence, *ddu* "to go" becomes *ss-udu* "make go / ride". However, presence of /z/, /ž/ and /š/ assimilates the causative morpheme to become identical to either of these consonants (/z/, /ž/ or /š/), as in:

13) ss-rzig ------- zz-rzig "Make miserable / muddy"

ss-gg^{w}z ------zz-ugz "Make descend"

ss-nžm -------žž-nžm "Cause to save"

ss-ašk-d ----- šš-ašk-d "Cause to hit the target."

These examples point to the occurrence of the same consonantal harmony process in (12). Yet this procedure is not recorded to occur in LA. I hence assume, following Zellou (2010), that these harmonization operations are transmitted to MA through its exposure to TsB.

Moreover, the process of nominalization in MA shows significant influence from Berber. Ech-Charfi (2018) highlights the presence of the prefix *m*- in MA agentive formations as a key indicator of Berber (Amazigh) substratum influence. This prefix, which attaches to both verbal

and nominal bases (e.g., *m-žrab* "leprous person", *m-ħsad* "envious person"), does not originate from LA morphology but closely imitates the Berber strategy of deriving agentive nouns through a similar prefix (*am-*, *im-*, etc.). Ech-Charfi argues that this morphological transfer echoes an early stage of bilingual interference.[20] He claims that when Berber speakers were shifting to Arabic, they reproduced their native agentive pattern within Arabic lexical structures. Over time, this *m-* prefix became integrated into the MA system. It has survived as a fossilized trace of Berber influence on MA derivational morphology.

An analogous instance that demonstrates TsB influence over MA manifests in the use of the feminine suffix *-t* and the prefix *ta-* to derive abstract nouns from agentive or profession-related bases. As shown in Chtatou (1997) and Lahrouchi (2018b), this morphological pattern is not originally MA or emanated from LA, but rather reflects a borrowing and adaptation from TsB/Berber nominalization strategies. It characterizes a well-established TsB nominalization strategy. In TsB, this circumfixal structure [*ta-...-t*] is commonly used to form deverbal and abstract nouns. The combination pattern of the prefix *ta-* with the suffix *-t* has been productively integrated into MA.

This influence is illustrated in a number of MA examples. From agentive nouns denoting professions or roles like *bənnaj* "mason" and *bəqqal* "grocer," MA derives the corresponding abstract nouns *ta-bənnaj-t* "masonry" and *ta-bəqqal-t* "grocery." The same mechanism applies to nouns with negative or evaluative meanings. For instance, *bərgag* "spy" gives *ta-bərgagi(j)-t* "spying," *kddab* "liar" gives *ta-kddabi(j)-t* "deceiving," and *šffar* "thief" gives *ta-šffar-t* "theft." In all of these cases, the ta-...-t frame provides a means of nominalizing agentive or descriptive nouns, yielding abstract concepts or processes. These derived forms extend the nominal system beyond what is typically expected in Arabic morphology, where abstract nouns are often formed through broken plurals or specific templates (*mafʕal*, *fiʕa:l*, etc.).

However, instead of replacing these, the Berber pattern has been integrated alongside them, producing a hybrid system. This structural borrowing expands the expressive capacity of Moroccan Arabic by allowing a productive and transparent means of nominalization that speakers employ in both colloquial and rural varieties. This hybrid system demonstrates a strong case of contact-induced change. While Arabic provides the lexical bases (*bənnaj*, *šffar*), the Berber model of prefix-suffix nominalization supplies the morphological frame. Over time, this

Berber pattern has become productive in MA, indicating that speakers perceive it as a natural and efficient way of expanding the nominal domain.

More broadly, this phenomenon illustrates how MA is not a mere "degenerate" form of LA, but rather a dynamic contact language shaped by centuries of coexistence with Berber. The nominalization strategy using [*ta*-...-*t*] reflects the permeability of MA morphology and highlights how structural borrowing can reshape word-formation processes. The result is a system where Arabic roots combine with Berber morphological patterns to create a hybrid derivational mechanism unique to MA.

It is accordingly apparent that TsB managed to pass on some of its features to MA. The modifications induced in the vocalic structure as well as consonantal harmony that are displayed in MA are all traced back to originate from TsB, as a result of contact between the two languages. This hypothesis is indeed confirmed in literature (Chtatou,1997; Dell & Elmedlaoui, 2002; Zellou, 2010 among others). However, there seems to be a gap in the literature with regards to aspects of syntactic substratal influence of TsB on MA (Karim Bensoukas, personal communication, March, 2018)). The next section intends to reconcile this shortage and show some syntactic processes that demonstrate the effect of TsB on MA.

2. 4. Syntactic Influence of TsB on MA

The syntactic structure of MA truly bears traces of extensive TsB effect due to the intimate contact of the two forms. The impact is especially intense in urban areas where bilingualism has been stable for centuries. The influence has shaped core aspects of MA syntax, particularly patterns of word order, agreement, and the distribution of items. This contact has led to subtle but systematic reconfigurations within the nominal and clausal domains, most notably in agreement asymmetries. Such phenomena suggest that MA's syntactic architecture has been partially realigned through a process of structural convergence, where Berber-based strategies for feature realization and constituent placement have become integrated into the MA grammar. The result is a hybrid system in which inherited Semitic configurations coexist with, and are sometimes reinterpreted through, Berber syntactic logic.

2. 4. 1. Loss of Case Morphemes in MA

One of the most salient typological features that distinguish MA from LA is the absence of overt case morphology. In LA, case morphology plays a central role in disambiguating grammatical

relations.[21] While LA maintains a system of case endings on nominal, MA shows a complete loss of such inflectional markers. Thus, the LA form *ʔal-qalam-u* "the pen (nom.)" or *bi-l-qalam-i* "with the pen (gen.)" simply correspond to *lqalam* and *b-lqalam*, in MA, with no overt case morphemes signaling syntactic function. As the forms suggest, case endings are entirely absent in MA. The same noun *lqalam* appears in all syntactic contexts, with no morphological marking of case.

This reduction aligns MA more closely with Berber languages such as TsB, where nouns similarly lack case endings.[22] For example, in TsB sentences such as *syi-γ lqalam* "I bought a pen" and *ara-γ s-lqalam* "I wrote with a pen," the noun *lqalam* appears in the same form regardless of its syntactic role, whether as direct object or as complement of a preposition. The absence of morphological case marking in both MA and TsB indicates a shared typological trait that sets them apart from the highly inflectional system of LA. This complete loss of case morphology means that MA, due to the influence of TsB, relies instead on word order, and clausal structure to establish grammatical relations. For instance, the preposition *b-* unambiguously marks an instrumental role, while word order determines argument structure in contexts.

This structural similarity suggests that the loss of case morphemes in MA cannot be explained simply as internal simplification within the language, but rather as a feature reinforced through long-standing contact with Berber, especially TsB. In MA, syntactic relations are largely disambiguated through word order and the use of prepositions, paralleling the strategies employed in TsB. By contrast, LA relies on case endings to mark grammatical relations overtly. The convergence of MA and TsB in this respect highlights the typological distance of MA from LA, and underscores the role of contact-induced change. In both MA and TsB, syntactic strategies replace inflectional case marking. The erosion of case morphology illustrates how MA has evolved into a system that is morphologically simpler than LA but more compatible with the structural patterns of Berber languages, with which it has coexisted for centuries.[23]

2. 5. Further Syntactic Contact Results

This section introduces additional empirical syntactic evidence that supports the claim put forward in this article, namely the existence of traces of TsB influence on MA. I mainly address issues of clausal word order and negative concord. The choice of the topics is of great importance. The addressed subjects provide syntactic keynotes on the dimensions of language

contact inducing change. Similarly, although the topics of concern have engendered dynamic debates in the literature, they have been ignored in comparative analyses that deal with aspects of contact language matters.

2. 5. 1. WORD ORDER

Word order classifications and typology mainly address the arrangement of syntactic constituents in clause structures. Different languages make use of various configuration patterns. For example, English and French are restrictively Subject-Verb-Object (SVO) languages. Alternatively, TsB, MA and LA are extremely flexible with regards to this phenomenon. The SVO and VSO paradigms are remarkably allowed in an alternate fashion. In fact, the alternation is highly more flexible than the SVO-VSO distinctions. Other orders are attested in the three languages.[24] This freedom is certainly related to rhetoric styles and pragmatics. Such artistic abilities to use language techniques are very effective in ambiguity reduction and persuasive speech making according to the specific intentions of speakers.

2. 5. 1. 1. WORD ORDER IN TSB

Word order in TsB is intuitively very spontaneous. Careful scanning through TsB data reveals that SVO-VSO variation is very common. Given this instinctive alternation, the perception of (14) seems to be a subtle variance of style.

14) a. šša-n irgazn imkli
eat-perf.-they the-men lunch
"The men ate lunch."

b. irgazn šša-n imkli
the-men eat-perf.-they lunch
"The men ate lunch."

