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Language Variation and Change in an Algerian Berber-Speaking Community: The Chaoui Variety as a Case Study

Thesis submitted to the Department of English in candidacy for the degree of Doctorate in Language Studies

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Declaration of Originality

I, Latifa IBRIR, declare that my doctorate thesis entitled, "Language Variation and Change in an Algerian Berber-Speaking Communities: The Chaoui variety as a Case Study", contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma, except where otherwise indicated. This thesis is my own work.

December 10th, 2022   Mrs. Latifa IBRIR

Dedication

This work is dedicated to all those who made the processe of writing this work a less stressful experience.

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ABSTRACT

One of the inherent features of language is that it is dynamic, fitting with the needs of the community. The present study investigated lexical change in Chaoui, a Berber variety in Batna. The study addressed questions related to the linguistic features that constraint language change and the social implications of that change. To attend to this objective, a mixed-methods approach was developed where a qualitative list of 1500 words was translated to Chaoui to examine traces of Arabic and French influence. The sample of the study consisted of 290 male and female Chaoui speakers that are selected on the basis of education, age and residence strata. The sampling paradigm adopted is not constructed on a purely random basis. Rather, it is a mixture of purposive, snowball and convenience sampling. The quantitative data are obtained from a structured questionnaire that gathered data about the speakers' linguistic proficiency, language use and language attitudes. 18 lexical items were selected from the translated glossary serving as target linguistic tokens for the sociolinguistic interview. The findings showed that Arabic is the main lending language. The study also showed that the grammatical category of the word and the semantic field to which it pertains are the main linguistic factors that instigate change. The questionnaire analysis revealed that not all of the members of the Chaoui community in Batna are native speakers of Chaoui. Also, Chaoui population do not use their variety in all day-to day verbal interactions. The younger, urban and more educated members demonstrated lower rates of language proficiency and language use. The results also suggested that standard languages, French and Arabic, are associated with attitudes of prestige and beauty, whereas the colloquial ones, Chaoui and Algerian Arabic, are associated with usefulness. Berber and Chaoui has a symbolic value of ethnic belonging. The results of the interview showed that the loanword variants vary from one lexical item to another, and no language-internal features seem to underpin such variation. It is concluded that residence and education are the main social factors that govern the linguistic behaviour of the speakers; age is next in relevance while gender was of little, if any, bearing on the surfacing of changed/unchanged variants. Finally, it is concluded that middle-aged urban and semi-urban males are the main social groups that lead the process of change that is influenced by Arabic.

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List of Abbreviations:

MSA: Modern Standard Arabic

ALG-AR: Algerian Arabic

BR: Berber

FR: French

LWT: Loanword typology meaning list

WOLD: World loanword database

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List of Phonetic Symbols

1. Consonants

consonant	Symbol	Articulatory Description
ء	ʔ	Glottal stop
ب	b	Voiced bilabial stop
پ	p	Voiceless bilabial stop
ت	t	Voiceless dento-alveolar stop
ث	θ	Voiceless inter-dental fricative
ج	dʒ	Voiced post-alveolar fricative/affricate
ح	ħ	Voiceless pharyngeal fricative
خ	x	Voiceless uvular fricative
د	d	Voiced dento-alveolar stop
ذ	ð	Voiced alveolar fricative
ر	r	Voiced alveo-palatal trill
ز	z	Voiced alveolar fricative
ژ	ẓ	Emphatic voiced alveolar fricative
س	s	Voiceless alveolar fricative
ش	ʃ	Voiceless alveo-palatal fricative
ص	ṣ	Voiceless alveolar emphatic fricative
ض	ḍ	Voiced alveolar emphatic stop
ط	ṭ	Voiceless dento-alveolar emphatic stop
ظ	ðʕ	Voiced alveolar emphatic fricative
ع	ʕ	Voiced pharyngeal fricative
غ	ɣ	Voiced uvular fricative
ف	f	Voiceless labio-dental fricative
ڤ	v	Voiced labio-dental fricative
ق	q	Voiceless uvular stop
ك	k	Voiceless velar stop