The two sentences show two interesting properties. First, the agreement between the subject and the verb are satisfied in both cases regardless of the structural order of constituents. Second, they express more or less the same thought, as is indicated in their English interpretations. Given these facts, Ouhalla (1988) suggests that SVO-VSO distinctions can be explained in terms of topicalization in case of SVO order and basic or unmarked verb initial (VSO) construction.[25] He, accordingly, argues that SVO is derived as a result of generating subjects in the CP-peripheral position and coindexing them with null elements in subject positions. Yet language facts cast serious doubts on the soundness of this claim. First of all, it is legitimate to question the validity

of the existence of two subjects (a full NP and a *pro*) in a sentence. It is against Extended Projection Principle (EPP), which requires that a sentence must have a subject, not two.[26] Another problem relates to the assumed antecedent relation between a full NP-subject and an NP without a phonological content. Normally, it is the overt form that needs to play the role of the antecedent and give reason of being to the empty category. Extending this analysis to account for further languages, in particular LA, Ouhalla (1991) slightly modifies this view. He claims that Berber and Arabic are basically VSO languages. Hence, SVO is derived by means of subject left-dislocation, in terms of tense (T)- agreement (Agr) orderings. When tense merges with agreement, VSO occurs. When agreement merges with tense, SVO order takes place.

Abiding by this insightful view, and on the basis of linear ordering, I assume, following Kayne (1994), that the basic word order in TsB should be SVO.[27] This claim is, in fact, compatible with the VP-Internal Subject Hypothesis, which is based on properties of argument licensing.[28] VSO is thus derived through V-movement to tense. SVO results by fronting the subject to a focal site within TP.

Given this account, and for expository reasons,[29] the sentences in (14) are derived on the basis of cyclic merge operations, as in:

15) $[_{CP}\ C\ [_{TP}\ [_{FocP}\ Foc\ [_{TP}\ T\ [_{VcP}\ DPs_{<\varphi\text{-F, Nom.}>}\ Vc\ [_{AspP}\ DPo_{<\varphi\text{-F,Acc.}>}\ Asp\ [_{VP}\ V_{<\text{Agr-F, Asp. T.}>}]]]]]]$

In both sentences, VP first merges with the Aspect Phrase (AspP). V rises to Asp for checking its aspectual features and the accusative case. When *AspP* merges with Voice Phrase (VcP),[30] *V* subsequently adjoins to *Vc* to check its voice and its uninterpretable φ-features against the interpretable features of the subject. Agreement between the two gets matched at this position. Ultimately, since *T* bears temporal features, it attracts *V* to adjoin to it so as to value its temporal features. The resulting word order is VSO (cf. Boukhris, 1998).

The same operations function in (14b). The difference between the two sentences is that (14b) involves DPs adjunction to TP. I suggest this adjunction operates on the basis of the fact that the subject has a [*u*-Foc] feature and the adjoined *Foc* has uninterpretable φ-features. These features impose a movement operation of the subject. This idea can be demonstrated by:

16) a. i-nna ħmad blli irgazn šša-n imkli

He-say-perf. Hmad that the-men eat-perf.-they lunch

"Hmad said that the men had eaten lunch."

b. i-γal ħmad izz irgazn is ššа-n imkli

He-think-perf. Hmad that the-men whether (Foc) eat-perf.-they lunch

"Hmad thought that the men had eaten lunch."

c. i-ra ħmad irgazn ad šš-n imkli

he-want-perf. Hmad the-men to eat-they lunch

"Hmad wants the men to eat lunch."

These sentences are very interesting. The occurrence of *irgazn* after the complementizer (C) *blli* in (16a) supports the movement analysis in focus structures. The subject cannot be within C. First, C is already filled with *blli*. Second, nothing can intervene between C and TP. It cannot either be in Spec TP, as it is the locus of Negation (cf. Makhad, 2012). This view is reinforced by the appearance of *irgazn* between C and the focus category *is* in (16b). So, the subject is within the *FocP*.

The sentence in (16c) is more fascinating here. The presence of category *ad* makes the analysis very appealing. The status of this *ad* element is vague in TsB. I consider it to be a modal category (cf. Omari, 2012; Makhad, 2004). Its job is to select (and merge with) the least marked verbal form, i.e. a verb without temporal or aspectual inflections. It is equivalent to the infinitive *to* in English. Its presence in (16c) between the focalized subject and the verb indicates that it has moved to *T*. This movement implies that the subject is within *TP* below *CP*. This implication can be made evident by:

17) izz irgazn is ad zwar šš-n imkli

Is-it-that the-men whether (Foc) to first eat-they lunch

"Are the men supposed to first eat lunch?"

The occurrence of *irgazn* between the interrogative element *izz* and the focus form *is* in (17) suggests that the subject has moved into *FocP*. The presence of *ad* adjacent to *is* implies

movement of the former to tense. Since the verb, *šš-n*, is posterior to the adverb, *zwar*, it has not moved into T. If it were in tense, the order would be: *šša-n zwar*.

TsB exhibits a remarkably flexible word order, particularly with respect to the relative positioning of the verb and its arguments. Both SVO and VSO configurations are attested and syntactically well-formed, reflecting the language's allowance for pragmatic and discourse-related variation rather than strict syntactic constraints. Regardless of surface order, however, the verb consistently agrees with the subject in all relevant inflectional categories, including person, number, and gender. This full agreement morphology ensures that grammatical relations are transparently encoded on the verb itself, thereby permitting a high degree of positional freedom for nominal constituents without causing ambiguity in interpretation.

2. 5. 1. 2. WORD ORDER IN MA

Clausal word order in MA resembles that of TsB enormously. Like in TsB, SVO-VSO variation is very frequent.

18) a.	kla-w	r-ržal	lγda	b.	r-ržal	kla-w	lγda
	eat-perf.-they	the-men	lunch		the-men	eat-perf.-they	lunch
	"The men ate lunch."				"The men ate lunch."		

The two examples in (18) convey essentially the same meaning. The key question, therefore, is whether the two structures are syntactically related. I suggest that their complete subject–verb agreement, combined with their semantic equivalence, indicates that they are derivationally connected. Their variation can thus be derived using the same principles as with TsB. On a conceptual level, *VP* first merges with *AspP* in both sentences. Feature matching operates exactly the same way as with TsB examples in (14). When the verb moves to *T,* and the DP_s remains in spec-*VcP*, the VSO order results. The presence of [*u*-Foc] feature on DP_s forces the latter to raise and adjoin to TP. The resulting order, in this case, is SVO.

This analysis is empirically confirmed by the following sentences.

19) a.	gl-t	blli	r-ržal kla-w	b.	gl-t blli kla-w r-ržal
	say-I	that	the-men ate-they		say-I that the-men ate-they

"I thought that the men had eaten." "I thought that the men had eaten."

c. bγi-t baš r-ržal jkun-u kla-w d. bγi-t baš jkun-u r-ržal kla-w

want-I that the-men be-they ate-they want-I that be-they the-men ate-they

"I want the men to have eaten." "I want the men to have eaten."

The occurrence of the subject, *r-ržal*, between *blli* and the verb in (19a) indicates that the subject is located in a position between the verb in tense and C. This view is confirmed by (19c). The presence of the auxiliary verb *jkunu* between the verb and the focused subject indicates its movement to tense. When the subject is postverbal, as in (19b), the verb has moved to tense while the subject has remained in *VcP*. This analysis is validated by the sentence in (19d). In this instance, the auxiliary verb has risen to tense, whereas the subject and the main verb stayed in *VcP*.

MA word order, whether it follows a SVO or VSO pattern, consistently adheres to the principles of agreement between the subject and the verb. This reflects the language's strong sensitivity to φ-feature concord, as both configurations display full agreement in person, number, and gender. In other words, regardless of the surface arrangement of constituents, MA grammar ensures that the verb and the subject remain morphosyntactically aligned, maintaining structural and interpretive coherence within the clause.

2. 5. 1. 3. WORD ORDER IN LA

Word order in LA has been the focus of study for many years (Ouhalla, 1991; Fassi Fehri, 1993; Benmamoun, 2000, among other). It has been noticed that different word orders result in distinct agreement patterns between the subject and the verb.

20) a. žaaʔ-a r-rižalu b. * r-rižalu žaaʔ-a

Came-3p.m_s.sg. the-men.pl. the-men.pl. came-3p.m_s.sg.

"The men came." "The men came."

c. r-rižalu žaaʔ-u: d. * žaaʔ-u: r-rižalu

The-men came-3p.m_s.pl. came-3p.m_s.pl. the-men.pl.

"The men came." "The men came."

As is already established in literature, agreement morphology is highly dependent on the position of the subject. When it is postverbal, it only agrees with the verb in person and gender, as in (20a). In contrast, when it is preverbal the verb carries complete φ-feature agreement, as in (20c).