ل	**l**	Voiced alveolar lateral
م	**m**	Voiced bilabial nasal
/	**ç**	Voiceless palatal fricative
ن	**n**	Voiced alveolar nasal
ه	**h**	Voiceless glottal fricative
و	**w**	Voiced labio-velar glide
ي	**j**	Voiced palatal glide

2. Vowels

Short vowels	**a**	Front, nearly half-open, low unrounded
	u	Back, nearly close, high rounded
	ɪ	Front, open, high unrounded
Long vowels	**a:**	front, nearly half-open, low unrounded
	U:	Back, nearly close, high rounded
	ɪ:	Front, open, high unrounded

General

Introduction

Variationist sociolinguistics came to light to examine any kind of language variation accompanied with linguistic change, i.e., the interplay between the linguistic variables and the social factors. In other words, variationist sociolinguistics, within the scope of language variation and change, aims at offering social implications underlying individuals' variable speech performance in different social and linguistic settings. The variable speech may be realized in lexical choices, phonological representations, grammatical and stylistic preferences or any other level of linguistic systems.

Clearly, the term variation is decisively related to change or specialization (Wallenberg, 2013). Variation is an ingrained language characteristic which leads to change over time (Chambers 1995). In effect, he (1995), for instance, devotes most of his book *Sociolinguistic Theory* to explaining and "discovering the social meanings of linguistic variation" (p. 207). However, he does not reflect on the most important questions: how does language change and who introduces such changes? As a rebuttal, Chambers and Trudgill (2004) examine the progress of linguistic innovations, i.e., diffusion and the social factors behind the patterns of diffusion as an attempt to discover which social group (or groups) is the leader in the progress of such changes. Yet, it should be noted that variation does not always lead to change (Labov, 2001). Rather, variation is very crucial in studying language change as the variables most subject to variation are more likely to undergo a process of change (Labov, 2001; Friðriksson, 2008). For this reason, it is de rigueur to differentiate between variation and change; when language has different forms for a particular element, these forms are formally referred to as *variants* and the element with manifold forms is labelled a *variable*. Variation is mandatory for language change to ensue while the opposite is not predominantly factual.

Other scholars, on the other end of the spectrum, claim that the notion of change is separate from language enquiry (Hickey, 2010). This stems from the fact that the social factors underlying such a process are so immense that the investigation shifts from the focus on language itself as the main subject of enquiry to an

accentuated attention on the social layout of the community promoting language change. Hence, many researchers have been trying to ascertain the exact factors and mechanisms behind language change. The question raised here is how change starts or happens, why languages tend to fluctuate and under which conditions all of this takes place. However, in the bulk of literature, this field of interest is crammed with conjectures but with little evidence.

Previous research on this area of investigation demonstrates that there is no such a thing as language stability because almost all languages undergo change at a particular point in time. For instance, Icelandic, characterized by a high level of stability compared to other languages, underwent a change after all and did not maintain the same status quo. This implies that change is inevitable as language is highly influenced by individuals and society. This fact indeed means that there is no fixed answer for why language changes in the first instance as there are many assumptions and no credible evidence.

In this vein, it is implied that language change is axiomatic because there is no language that does not change even a little (Hickey, 2011). What is more, the pace of change varies from one language, variety or dialect to another owing to internal and /or external motives. At this juncture, it is worth mentioning that change is frequently associated with internal (structural) factors. However, language change is not always related to the structural side of language, i.e., internal change, but it can also be externally influenced.

In other words, when referring to internal change, one directly infers that it is related to the structural system of language. That is, once change affects a particular linguistic level, it straightforwardly impacts the other levels such as phonology and morphology because change often starts with phonetics and phonology; then, it is dislodged to other levels such as morphology (Campbell, 1998). For instance, in Old English, grammar noticed a change in word endings that eventually prompted a loss of gender markers in Middle English (Hickey, 2011). Nonetheless, external change is highly associated with language engagement of users in society.

It is acknowledged in the literature that certain instances of language use change both in form and in function leading to a change in the phonological representation of the structure and even the morpho-phonological distribution of that linguistic element. An example of that can be drawn from Algerian Arabic. In some varieties of the Algerian Arabic, the adverbial /fi:ssaʕ/ is used in a variety of contexts meaning "quickly or hurry up". A first glance at the aforementioned lexicon intuitively indicates that there is a preposition /fi:/ meaning "in/at" and a nominal element /saʕ/, which is the closest in form to /saaʕa/ meaning an hour. The cross-dialectal contrastive approach to language change shows that there are similar instances of this structure in other dialects in the Arabic world, such as /hasaʕ/ in Jordanian Arabic. One can safely argue that the actuated form in Algerian Arabic is /fii haaði ssaaʕa/, which literally translates to "in this very hour", and that the actuated form in Jordanian Arabic is /ha ssaaʕa, which literally translates to "this very hour".

The instances above from the two varieties of Arabic show that language change manifests itself at varying levels of linguistic analysis, often in an overlapping fashion. The phonological reduction taking place in the linguistic structures illustrated above makes use of the concatenative system of morphology in Arabic and, thus, the preposition is fused with the adverbial /haaði/, which, in turn, is clipped from the phonological representation of the structure leading to a different form as illustrated earlier. It can be also noticed that the morpho-lexical and phonological changes befalling the prepositional phrase resulted in a morphological representation that is comparable to the morphology of a single word. Language, thus, self-regulates the distributional criteria of the word changing its morpho-lexical category from a prepositional phrase to an adverbial lexicon.

What is noteworthy as well is that language variation does not always imply change; variations can be stable over time. That is to say, some variables do no lead to change eventually such as Ancient Egyptian possessive constructions in which two patterns remain stable while the other two changed over time (Gardiner, 2017). Researchers in historical linguistics have attempted and are still striving to decipher the puzzle of language change and its tenets. The first and foremost issue is tracing

the discrepancies between the related languages in order to find out if such diversities are a result of language change. Other crucial questions that require attention concerning how change takes place are the "mode and tempo" sort of question (Greenhill et al., 2010); these interrogations are as follows: "which items in language change are more rapidly than others, what features change into which others, and which features are stable across centuries and millennia" (Bowern, 2019, p.48). However, scholars could not answer the *why* interrogation in language change as most researchers provide hypotheses and speculations about the whys and wherefores of language change. In fact, few researchers could elucidate this point because it has much to do with speakers and their use of the language. For instance, Ahern and Clark (2017), when dealing with semantic change, discover that change is governed by the psychology of interlocutors.

These questions work together since they are interwoven. That is, each question provides an answer to establish a complementary theory. In other words, the "*what* provides us with observations; the *why* provides us with a theory that explains those observations, and the *how* provides us with a framework to structure those observations, and to predict and evaluate implications of the theory" (Bowern, 2019, p.49).

Traditionally, language change is usually when a speaker innovates in his language or as a result of contact with other languages. Milroy (1993) further appends that change is speaker-based since most of the innovations emanate from the speakers rather than the system of the language. At this juncture, Milroy (1993) attempts to differentiate between change and innovation where he describes the latter "as an act of the speaker which is capable of influencing linguistic structure" (pp.221-222). Similarly, Andersen (1989, refers to speaker-innovation as any element of usage (or grammar) which differs from previous usage (or grammars)" (p.13). Lass (1980) as well claims that not all innovations come to be a change in the system in the long run; he approves Milroy's proclaim that it is indispensable to pinpoint the "conditions in which an innovation is unsuccessful in addition to those in which it is successful" (Milroy, 1993, p. 222). However, the rate of change differs according to speakers'

interactions in their speech community that is why it is crucial to always go back to society where speakers get to interact with each other. Other scholars such as Kroch (2005) and Wallenberg (2013) view language change from a different perspective. They ponder that language change is when different forms 'compete' with another new form within a particular speech community (Kroch, 2005).

Interestingly, there are some approaches that consider children acquisition of language as a main motive of language change (Lightfoot, 1991; Hale, 2007. However, the speed of linguistic change itself is rather rapid compared to the process of acquiring language by children (Aitchison, 2003). In other words, the lapses and imperfections that face children when acquiring a first language are not the only cause of language change in the view of the fact that children are not the center of the speech community unlike teenagers which are the innovators themselves.