This agreement asymmetry has engendered various analyses in literature. Benmamoun (2000) has provided a satisfactory account of the phenomenon. He proposes that LA agreement paradigm results from the interplay between morphology and syntax. For him, absence of number agreement in VSO results so as to avoid redundancy. This proposal is consistent with economy of derivations. The idea is that number feature is spelled-out by the presence of the lexical subject in the postverbal position. In SVO, number is realized by merging the subject to the verb. In this case, the number affix is spelled-out on the verb. Assuming this account and the structure in (15), VSO order results from verb movement to tense. Since the latter carries unvalued φ-features it probes for DP_s and the unvalued and uninterpretable features get valued and subsequently deleted. Likewise, when DP_s bears [*u*-Foc], it subsequently raises to *FocP*.

Nevertheless, LA displays a striking property in SVO order that seems to challenge many of the assumptions widely held in syntactic explorations.

21) a. ʔaðunnu ʔanna r-rižal-a žaaʔ-u: b. ʔuri:du r-rižal-a ʔan jaʔt-u:

I-think that the-men-acc. come-3p.m_s.pl. I-want the-men-acc. that come-3p.m_s.pl.
"I think that the men came." "I want the men to come."

Comparison of the sentences in (21) shows that the subject of the embedded clause, *rrižala*, appears in two distinct positions. In (21a), it is posterior to C, *ʔanna*. In (21b), it is placed before *C*. This observation suggests that LA has indeed two distinct focal positions. Thus *rrižala* in (21) occupies different syntactic positions. The two positions are *FocP* and *Topic Phrase* (*TopP*). In this respect, the subject in (21a) is in focus while it is topicalized in (21b).

LA word order is very restrictive with regards to agreement features. In SVO order, the subject and the verb show full agreement features. In this case, the subject may be found in focus within TP or in *TopP* outside TP. In VSO order, the verb only displays person and gender features and remains within *VcP*.

2. 5. 2. WORD ORDER INTERPRETATION

The examination of clause structure across TsB, MA, and LA reveals several significant implications. The following discussion highlights these findings in order to underscore the strong structural affinity between TsB and MA. To start with, both TsB and MA notably lack overt case endings on nominal elements, a feature that distinguishes them from LA, where case marking on verbal arguments is obligatorily expressed. From a morpho-syntactic standpoint, case information plays a crucial role in determining the distribution and syntactic behavior of nominals, making its absence in TsB and MA an important point of convergence between the two systems.

22) a. r-ražul-u b. r-ražul-a c. r-ražul-i LA

The-man-nominative the-man-accusative the man-dative

23) a. argaz b. urgaz TsB

The-man (free state) the-man (construct state)

24) a. r-ražl MA

The-man

In LA, case features closely mirror syntactic functions. The nominative case typically marks the subject of the clause, the accusative identifies the direct object of the verb, and the dative is used to indicate the object of a preposition. In TsB, free state[31] is consistent with object of a verb, while construct state corresponds to the other positions. In MA, one form matches up with all syntactic positions. This typology suggests that MA appears to be distant from LA. The former has only one nominal shape that is compatible with all syntactic positions. The latter has three distinct structures. Finally, TsB has simply two separate marks.

Another distinction that brings TsB and MA together is that the two languages show full agreement between the verb and its subject regardless of word order differences. The situation is completely unattested in LA, where VSO engenders one type of agreement and SVO another. Full agreement is only realized in SVO construction. VSO displays absence of number agreement. This agreement dissimilarity may be understood as a consequence of the morpho-syntactic influence of TsB upon MA. This view is legitimate since the distinction between MA

and LA is established to be factual. The two languages mark out two distinct systems. The logical question is thus whether or not TsB has had any influence on MA word order. The immediate answer is certainly affirmative, as both languages have very much in common.

Accordingly, if MA word order is inherited from TsB, it is expected to find the same word order patterns in the other varieties of Berber. This expectation is confirmed by Tamazight[32] and Tarifit.

25) a. ttššan warrawn aγrum
eat-they the-children bread
"The children have eaten bread."

b. arrawn ttššan aγrum TmB
the-children eat-they bread
"The children have eaten bread."

c. ššnn lʕjal aγrum
eat-they the-children bread
"The children have eaten bread."

d. lʕjal ššnn aγrum TrB
the-children eat-they bread
"The children have eaten bread."

Both varieties in (25) equally display full agreement in SVO and VSO. This is exactly the same situation in TsB. So, TsB, TmB and TrB share the same word order patterns and word order alternations do not affect their agreement relations. This characteristic sharing indicates that, indeed, TsB has managed to influence the distribution of MA sentential elements.

If this claim is correct, MA word order attributes should not exist in any current distant dialects associated with LA; especially those that are not connected to TsB, TmB or TrB. This idea is validated by the following examples.

26) a. ʔikəlti ilʔəwlad
eat-sg. The-boys
"The boys ate."

b. ilʔəwlad ʔikəlu (Syrian Arabic)
The-boys eat-they.
"The boys ate."

c. ʔikilt il-banat
eat-sg. the-girls
"The girls ate."

d. ʔəl-banat ʔikilt (Egyptian Arabic)
the-girls eat-they.
"The girls ate."

e.	nam(i) əl-ʕijjal	f.	əl-ʕijjal nam-u	(Gulf Arabic)
	sleep-sg. The-children		The-children sleep-they.	
	"The children are asleep."		"The children are asleep."	

Hence, on the basis of the examples in (26), MA is different from other Arabic dialects. While MA behaves like TsB, the data in (26) show that Egyptian, Syrian, and Gulf Arabic follow the same fundamental agreement principles as LA. In all these varieties, the degree of subject–verb agreement depends on the relative position of the subject. This parallel behavior indicates that, despite surface-level dialectal differences, the underlying morpho-syntactic architecture of agreement in Egyptian, Syrian, and Gulf Arabic remains fundamentally aligned with that of LA. These observations suggest that MA word order has been inherited from the sentential arrangements of TsB rather than LA.[33]

Another observable property that confirms the influence of TsB upon MA comes from the behavior of subjects in SVO orders. As has been alluded to above, TsB and MA subjects move simply from *VcP* onto *FocP* in SVO constructions. I have similarly shown that in case of LA, external arguments can move to two distinct positions: *FocP* or *TopP*. So there is a discrepancy between the comportment of focalized subject in the two sets of languages: TsB and MA on the one hand and LA on the other. This remark implies that sentential derivations operate differently in the two language groups. TsB and MA subjecthood derivations are purely syntactic. Subjects delineate full agreements in both orders. There is only need for combinatorial syntactic operations to complete derivations. In LA, both the subject and agreement features are utilized for predetermining valence positions. It utilizes morpho-syntactic processes to represent syntactic features through morphological indications: complete and partial agreement.

Based on these observations, the clausal word order properties of MA appear to be influenced more by TsB than by LA. Like TsB, MA does not exhibit an agreement asymmetry between SVO and VSO configurations. In both languages, subject–verb agreement operates uniformly, with the verb consistently agreeing with the subject in φ-features regardless of constituent order.

2. 5. 2. Negation and Agreement

Negation has occupied a central position in syntactic analysis ever since the publication of the seminal work of Pollock (1989). All natural languages use some form of negative markers to

express sentential negation. However, languages differ with regards to the syntactic behavior of negation. The following section addresses this issue on the basis of comparing negative comportments in TsB, MA and LA. As a matter of fact, the analysis supports the well-established claim that Berber languages in general, and TsB in particular, have played a significant role in shaping the syntactic behavior of sentential negation in MA. In fact, negative concord between verbs and negative particles provides an area where TsB has exercised a strong impact upon MA. Consider:

27) a.	ur i-dd-i / *-a	b.	ma mša-*(š)[34]
	not he-go-neg.-perf.		not go.perf.-neg.
	“He did not go.”		“He did not go.”

To express negation in TsB and MA, the languages resort to negative particles *ur* and *ma-š*[35] respectively. The two examples in (27) indicate that the verbal forms carry morphological negative features. They are correspondingly expressed by the final elements *-i* and *-š*. The obligatory presence of these categories indicates enforced agreement between the verb and negation in both languages. In view of that, TsB and MA require establishing a negative accord between the head Neg. and the verb, especially in adjacent constructions. Actually, the absence of such agreements leads to ungrammaticality. This is shown by the unacceptability of (27a) when the verb ends in the affirmative perfective form *-a,* or the absence of the *-š* part of negation in (27b).

The situation is different with LA data. The language does not delineate any compulsory negative agreement between the verb and negation, as is indicated in (28).

28) a.	ma ðahab(a) r-ražulu	b.	lam jaðhab(i) r-ražulu
	not go.perf. the-man		not go.imperf. the-man
	“The man did not go.”		“The man did not go.”
c.	laa jaðhab(u) r-ražulu	d.	lan jaðhab(a) r-ražulu
	not go.imperf. the-man		not go.perf. the-man
	“The man does not go.”		“The man will not go.”