1. The Linguistic Market of Algeria

1.1 Population and Geography

Algeria is a country in the middle of the Arab Maghreb; it covers an area of 2.381.741 km2. It is the largest country in Africa and the tenth largest country in the world. It is surrounded by Tunisia and the Mediterranean to the northeast, by Libya to the east, by Morocco to the west, by the Western Saharan territory, Mauritania, and Mali to the southwest, by Niger to the southeast and by the Mediterranean Sea to the north. Algeria's population is estimated to be nearly 44 million in 2020 according to the United Nations data.

In fact, the Algerian population is an agglomeration of various ethnic and religious groupings, including Berbers, Arabs, Turks, Sub-Saharan Africans and Andalusians (people from southern Spain). It was occupied by many dynasties and eras such as Numidians, Phoenicians, Carthaginians, Romans, Vandals, Byzantines, Umayyads, Abbasids, Idrisid, Aghlabid, Rustamid, Fatimids, Zirid, Hammadids, Almoravids, Almohads, Ottomans and the French colonial empire (Lacoste, Nouschi & Prenant, 1960).

Berbers or Amazigh (plural Imazighen), meaning free or noble men, are the indigenous inhabitants of Algeria. They speak varieties of Berber (also called Berber) which is an Afro-asiatic language. They generally reside in the east of Algiers; they are considered the largest Berber group in Algeria besides Chaouia, Mozabi, Chelha or Tachelhit, and Touareg.

1.2 Ethnico-linguistic Diversity

Despite of the aforementioned collection of ethnic groups in Algeria, the modern society of Algeria seems to be composed of three main ethnic groups: the Arabs, Berber and Francophiles; of the three groups, the Francophiles is more of an intellectual rather than a purely ethnic group. This division has resulted into three main languages in current use in modern Algeria. These are Arabic, Berber and French.

Standard Arabic (hereinafter SA) is the lingua franca shared among countries of the so-called Arab World; it is used in many domains like religion, government, education, mass media, law, etc. It is considered as the national and official language of Algeria, yet it is constrained to official and formal use only. Standard Arabic, in fact, is a simplified version of Classical Arabic; it is a rationalized variety that is resplendent with loan words in keeping with the contemporary linguistic and social needs. It is a de facto intelligible variety that can be understood by all Arabic speakers in the Arab World.

Moreover, Algerian colloquial Arabic infuses French and even Berber in its vocabulary. It is the language of everyday life, home and street and is therefore the mother tongue of most of the population. Chemami (2011, p. 228) further appends that "Algerian Arabic is the main language of Algeria. It is used by 70% - 80% of the population as their mother tongue". It is like an assembly of various languages such as Arabic, French, Berber, Spanish, etc. with unique lexical, phonological, morphological and syntactic structures. For instance, "he cries" in MSA is /baka:/, but in AA, it is [bka]. This is a case where the first vowel is omitted and the second is reduced. The following example of plural in MSA illustrates the morphological

difference between the two varieties; one says "two doors" /ba:ba:n/ in MSA but [zu:ʒ biba:n] in AA. Syntactically, patterns and the order of patterns change randomly; for examples, "my sister cooked dinner" is /ṭabaxat ʔuxti: ʔalʕaʃa:ʔa/ in MSA, but [xti ṭʌjbət lʕʃa] in AA. Similarly, the lexicon is at variance as well; the word car in MSA is /ṣaja:ra/ but it is /loṭo] or /ṭomobi:l/ in AA. In sum, Algerian Arabic is "thought to be a grammarless corruption of "real" Arabic (ʔalfuṣha:)" (Holes, 2004, p.440) full of foreign and modernized words. Appraising it, scholars claim that "Dialectal Arabic in Algeria is one of the defining features of the Algerian people and the native language of the majority of the population". Thus, "instead of disparaging it, Dialectal Arabic should be studied and used as an aid to develop Modern Standard Arabic" (Mazouni, 1969, p. 13).

> Spoken Arabic in Algeria (…) is spread over four major geographical areas each with its own linguistic features (1) Western Algerian Arabic used in an area which extend from the Moroccan border to Tunis. (2) Central Algerian Arabic spoken in the central zone which extend to Bejaia and includes Algiers and its surroundings.(3)Eastern Algerian Arabic spoken in the high plateaus around Setif, Constantine, Annaba and extends to Tunisian border.(4)Sahara Algerian Arabic spoken by around 100,000 in habitants in the Sahara Desert. (Benrabah, 2007, p.46)

Berber (The original and indigenous language of Algeria) and its different varieties (Chaouia, Kabyle, Mzabi, Chenoui and Touareg) are spoken in the Berber speech community. It is written in Latin alphabet; it is estimated that a quarter of the Algerian population speak this language (Lewis, 2009). In general, it is spoken in the densely northern area of Algeria. It became a national language in 2002 and a joint-official language in 2016.

French is an important part of the Algerian linguistic profile; it was introduced to Algeria during the period of the French occupation and lasted even after the independence. In fact, Algeria is the second largest francophone country in the world. The French language is used in the media, education and in everyday life by many

Algerians. It is estimated that more than two thirds of the Algerian population speak and understand French. It is contending with MSA in education, administration, media and even the other sectors as economy, politics, etc. According to Mokhtar (2018, p.138), opponents of French consider it as a sign of "openness" and "enrichment" while others see it an intruder that distorts their Algerian identity. However, veracity reflects the opposite as most if not all people utilize and need French; it is still a pillar language in the Algerian system despite the new law of 2019 of introducing English in Algeria. In sum:

> [t]he Algerian situation is complex, as it is at a crossroad of tensions between French, the colonial language, and Arabic, the new national language; Classical Arabic versus colloquial Algerian Arabic; and the various Berber dialects versus Arabic. The lessons from the Algerian situation may be usefully applied to analogous situations by states planning their linguistic, educational and cultural policies (Tabory & Tabory, 1987 cited in Benrabah, 2005, p. 380).

1.3 Berber and its Dialects

Berber, also called Tamazight or the Amazigh language, is the mother tongue of minority groups dwelling different parts of North Africa, including Algeria, Morocco, Tunisia, Libya, Mali, etc (Achab, 2012). Yet most of Berber-speaking population resides in Algeria and Morocco (Kruse, 2013). As far as the number of Berber speakers is concerned, no formal consensus is carried out; for instance, Wolff (2013) estimates that it is spoken by approximately 14 million people. However, till now, there is no reliable source for the number of Berber-speaking population in Algeria.

Berber pertains to the Afro-Asiatic phylum, i.e., it is part of the Hamito-Semitic language branch (Achab, 2012; Wolff, 2013). The term Berber has many connotations. It may be derived from the Greek word 'barabroi' which means non-native speakers, that is 'barbari' in Latin (Ilahian, 2017). Another opinion is demonstrated in Fromherz (2014) that the term Berber stems from the Arabic word 'Al-barbar' to simply refer to foreign speakers. Messaoudi (2009) alleges that such

assumptions are not reasonable airing his views about the origin of Berber. He claims that Berber originates from 'Iberiber', i.e., Nomad in Touareg (Haddouche and Touati, 2018). In fact, the closest denotation of the term Berber is nobility; Achab (2012) confirms that the word Amazigh or Berbers means free or noble men. Ibn-Khaldun, on the contrary, simple relates the term Amazigh to Mazigh, the son of Ham.

Berber generates from an old Libyc or Libyan language corresponding to the writing system used at that time 'the Libyco-Berber script' or simply Tifinagh (plural) '/tifinæɣ/' (ⵜⴼⵉⵏⴰⵖ) or Tafineqq (singular) '/tafinæq/' (ⵜⴰⴼⵉⵏⴻⵇ) (Briggs, 1957). The term Libyco has no relation with the country of Libya. Libyco dates back to 800 BC (Pichler, 2007).Tifinagh is an agglomeration of dots, arcs and strokes. Unlike many languages, it can be written from any margin: left, right, top or bottom (Ernest, 2011). Besides Tifinagh, Berber is also written using Latin and Arabic alphabets.