The facts in (28) show that there is a clear absence of agreement between the negative particle and the verb. The negation markers (*ma*, *lam*, *laa*, and *lan*) do not display any morphological agreement features; instead, they remain invariable elements that merely indicate the polarity of the clause. The negative particles exclusively function as a separate operator that scopes over the verb phrase. This lack of concord between negation and the verb reflects the general Arabic pattern, where negation is a functional element external to verbal agreement morphology rather than part of the inflectional system. This Lack of agreement between verbs and available negators in LA, as exemplified in (28), suggests that LA negative constructions have nothing in common with MA and TsB negations.

The existing dichotomy between (27) and (28) has a logical explanation. This relates to the interaction between tense and negation in the three languages, as suggested in Chomsky (1991). I assume following Makhad (2012) that Negation is TsB merges with Mood Phrase (MoP)[36] as in:

29) $[_{TP}\ T\ [_{MoP}\ ^{NegP}\ Mo\ldots\ [_{VP}\ V]]]$

A number of merger processes result in the derivation in (29), with unnecessary details omitted. The standard account in this configuration is that *V* head-adjoins to *Mo* with unvalued negative features. In this pattern, the negative *ur* in *NegP* probes for the active negative mark on the verb. An agree[37] relation is established by valuing the matching Neg. features on the verb, thus deriving (27a).

In addition, it is imperative to flesh out the structure of *NegP* in the configuration in (29). I propose that in TsB and MA, *NegP* merges with *MoP*, where *Neg* is headed by *-š* in MA and a phonologically null (Ø) head in TsB, as in:

30) a. $[_{NegP}$ ur Neg (Ø)] TsB

b. $[_{NegP}$ ma Neg (-š)] MA

Given the structures in (30), the derivation of sentences like (27) proceeds as follows. First head movement raises the verbs to *Mo*. Likewise, the negative markers, *ur* and *ma* left-adjoin to *TP* deriving a structure like (31):

31) a. $[_{TP}$ ur T $[_{NegP}$ ~~ur~~ Neg (Ø)] TsB

b. $[_{TP}$ ma T $[_{NegP}$ ~~ma~~ Neg (-š)] MA

This adjunction is syntactically motivated by considerations of negative focus and scope. The negation markers *ur* and *ma* are required to move to, or adjoin within, the TP domain in order to secure sentential scope, that is, to take precedence over all other constituents within the clause. This movement ensures that the negators properly c-command the predicate and its arguments, yielding a clausal interpretation of negation rather than a narrow or constituent-level reading. In this configuration, the raising of the negators to TP is not merely a structural requirement but also a semantic necessity, guaranteeing that negation applies to the entire proposition rather than to a single constituent.

In addition, the presence of the Neg head blocks V-to-T movement in TsB. This interpretation is supported by the positioning of adverbs and clitics in the examples in (27) above, which clearly intervene between the verb and the T head. Consider the following data:

32) a. ur jadlli i-dd-i

not previously he-go-neg.-perf.

He did not previously go.

b. ma mša-š baqi

not go.perf.-neg. previously

He did not previously go.

c. ur-s-rs jadlli i-dd-i

not-to-it previously he-go-neg.-perf.

He did not previously go to it.

d. ma mša-li-ha-š baqi

not go.perf.-to-it-neg. any more

He did not previously go to it.

The presence of the adverb *jadlli* before the verb in (32a) suggests absence of V-raising to T, in TsB. However since T is the locus of the temporal properties of the clause,[38] it probes for the valued temporal features on V that has adjoined to *Mo*. This way AGREE is established in (32a) and the unnecessary valued features get deleted. Alternatively, in MA example in (32b), the verb with its *Neg*. morpheme is positioned previous to the adverb *baqi*. This suggests that V has moved up to T and feature checking/valuation operates accordingly. These observations reinforce that V-to-T is blocked in (32a) while it is allowed in (32b).

Further evidence supporting such a claim comes from (32c-d). It is argued in Makhad (2012, 2017) that clitics in TsB, as well as in MA and LA, are merged directly in T^{o} as part of the inflectional morphology of the clause, rather than being raised there from a lower position (cf. Benmamoun, 2000). Assuming this claim to be accurate, cliticization to *Neg*. is empirically a PF

fact. In (32c), *V* first moves to *Mo* for feature matching. Presence of *Neg*. prevents *V*-to-*T* movement. Clitics, "*s-rs*" merge in *T* and *ur* raises and adjoins to TP. In this configuration, the amalgam "*s-rs*" incorporates to *ur* at PF. Such merging takes place at the PF because at the syntax–phonology interface, hierarchical syntactic structures are spelled out as linear phonological strings, with syntactic hierarchy yielding to the requirements of the phonological component, which interprets only linear and prosodic information. One argument supporting this analysis comes from presence of tense particles like *rad* "will". The following example serves to illustrate this point:

33) ur rad-s-rs sul i-ddu

Not will-to-it still he-go

He will no longer go to it.

It is reasonable to assume that the derivational processes applying in (32c) also operate in (33). The only point of divergence lies in the presence of the modal element *rad* in T⁰. By occupying T⁰, *rad* serves as the legitimate host for clitic attachment once these elements merge within the T-domain.

As far as the MA example in (32d) is concerned. Its derivation proceeds as follows. When *NegP* merges with *MoP*, below TP, the negator *ma* raises to adjoin to TP. This process paves the way for the verb to move to T. the latter hosts the clitic form *li-ha*. This configuration generates *mša-li-ha*. The stranded negative morpheme remains in NegP until the derivation reaches the PF interface. Like the situation with TsB, PF converts the received syntactic elements to phonological realizations. At this interface, syntactic objects are linearized and converted into phonological strings, a process that disregards the internal hierarchical organization of syntax and conforms instead to phonological principles of linear order. For this reason, "*-š*" ends up attached to the rightmost side of the string "*mša-li-ha*" deriving "*ma mša-li-ha-š*."

Given these considerations, it is clear that several structural features of TsB syntax have been transferred to or replicated within the syntactic architecture of MA, thereby shaping the internal organization of MA clauses. The validity of this claim is corroborated by the structural patterns exhibited by the LA clauses in (28). The fact is that, in LA, *negP* merges with TP in syntax deriving a configuration like:

34) [$_{NegP}$ Neg (laa / lam / lan / ma…etc) TP T … [$_{VP}$ V]] LA

Thus, following the merger of the Neg head, the verb undergoes successive cyclic movement to Tº, yielding the surface structure of LA clauses. In this respect, the derivational mechanisms of negative constructions are parallel in TsB and MA. By contrast, LA exhibits a divergent behavior, reflecting a distinct syntactic configuration in its treatment of negation.

Thus far, I have argued that the word order patterns of TsB and MA, particularly regarding the SVO–VSO alternation, are insensitive to subject–verb agreement, which occurs uniformly across both orders. In this respect, the two languages contrast with LA. Similarly, negation exhibits identical behavior in TsB and MA, whereas it differs in LA. These observations indicate that the clausal components and syntactic arrangements of MA are shaped by the structural properties of TsB rather than LA. Empirical evidence further shows that TsB's influence extends beyond word order and agreement to lexical borrowings, phonological adaptations, and the configuration of negative concord, highlighting the profound impact of TsB on the overall syntactic architecture of MA

2.5. 3. TsB Passivization Influence on MA

Another line of evidence supporting the influence of TsB on MA concerns passivization.[39] It is one of the central operations that languages employ to alter the mapping between semantic roles and grammatical functions. The comparison between LA, TsB, and MA reveals important differences in how passivization is morphologically marked and how the external argument is treated. In MA, passive constructions exhibit both morphological and syntactic patterns that closely resemble those found in TsB, rather than in LA. Specifically, the MA passive is formed through a morphological marking on the verb and a syntactic promotion of the object to subject position, a configuration that parallels the TsB system. By contrast, LA lacks comparable passive morphology and typically expresses passivity through alternative strategies. Here is an illustration:

35) a. ʔakal-a ʔal-walad-u ʔal-xubz-a
He-eat-perf. the-boy-nom the-bread-acc.

b. ʔukila ʔal-xubz-u min ṭarafi ʔal-waladi
was-eaten the-bread-nom. from the-side the-boy-gen.

“The boy ate the bread.” “The bread was eaten by the boy.”

On the basis of (35), LA passivization is expressed both morphologically and syntactically. It involves internal vowel change within the verbal root, as implied in *ʔakala* and *ʔukila*. In the active sentence (35a), the subject *ʔal-walad-u* is assigned nominative case and the object *ʔal-xubz-a* receives accusative case. In the corresponding passive form (35b), the verb changes to follow the passive pattern, and the former object ʔal-xubz-u becomes the grammatical subject marked for nominative case. The original agent can be omitted or optionally expressed in a prepositional phrase, here *min ṭarafi ʔal-waladi*. Thus, LA marks the passive voice through verbal morphology with the result that the theme or patient surfaces as the subject while the agent, if mentioned, appears in an oblique prepositional phrase. Thus, LA maintains the possibility of explicitly retaining the agentive phrase in passive clauses through a prepositional phrase.

By contrast, passivization instances in TsB and MA behave differently.

36) a. i-šša urgaz aɣrum b. ittawtša uɣrum

he-ate the-man the-bread it-was-eaten the-bread

“The man ate bread.” “The bread was eaten.”

c. kla rražəl lx^{w}bz d. ttkal lx^{w}bz

he-ate the-man the-bread it-was-eaten the-bread

“The man ate bread.” “The bread was eaten.”

The data in (36) illustrate a striking morphological and syntactic parallel between TsB and MA in the formation of passives. In both languages, the passive is formed through the use of a /tt-/ prefix, as seen in *ittawtša* and MA *ttkal*. This morphological resemblance is not coincidental. The tt- prefix traces back to TsB voice morphology. Its persistence and regularity in MA strongly supports TsB/Berber influence. This pattern does not exist in LA. Its presence in MA displays the influence of long-term bilingual contact with TsB/Berber.

Syntactically, both TsB and MA passives display the same argument structure. The external argument is suppressed, and the internal argument is promoted to subject position. It is worth

noticing that the appearance of the agent in MA and TsB passives, as in **ittawtša uɣrum s-urgaz* and **ttkal lxwbz b-rražəl*, leads to ungrammaticality. This shows that both languages employ a genuinely parallel syntactic operation. This pattern aligns well in both languages and shows that both systems share a similar derivational mechanism.

The parallel can be formalized as VP merging with the head voice (Vc^0). When Vc^0 is specified with a passive feature, it loses the ability to introduce an external argument. The theme rises to spec-*VcP*. Once the internal argument rises to subject position to satisfy case and agreement, the structure converges as a canonical passive clause. The *tt-* prefix then represents the morphological realization of passivization at the PF interface. The derivational method is thus practically identical in both languages, yet differs from LA passive realization and its inflectional details.

Overall, passivization in LA, TsB, and MA reveals both shared principles and contact-induced divergence. While LA maintains both arguments and allows the optional realization of the agent through a prepositional phrase, TsB and MA restrict the structure to a patient/theme subject, entirely suppressing the external argument. Likewise, MA's adoption of the TsB /Berber *tt-* prefix as a passive marker highlights the depth of TsB/Berber influence on MA's morphological system. These patterns thus trace a tight connection between TsB and MA in passivization strategies. These facts are best understood as a result of TsB/Berber influence on MA, which has shaped both its morphology and syntax.

2. 5. 4. Absence of the Dual in MA

One of the outstanding grammatical divergences between MA and LA relates to the dual form. In LA, dual morphology is fully integrated into the nominal and verbal systems. For instance, *kita:b-a:ni* "two books" and *katab-a:* "they (two) wrote" instantiate dual realization. MA, however, lacks such a morphological distinction. Nouns, verbs, and adjectives display only singular and plural forms.[40] While this reduction seems to be a general morphological simplification within the Arabic dialectal continuum, in the case of MA it is more convincingly interpreted as a contact-induced development under the influence of Berber, particularly TsB. The reason is that TsB, like other Berber varieties, does not possess a grammatical dual. Number marking in TsB is restricted to a binary distinction between singular and plural, with interpretive duality expressed solely through numeral quantification rather than inflectional morphology. This structural configuration aligns closely with the MA pattern but contrasts sharply with the

LA system. Considering the depth and duration of bilingual contact in Morocco, it is plausible that MA's loss of the dual reflects a convergence process, whereby the Arabic system was restructured to conform to the simpler, two-way Berber number distinction. Speakers in long-term contact environments often reanalyze inflectional categories that lack correspondence in the substrate or adstrate language, leading to the gradual attrition of morphologically marked categories such as the dual.

Comparative evidence reinforces this contact-based interpretation. In eastern and southern Arabic varieties, such as Egyptian Arabic and Gulf Arabic, where Berber influence is absent, the dual remains morphologically productive. This presence is evidenced, at least, in nominal paradigms, as Egyptian Arabic *kit:ban* "two books". The persistence of dual morphology in these dialects suggests that its disappearance in MA is not part of a general trend of simplification across the language, but rather a regional development conditioned by TsB/Berber contact. A growing body of research supports the view that the loss of the dual in MA forms part of a broader process of contact-induced restructuring resulting from sustained interaction with Berber languages. Early sociolinguistic and structural accounts (Heath, 1989)[41] describe how extended bilingualism in Morocco led to the gradual alignment of MA morphosyntax with Berber patterns, particularly in domains where Berber lacks equivalent categories, such as the dual. Detailed grammatical studies of TsB and other Berber varieties (Bentolila, 1981)[42] confirm that Berber distinguishes only between singular and plural. The possibility of expressing duality periphrastically through numerals in both TsB and MA seems to strikingly demonstrate the influence of TsB on MA.

From a historical perspective, Owens (2006) offers a diachronic account of the evolution of Arabic morphology, including regional variation in dual marking and its loss in Maghrebi dialects. He emphasizes that while the dual underwent reduction in many spoken Arabic varieties, its complete disappearance in Maghrebi dialects must be understood in light of regional contact dynamics rather than as an isolated case of morphological decay. Kossmann (2013) explores Arabic–Berber contact within a bidirectional and reciprocal influence between the two languages. His intentions aim at understanding morphological convergence, including number and agreement. Furthermore, he shows that convergence often proceeds through the neutralization of marked categories. Ennaji (2005) provides sociolinguistic context for the structural influence of Berber on MA, emphasizing long-term convergence processes. He highlight that MA has evolved in a multilingual setting where Berber structural logic subtly

redefined Arabic morphosyntax. Taken together, these studies demonstrate that the absence of the dual in MA exemplifies not mere simplification, but a systematic adaptation to a Berber morphosyntactic template, reflecting the deep and enduring nature of contact between the two linguistic systems.

From a theoretical standpoint, the Moroccan case represents a clear instance of grammatical convergence within a contact setting. The dual, a morphologically marked and comparatively low-frequency category, became redundant in a bilingual environment dominated by TsB/Berber structural patterns. Its loss in MA should therefore be understood not as obliteration but as a functional reorganization toward a system compatible with TsB/Berber morpho-syntax. In this perspective, MA speakers did not merely simplify the inherited Arabic morphology; they restructured it in line with the conceptual and grammatical logic of TsB/Berber. Thus, the absence of the dual in MA reflects a broader process of contact-induced alignment with TsB's binary number system. This development exemplifies how MA emerged as a contact variety, shaped through sustained bilingual interaction, rather than as a reduced branch of LA.

3. Semantic Influence

Beyond the previously noted areas of interference, Berber, particularly TsB, has also exerted a significant semantic influence on MA. This influence extends beyond mere lexical borrowing to the reshaping of meanings and the reorganization of conceptual structures within the language. Although most studies on MA contact phenomena have traditionally concentrated on phonological and morphological aspects, the semantic dimension grows as a significant site of change. Berber languages, and TsB in particular, have contributed not only individual lexical loans but also conceptual patterns that have delicately transformed how MA speakers categorize and interpret perceptual domains.

For example, in TsB and MA, emotional life is conventionally conceptualized through the liver rather than the heart. This observation is a striking semantic feature that reveals deep cultural and linguistic contact between the two languages. In TsB, the word *tasa* "liver" occupies the semantic domain that, in LA and in many other languages, is associated with the heart. Folk songs,[43] proverbs, and poetic expressions in TsB frequently invoke *tasa* to express affection, compassion, or emotional pain. This standpoint reflects a particular philosophy of life and conception of the world in which the liver, vital for life and warmth, is the seat of deep emotions.

This semantic orientation is not limited to TsB but has been transferred into MA, where similar metaphorical patterns occur. In MA, expressions such as

37) a.	lk^{w}bida djali	b. ja l-k^{w}bida	c. LLAH ʕla k^{w}bid-ti
	the-little-liver mine	vocative the--little-liver	Lordon little-liver-mine
	"My love"	"Oh my darling!"	"how gorgeous is my darling!"

The expressions in (37) are used affectionately to address loved ones. They exemplify the metaphorical extension of the noun *k^{w}bida* into the semantic field of affection and endearment in MA. From a sociolinguistic perspective, this represents a clear semantic calque from TsB into MA, where the literal lexical meaning of *kəbda* "liver" acquires new figurative extensions under TsB conceptual influence. The root is realized with the diminutive morphological in order to express an affectionate interpretation. The diminutive morphology adds considerable emotional tenderness, similar to English *sweetheart* or French *mon petit cœur* "my little heart." The phrase thus functions as a term of endearment. The invocation of LLAH in (37c) intensifies admiration and affection, a pattern common in Moroccan expressive speech. Together, (37a–c) reveal how MA integrates TsB-inspired semantic conceptualization into MA morphology and syntax. The term *k^{w}bida* participates in productive diminutive, possessive, and vocative structures, expressing affective meaning through the metaphor "the liver as the locus of love."