Berber is spoken in many regions in Algeria; each area speaks a particular variety. These varieties are dispersed on detached areas all over North Africa which makes them somewhat mutually unintelligible (Chaker, 1996; Haddaddou, 2000). Most, if not all speakers, of Berber are multilingual as they speak and understand Arabic and/or French with the exception of old illiterate people who are monolingual (Ernest, 2011). There are five main dialects of Berber in Algeria:

- Kabyle, Kabylian (Takbaylit): this dialect is a commonplace in Algeria; it is estimated that the number of Kabyle speakers exceeds the number of speakers of the other varieties (Haddaddou, 2000). It is spoken mostly in the central north of Algeria namely in Tizi Ouzzou, Bejaia, Bouira, Boumerdes, Blida, Bordj Bou Arreridj, Setif, Jijel and Algiers (INALCO, 2017).
- Chaoui or Chaouia (Tachawit): this dialect is spoken in the areas of Aures Mountains, namely, Batna, Khanchla, Souk Ahras, Oum Bouagui and Biskra. It is the second most prevalent variety after Kabyle.
- Mzabi, Mozabit (Tamzabt): this dialect is peculiar to Ben Mzab who reside in Ghardaia, 600km south of Algiers (Chaker, 1996).Mzabi form a minority in Algeria; they are characterized with their unity as a group and their interaction

with the rest of the Berber and Algerian community. The word Mzab stems from the name 'Mosaab' after their grandfather (Benhattab, 2011).

- Touareg, Tahaggaret or Tergui (Tamashaq): this dialect is spoken in the faraway Sahara in the southern frontiers of Algeria such as Tamanrasset, Ahaggar. It is considered to be the most preserved dialect among all Berber dialects (Prass, 1969; Chaker, 1996).

- Chenoui (Tachenwit): this dialect is spoken in the northwest of Algeria such Tipaza, Batna, Biskra, Khancha and Cherchel. It forms a smaller population compared with Kabyle and Chaouia (Roberts, 2014).

2. Politics and Linguistic Co-existence in Algeria

As an Islamic and Arabic country under a foreign colonization, Algeria made sundry efforts to impose Arabic even before independence in 1931 by the "Association of Muslim Scholars" (Mokhtar, 2018). The long-term aim was to recuperate the Algerian identity and to dispense with the impact of the French colonizer linguistically, culturally and politically. Due to this pressure, those in leadership suggested an emergency protocol to regain their fragmented Arabo-Islamic personality and replace French. Putting emphasis on this issue, Ibrahimi (trans, 1973, p.230) states that it is compulsory to "Arabize progressively but resolutely" (Arabiser progressivement mais résolument). Arabization is a linguistic policy that aims at ratifying Arabic as a national and official language. In sum, Ibrahimi summarizes Arabisation as follows:

> L'arabisation est devenue synonyme de ressourcement, de retour à l'authenticité, de récupération des attributs de l'identité arabe qui ne peut se réaliser que par la restauration de la langue arabe, récupération de la dignité bafouée par les colonisateurs et la condition élémentaire pour se réconcilier avec soi-même.

Translated as:

> The Arabization became synonymous to ressourcement, on returning to the authenticity, recovering the attributes of the Arabic identity which

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can come only by the restoration of the Arabic language, the recovery

of the dignity scoffed by the colonizers and the elementary condition to

become reconciled with itself. (Ibrahimi, 1997, p.184)

However, after the resignation of Arabic, the new policy faced some hindrances such as which language to use for education and which language should be official, the lack of teachers, etc. Besides, 80% of students in 1967 repudiated Arabic claiming that it is difficult to acquire (Grandguillaume, 1983) and the proof is AA since the majority use their own dialect which is a mixture of MSA, AA and French in addition to Berber. Moreover, when the government recruited teachers from Syria, Egypt and Iraq, they were not really qualified as their spoken language was a major setback in front of the process of teaching Arabic (Abu-Haider, 2000).

In 1971, President Boumedienne made it come true where Arabization reached its climax as it was fully implemented. Even universities were arabized at some extent at that period. Official documents were written in Arabic and French was eradicated gradually. Arabic dominated all the sectors of the government; it was taught progressively starting from 1962. French in turn became a first foreign language; it was taught in primary schools starting from the fourth grade and now from the second grade.