In LA and across many dialectical Arabic varieties, *ʔal-qalbu* "the heart" functions as the primary locus of emotion, affection, and sincerity. It represents a metaphorical focal point where feelings are both generated and experienced. This conceptualization appears widely in idioms and poetry, where the heart symbolizes love, faith, and inner truth. Famous expressions such as *mina ʔal-qalbi* "from the heart" illustrate how emotional authenticity is framed through the heart's imagery. LA literature, including pre-Islamic poems consistently associates the heart with intention, compassion, and moral clarity. These interconnected concepts represent a state of inner guidance which is ideally pure and honest. This enduring metaphor contrasts with TsB and MA patterns, where emotions are instead conceptualized through the liver, revealing distinct cultural mappings of the emotional self. In this respect, unlike LA and other pan-Arabic language forms of metaphor that situates emotion, affection, and sincerity in the heart, MA inherits a culturally specific embodiment of sentiments from TsB. MA, due to TsB influence, accordingly associates

passionate reactions with the liver as the organ of feelings and kindheartedness. This shared metaphorical mapping between TsB and MA, distinct from that of LA, thus provides strong evidence of semantic transfer resulting from long-standing bilingualism and intimate cultural interaction in Morocco's linguistic landscape.

Another noticeable area where TsB has left a semantic imprint on MA is that of color categorization. Both languages display a broader and more fluid organization of color meanings than is typically found in LA or European languages. This fact reveals a shared underlying conceptual system between TsB and MA. In TsB, as in MA, color terms do not correspond to narrow, fixed spectral boundaries but rather cover extended perceptual ranges. For instance, the word red, *aẓgg^{w}aɣ* in TsB, and *ħmər*[44] in MA, encompasses colors from deep red through orange and even into pink. Likewise, yellow, *awrraɣ* in TsB, and *ṣfər* in MA, may refer to hues ranging from pale orange to light green. Similarly, white, *umlil* in TsB, *byəḍ* in MA, may stretch semantically to include beige and cream, even light yellowish shades. Most strikingly, black, *asggan*/*umšiw* in TsB, *kħəl* in MA, extends beyond the dark end of the spectrum to include colors such as olive green and navy blue, a pattern that parallels the famous green-blue, *zrəq*/*xḌər*, overlap characteristic of TsB and MA. This striking case of color terminology is shared by TsB and MA. In MA, the adjective *zrəq/zrəg* denotes both "blue" and "green," whereas in LA and most other Arabic varieties, *ʔazraq* means "blue" and *ʔaxḍar* means "green." This conflation directly parallels TsB, where *azgza* covers the semantic range of both colors. Such overlap reflects a Berber conceptual model in which the distinction between "blue" and "green" is not linguistically noticeable. From a cognitive perspective, this demonstrates that contact with Berber has influenced not only MA vocabulary but also the way speakers partition perceptual experience, readjusting color categorization with TsB/Berber semantics.

These semantic extensions reveal that the perception and lexicalization of color in MA are profoundly shaped by TsB/Berber conceptual structures, where colors are grouped by brightness, texture, and symbolic associations rather than by strict chromatic value. The result is a color system that is culturally embedded and semantically continuous, reflecting both the sensory perceptions of TsB/Berber speakers. It reflects the way the speakers of both forms see their environments, in terms of light, vegetation, as well as personal and cultural experiences, and object properties like reflectivity. All of these MA interpretive aspects emanate from the long-standing influence of TsB/Berber linguistic cognition on the semantic background of MA.

Another revealing case of semantic transfer from TsB to MA appears in the domain of grammatical gender assignment. This system of noun classification appears to be analogous in TsB and MA, while LA remains exclusively distinct. For example, in TsB, *tizikrt* "rope" is feminine, and the same pattern is found in MA, where *qənba* "rope" is also feminine. By contrast, in LA, *ħabl-un* "rope" is masculine. This shift in gender classification is unlikely to result from internal Arabic development; rather, it reflects a semantic-calquing phenomenon whereby MA reproduces the Berber conceptual and grammatical categorization of the object. In TsB/Berber culture, ropes are associated with weaving, tying, and domestic work. These domains are typically conjoined with feminine duties. Hence the semantic motivation for their feminine status lies in such correlation. A similar interesting example of gender divergence across the three systems, to mention just a few among many, is the case of the noun "stone." In TsB, it is referred to as *taggunt* which is feminine. Interestingly, MA shows the same pattern with *ħažra,* which is also feminine. However, *ħažar-un* in LA is masculine. This correspondence between TsB and MA in contrast to LA suggests a clear case of gender convergence, where the TsB pattern has affected the gender assignment of MA items. The MA system seems to have inherited this alignment through sustained bilingualism and substratum continuity.

The comparison above indicates that MA has inherited TsB gender assignments. This fact appears to reflect substratal influence from TsB. This is so because TsB's gender semantics, linking femininity with tools, household objects, and materials, has shaped MA's classification system. This parallelism indicates that MA has partially realigned its gender system under the influence of TsB/Berber, favoring feminine assignment for certain nouns that are feminine in TsB. The feminization of "rope," and "stone," to mention only a couple of several possible cases, in MA thus stands as a particularly convincing piece of evidence for a substratum effect, since it affects both semantic categorization and morphological agreement patterns, domains that typically resist borrowing unless embedded in long-term bilingual contact.

Briefly, the semantic dimension of TsB influence reveals that MA has evolved as a dynamic contact variety rather than a mere dialectal outgrowth of LA. Through centuries of coexistence and bilingualism, TsB/Berber has overpoweringly shaped the meanings, metaphors, and conceptual categories of MA. These effects have profoundly influenced how speakers perceive colors, and the relationships between objects and actions. The impact is generally visible in color categorization, which mirrors TsB's conflated color range. It also extends to metaphorical expressions, and patterns of verbal polysemy. Such influences operate not by means of direct

borrowing, but through conceptual realignment: semantic calques, category mergers, and meaning extensions that integrate TsB.Berber frameworks into the MA lexicon. From a theoretical standpoint, this demonstrates that language contact can reshape not only the lexicon and grammar of a language but also its underlying conceptual architecture. MA thus emerges as a hybrid linguistic identity, a productive synthesis of LA grammatical structure and TsB/Berber cognitive as well as grammatical patterning. Indeed, this is a living testament to Morocco's deep cultural and linguistic interdependence, where centuries of coexistence have produced a uniquely integrated system of thought and expression.

4. Borrowed Expressions and Constructions

The linguistic contact between TsB and MA extends beyond the level mentioned above into the domain of idiomatic and structural expressions. Many common expressions and syntactic constructions in MA trace their origins to Berber, rather than to LA. These borrowed forms often reflect deep cultural and cognitive integration, as they encode modes of thought, interaction, and description characteristic of the TsB/Berber substrate. In this sense, the presence of Berber-derived expressions in MA illustrates not mere lexical borrowing but the transfer of underlying conceptual and structural patterns that have become fully naturalized within MA discourse.

In addition to phonological and morpho-syntactic influences, MA exhibits several syntactic and idiomatic expressions that can be traced directly to Berber, particularly TsB. A striking example is the expression in (38a), which is originally from Pr. Bani Koumachi, (personal communication, June 15, 2021).

38) a. baš nlqa nawṣəl bəkri	b. ad af-γ ad nn lk^{w}m-γ d-lḥin
in-order I-find-perf. I-arrive early	that find-I that arrive-I with-early
"So that I can arrive early."	"So that I can arrive early."

The examples in (38) emphasize that TsB's influence on MA goes beyond the above-mentioned issues. It extends to clause structure and idiomatic expressions. In both sentences, the expression of purpose, *so that I can arrive early*, reveals a TsB-like biclausal structure, as in (38b). The TsB example (38b) and the MA (38a) form the serial sequencing of *find* and *arrive* verbs. The two forms are linked to express intention and realization. The idiomatic pairing of *find* and *arrive* is inherited from TsB, where *af* "find" functions as an auxiliary-like verb meaning "manage to."

Likewise, the TsB pattern of serial purposive clauses, where verbs like *af* convey successful completion, has been immersed into MA syntax. The respective purposive particle, *baš* and *ad*, reproduce TsB subordinate syntax rather than LA arrangements. Expressions such as *baš nlqa nawṣəl bəkri* are not from LA in origin but from TsB. This pattern diverges sharply from LA, where such a meaning would typically be expressed by a single clause introduced by *ħatta*: or *li-* (e.g., *ħatta: ʔaṣila ba:kiran* "so that I arrive early"). The Moroccan form, by contrast, reproduces the TsB habit of serial purposive clauses, suggesting that the MA structure is a syntactic calque from TsB rather than an inherited Arabic construction. This observation logically reflects a deeper process of syntactic and conceptual convergence between the two languages.

The paired examples (38a–b) provide strong evidence of syntactic and idiomatic transfer from TsB into MA. Both sentences express purpose through a biclausal structure that combines verbs of similar meaning to convey effort and realization. Both expressions function idiomatically to mean "manage to arrive," in both languages. Even though the two verbs are semantically redundant, the constructions express both the intention (*find*) and the achievement (*arrive*), a pattern deeply rooted in TsB/Berber subordinate syntax. These calque models reveal how TsB has shaped both the syntax and idiomatic texture of MA.

A similar instance which shows this expression parallelism between MA and TsB are:

39) a.	lbanan b-šħal bəʕti-h	b. lbanan (s)-mnšk as-t tzznzt
	the bananas with-how-much sell-you-it	The-bananas with-how-much that-it sell-you
	"How much are the bananas?"	"How much are the bananas?"

These two examples further illustrate a clear case of syntactic pattern replication, where the structure of a TsB interrogative construction has been transferred into MA. The resemblance goes beyond lexical borrowing. Both constructions rely on a prepositional element (*b-* in MA, *s-* in TsB) to introduce the interrogative construction. The two structures show the presence of a clitic pronoun that refers to the object. It attaches to the verb, *bəʕti-h*, in (39a) and the complementizer, *as-t*, in (39b). Another correspondence in the two configurations is the fronting of the object *lbanan*. In both forms, it precedes the interrogative phrase. This occurrence is syntactically typical of TsB information structure.

In LA or other non-Berber-contact dialects, a question about price would normally take a structure like:

40) a. bi-kamm ʔal-mawz (LA) b. bikamm il-mu:z (Egyptian)

with-how-much the-bananas with-how-much the-bananas

c. kam saʕr al-ma:wz (Syrian) d. bi-kajf il-mu:z (Gulf)

how-much price the-bananas with-how the-bananas

Comparing those other dialects to the examples in (39) makes the TsB influence on MA stand out even more clearly, both syntactically and morphologically. In non-Maghrebi dialects examples such as Egyptian, Syrian, or Gulf Arabic in (40b-d), the interrogative expression follows an Arabic-internal pattern inherited from LA. In LA, the preposition *bi-* introduces the measure phrase. All the examples in (40b-d) retain the core Arabic interrogative morphology, either *kam* or *bi-kamm*, and obey the canonical [preposition + interrogative + noun] structure. They also lack any overt verbal element such as sell or buy.

In MA, however, the form *b-šħal* mirrors the TsB interrogative *s-mnšk* both in morphosyntactic structure and semantic scope. Use of a verb of exchange (biʕ "sell"), absent in other dialects, which aligns with the TsB strategy of embedding the interrogative within a verbal predicate. The prepositional interrogative *b-šħal* instead of *bi-kamm*, reflects TsB *s-mn-šk*. The semantics of "with" (*b-*) parallels TsB instrumental prepositions (*s-*), showing a calque rather than a direct lexical borrowing. Topic–comment order, where the noun *lbanan* precedes the verb phrase reflects TsB sequence. This mirrors TsB discourse structure, where topicalized NPs often precede the predicate. Thus, while Egyptian, Syrian, and Gulf Arabic continue the LA interrogative pattern, MA re-structures the question under TsB syntactic logic. This shift from a nominal-copular question to a verbal interrogative signals deep substratal influence from TsB, not merely lexical variation. In short, other Arabic dialects preserve the LA interrogative syntax, but MA, under TsB/Berber influence, remodels it into a verbal construction patterned after Berber clause structure. These observations are excellent examples of contact-induced syntactic convergence, which reflect TsB/Berber influence on the syntactic frame used to express interrogatives.

Altogether, these parallels reveal that Berber, particularly TsB, has influenced MA not only lexically but also in terms of clause structure and idiomatic sequencing. The use of *baš* and *ad* for purpose, the serial combination of verbs to convey effort and completion, and the idiomatic sense of "*finding*" as "*succeeding*" in an action all point to deep structural convergence. Moreover, MA not only borrowed TsB/Berber vocabulary but also replicated its syntactic strategy for interrogatives, where a question is expressed through a prepositional phrase linked to the verb rather than a separate wh-word construction. It illustrates a deep level of structural convergence, where TsB patterns influence the internal syntax of MA clause formation and interrogative marking.

CONCLUSION

TsB and MA are two distinct linguistic systems, each with its own structural and functional characteristics, yet both have evolved through centuries of close contact. This interaction has produced continuous and dynamic change, particularly as TsB speakers, whose first language is Berber, learn and use MA. Their learning process involves gradually building grammatical and lexical competence in Arabic, but it is inevitably shaped by the linguistic habits, categories, and conceptual structures of their native Berber. As a result, many features of TsB are transferred into the learned variety, giving rise to contact-induced innovations in MA. The analysis presented here has shown that TsB influence on MA extends far beyond lexical borrowing: it permeates the morpho-phonological and morpho-syntactic levels, manifesting in agreement patterns, word-order variation, negation, passivization strategies, the absence of the dual, and even in semantic calquing. These convergences reflect a deep structural integration rather than superficial borrowing. Indeed, as Chtatou (1997) convincingly argues, the foundations of MA lie more profoundly in the Berber substrate than in LA, since the Berber impact reaches grammar, phonology, syntax, and semantics, whereas the influence of LA remains largely confined to the lexicon

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[1] University students of particular disciplines are also needed to study Persian, Urdu, Modern Hebrew or Turkish.

[2] It should be clear from the beginning that attempting to resolve all the intricacies pertinent to the issues dealt with in this paper may be an unattainable goal. I therefore confine myself to the most important objective of the article, namely demonstrating that TsB has induced a variety of alterations upon MA. For that reason, I leave out unresolved questions for future research projects.

[3] Marouane (2009) discusses the incorporation processes of MA loanwords in TsB. In fact, there also exists an immense list of TsB words in MA. Since there is a continuous contact between the speakers of the two languages, it is expected that word-borrowings remains active in both directions.

[4] MA is mostly characterized by its frequent consonant clusters and vowel reductions.

[5] Some examples are the word /kəlb/ 'dog' which is from LA; the word /mwšš/ 'cat' from TsB /amušš/; /tṭbḷa/ 'table' from French and /sskwwila/ 'school' from Spanish.

[6] The process involves adapting to the mixed cultural traits of cities and the prevailing cultures that dominate television and modern media. Since TsB natives have started to come into continuous contact with distinct and new cultures, since late 70's, they have begun losing their old native one. This process has led to changes in behaviors, beliefs, values, and practices for both individuals and groups.

[7] Chtatou (1997) implicitly suggests that the encounter of LA (he refers to it as classical Arabic) and Berber yielded a "Berberized Arabic".

[8] According to Youssi (1983 and subsequent work), there are two type of MA: the variety used by all Moroccans and the one used by the elite. The latter he calls Modern Moroccan Arabic.

[9] Recently, there has been a growing movement advocating the adoption of MA in primary education.

[10] This phenomenon of systematic alternation between languages is widely recognized in the literature on code-switching and language contact (cf. Myers-Scotton, 1993; Thomason & Kaufman, 1988).

[11] This word is, particularly, omnipresent in MA spoken in Marrakesh and Essaouira. It is also used in MA spoken mainly by women in Agadir and Tiznit areas. It is very frequent to hear them say something like:

(i) ašku ka nban lik ma ka nfham-š
Because prog.Aspect appear to-you not prog.Aspect I-understand-not
"As you consider me as an idiot."

(ii) ašku ʕandkum lmakla zwina f ddarbiḍa (from an interview with late Amentague on 2M Tv)
Becaue you-have the-food beautiful in Casa Blanca
"Because you have delicious food in Casa Blanca."

[12] As a native speaker of TsB, and on the basis of my intuitions, I consider all the items in (2) and (4) to be absolutely from TsB origins. One of the reviewers suggested that the existence of an item in TsB and MA, while it is absent in LA, does not necessarily mean that its presence in MA indicates coming from TsB. Both languages could have borrowed it from a third origin. The claim is logically right. However, the interaction between TsB and MA is somehow very systematic. For example, when a word originates from a third source, it may be distinguished in the two languages. Take the word, *ʔal-bannaʔu* "the constructor" from LA. In MA, it is *l-bnnaj*. In TsB, it is *abnnaw*.

Since the word is obtained from a third origin, it has been modified by each language according to its morphological structure: an intial "*L*" in MA and an initial "*a*" in TsB. When a word comes from a foreign source into MA first then into TsB, it keeps MA traces in its TsB form. A case in point is *lbanan* "bananas". I assume it first comes from French into MA, then borrowed by TsB. Note that it keeps the initial "*L*" (indicator of article) in its TsB form. It is *lbanan* and not **abanan* in TsB. Another example could be *ataj* "tea". This word is first borrowed (probably from Chinese or LA) by TsB (or it originates in TsB). Its MA form is *ataj* and not **lataj*.

[13] One of the reliable arguments that distinguish MA from LA is that the nominal forms of the latter have case endings, while they lack that in the former.

LA	MA	Glossary
ʔal-qalam-u	lqalam	"the pen"
bi-l-qalam-i	b-lqalam	"with the pen"

[14] The area where Gulf Arabic (GA) is used is not strictly defined with regards to national borders. However the class, faithfully speaking, includes the varieties spoken in Qatar, Bahrain, United Arab Emirates, Kuwait and the eastern parts of Saudi Arabia (cf. Holes, 1990).

[15] Classical Arabic probably did not include a phonemic /g/. Its consonantal inventory comprised /q/ but no traces of the voiced velar stop. In several modern dialects, notably in parts of the Arabian Peninsula, /g/ emerged as a reflex of /q/. This appearance shows that this sound is a later dialectal innovation rather than a Classical feature. Consequently, the emergence of /g/ in Maghrebi or MA is best explained as a contact-induced development, possibly reinforced by Berber substratal influence. This reasoning seems realistic because the consonant /g/ was not part of the phonemic inventory of Classical and LA during the Arab expansion into North Africa. Consequently, its appearance in MA cannot be inherited from LA but rather reflects contact with Berber languages.

[16] TsB also provides clear attestations of the phoneme /g/ in natural speech:

i) uḍn-ɣ agajju-nw
feel-painful-I head-mine
"I have a headache."

ii) asgg^{w}as ajd s i-mmut xal-i
a-year this-is since-he-died uncle-my
"It has been a year since my uncle's death."

iii) g^{w}n akk i-s-g^{w}n rbbi i-ttu-k
sleep you he-cause-sleep God he-forget-you
"Go to sleep. May you never wake up again."

[17] It is usually the basement. It serves as a shelter for cattle: cows, donkeys, goats and sheep, etc. it provides protection from wind, rain, and sun, with adequate space for each animal to move.

[18] Unlike LA, where /g/ is absent, TsB employs it systematically across its lexicon. This contrast highlights the role of Berber influence in the emergence of /g/ in MA.

[19] Dell and Elmedlaoui (2002) have demonstrated that MA has been subject to significant substantial procedures of vowel loss due to its constant contact with TsB.

[20] Ech-Charfi reconstructs a historical scenario in which Amazigh-speaking bilinguals shifting into Arabic initially transferred their agentive-formation strategies,especially the prefix m-, into their Arabic. The system was later partly obliterated and regularized once Arabic became more socially prestigious, namely after the foundation of Fès under the Idrisids. the pattern then was extended in MA under the influence of the bilinguals' perceived 'Arabic-like' agentive model. Overall, the agentive morphology in MA serves in Ech-Charfi's view as a fossilised substrate footprint of Amazigh shift into Arabic.

[21] In LA, nouns and adjectives bear case endings, typically realized as short vowels: *-u* indicates nominative, *-a* designates accusative, and *-i* denotes genitive. In addition, the case system interacts with agreement and governs word order flexibility in LA.

[22] Makhad (2023a) challenges the view that case marking is associated with state alternation in TsB.

[23] While case loss in other spoken Arabic dialects is often attributed to natural processes of morphological erosion (loss of short vowels, weakening of inflection), the complete absence of case in MA appears to be reinforced by its typological compatibility with Berber varieties. In other words, the two languages converge not only lexically but also structurally, adopting similar means of marking grammatical relations.

[24] In addition to the attested SVO-VSO orders, TB, MA and LA allow arrangements such as: OSV, VOS and SOV. In such orders a resumptive pronoun shows up obligatorily in the derivation.

[25] In fact, it is evident that the dominant word order in TsB is VSO.

[26] It is very important to remember that structural presence of such a null category is only satisfied through lexical insertion.

[27] Kayne (1994) defends the idea that SVO sequence constitutes the universal underlying word order. All order possible orders are derived by means of left-adjunctions.
[28] The hypothesis upholds that subjects originate in the VP domain. They subsequently rise up to adjoin to tense for Case / EPP reasons (cf. Fukui and Speas, 1986; Koopman and Sportiche, 1988).
[29] I am aware that clauses are derived through series of syntactic operations, "merge", rather than through a preconceived structural representation.
[30] I consider Voice Phrase to be equivalent to vP. I simply use VcP due to the influential work of Kratzer (1996). She has convincingly argued that external arguments are introduced in VoiceP.
[31] There generally exist two state forms of nominal categories in Semitic languages: LA, Amazigh/Berber and Hebrew. These are Free State (FS) and Construct State (CS) (cf. Ritter 1988, 1991; Shlonsky, 2003). In TB, a noun is in construct state when it is:

the subject of sentence in VSO order:	i-šša urgaz
	he-eat.perf. the-man (CS)
	"The man ate/has eaten."
the complement of a preposition:	ssfld-γ i-urgaz
	hear.perf.-I to-the-man (CS)
	"I heard/have heard the man."
second conjoined DP:	tamγart d urgaz
	the-woman and the-man (CS)
	"The woman and the man"
Genitive structure:	tamγart n urgaz
	the-woman of the-man (CS)
	"The woman/wife of the man"

The Free State appears elsewhere.
[32] Data from TmB and TrB languages, as well as Syrian, Egyptian and Gulf Arabic are obtained from friends and neighbors who are native speakers. The required forms were elicited from informant by asking them how they would say some expression in their mother tongue. Subsequently, I would ask them to provide further examples. I would then proceed to discuss the relevant linguistic features for a confirmation of judgments.
[33] I ought to have included a comparison between Maghrebi and Mashreqi Arabic. However time constraints and the difficulty of getting data held me back from doing so.
[34] Here I would like to point out that I am discussing the behavior of negation in terms of agreement with the verb. I am aware of the existing of similar discontinuous negators in other Arabic dialects, as a reviewers suggested. For example, Brustad (2000) has noticed that ma-š exists in MA and Egyptian, while it is absent in Syrian and Kuwiti Arabic. However, the discontinuous morpheme is also present in Yamani and Ummani dialects (the Late Professor Benhallam class lectures).
[35] This discontinuous negation resembles the negative form [wa-ša] in Tarifit which is discussed in Bensoukas (2012). This resemblance implies that indeed MA negation construction is highly influenced by Amazigh / Berber negation. It is also important to not here that facts of negative markers in the three compared languages strengthens Jesperson's Cycle. It states that negation has cross-linguistically undergone analogous series of diachronic operations. Such processes start with a simple pre-verbal marker, as in LA. The change carries on to a discontinuous negative morpheme, as in TsB and MA. Then it ends up with expressing negation with a single post verbal form, such as in French or German.

Pre-verbal marker:	lam jaʔkul	LA
	Not he-eat-perf.	
	"He did not eat."	
Discontinuous Morpheme:	ma kla-š	MA
	Not eat-perf.-not	
	"He did not eat."	
Post-verbal symbol:	Jean (ne) mange pas les tomates	French
	Jean (not) eat not the tomatoes	
	"Jean does not eat tomatoes. "	
	Wir warten nicht	German
	We waiting not	
	"We are not waiting."	

[36] On the basis of focus considerations, Omari (2012) proposes the existence of two distinct negative elements in TB. The first is an independent clausal NegP. The second is a Neg. element that left-adjoins to the head of Mod(ality) Phrase.

[37] Agree in the Minimalist Program establishes a connection between two elements (a probe and a goal) in a derivation. It is defined in Chomsky (2000) as follows:
The probe P agrees with the closest Matching goal in D.
a. Matching is feature identity
b. D is the sister of P. [D = c-command Domain of P]
c. Locality reduces to closest c-command
[38] Tense has an indispensable semantic contribution to the meaning of the sentence.
[39] Passivization is a grammatical process through which the subject of an active clause is suppressed, and the object of that clause is raised to subject position. It has the effect of changing the perspective of the clause, foregrounding the undergoer of the action rather than the actor.
[40] It possible to claim that dual reference is instead expressed analytically in MA, most commonly through the numeral form /*žu:ž*/ "two", as in *žu:ž djal l-ktub* "two books". However, such declaration is fallacious. It does not explain why the noun is always plural with the presence of the numeral /*žu:ž*/.
[41] He provides an extensive discussion of Berber substrate effects on MA, including structural simplifications and reanalyses due to bilingualism.
[42] He describes the lack of dual in Berber and how number is handled semantically rather than morphologically.
[43] A good example is Izenzaren's song listed as "*Tasa Ittutn*." It uses *tasa* as the locus of hurt and yearning, which lines up with the Amazigh body-metaphor where the liver is the carrier of affection and deep feeling. The song talks about a hidden pain implanted in the liver. It metaphorically encodes love, sorrow or heartache, exactly the kind of semantic pattern documented in Amazigh culture.
[44] Obviously, and as is the case for the majority of colors, it directly derives from the LA *ʔaḥmar*. However, it yields *ḥmər* in MA. This observation indicates that while the lexical root is inherited from LA, the form exhibits borrowed morphological and phonological features from TsB.

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