Yet universities and administrative centres besides the other sectors were still using French extensively in nearly all domains which was a major criticism levelled against this policy. Ibrahimi in the 1960s further adds that this Arabization will not work but we have to do it. This means that Arabization was executed in schools only and it did not work in other domains such as science. In other words,

Arabization has always been a bone of contention and a matter of

political controversy. Since its initiation in the 1960s, it has received

acid criticism on the basis that it does not consider the de facto

multilingual composition of Algeria (one weakness among many

others). Arabization has simply created a condition of linguistic conflict

in which Arabic has to face the two other languages: French and Berber.

(Djennane, 2016, p.71)

With all the measures taken, one part of Algeria's individuality was dismissed from the scenario of recognition; Berber the language of the indigenous people of Algeria and its identity was excluded. Berber was used neither in schools nor in the media; its use was restricted to everyday speech as a means of communication solely. For this reason, there were some civil protests which became known as the 'Black Spring' to retrieve recognition. After this political and linguistic turmoil, some associations were founded; for instance, a High Commission for Amazighity was founded in 1996 to recover the language eminence that was lost for decades. Despite this move, Berber did not gain recognition till it was designated as a national language in 2002 and an official language in 2016 (Benrabah, 2007). Eventually, it started to be taught in schools as a compulsory course from grade one.

3. Statement of the Problem

The Algerian linguistic profile includes a wide range of dialects that provide materials for sociolinguistic studies. These dialects have a number of structural differences that are explainable in terms of sociolinguistic and dialectological frameworks. However, it is observed that there is a paucity in the study of Berber verieties such that the interplay between typologically Arabic and non-Arabic varieties is yet to be understood. The Berber-speaking communities represent example of highly intricate contract situations where a range of linguistic phenomena materialise. The interlinguistic influence can be observed at a number of linguistic micro levels; more particularly, lexical inventories are conceivably on constant processes of restructuring due to the external influence of other languages.

In view of that, the problem of the present study arises where a particular emphasis is placed on the interplay between Chaoui and other varieties at the lexical level. Social groups within the Chaoui community can demonstrate discrepancies in their linguistic behaviour such that there is a need for the sociolinguistic analysis of the linguistic situation in the Chaoui community. The problem of the present study also arises from personal anecdotal reasons as the researcher has previously

conducted an analysis on language change on Mzabi and Kabyle. However, it was believed that the researcher needs improvement and expansion. The improvement can be ensured by adopting a research design that is more intricate and exhaustive that it leaves little residual data unaccounted for. The expansion can be provided by the projection of the previously conducted research design on a new speech community that speak yet another Berber variety.

4. Research Questions and Hypotheses

In light of the problem highlighted above, the present study seeks to address the following research questions:

- ➤ What are the linguistic aspects of lexical language change in Chaoui?
- ➤ How is such change, or the lack thereof, manifested in the Chaoui speakers' linguistic behaviour?
- ➤ What social implications can be inferred from the interspeaker variation within the Chaoui community?

Prior to developing a methodological framework to address the questions, the following hypotheses are proposed:

- ➤ Lexical language change has linguistic implication where the semantic content and the morpho-lexical categories licence change.
- ➤ Non-mobile male uneducated rural members of the community are more resistant to change whereas highly mobile female educated urban members are more embracing of it (NORMs).
- ➤ Social factors such as gender, age and education and cognitive factors such as multilingualism play a major role in shaping the speakers' linguistic behaviour with reference to changed/unchanged variables of speech.

5. Research Objectives

Research in the field of sociolinguistics has the general goal of developing a framework and a theoretical model that helps explain how the social factors interfere in shaping the linguistic behaviour. The present study, being purely sociolinguistic in

scope, has the goal of determining how the various linguistic behaviours in Algerian contexts are shaped by the unique social profile of the Algerian community.

The present study has a number of objectives. First, it seeks to contribute to the theoretical background available about language change in contact situations. The present study aims at investigating the inbuilt features of language that make some linguistic features inherently more susceptible to change. This goal is achieved by comparing lexical language change across various semantic fields and morpho-lexical categories. By so doing, researchers can get insight into whether some semantic fields are more open to change and whether some lexical categories (nouns, verbs, etc.) licence change more readily than others.

The present study has the goal of contributing also to the more accurate description of the Algerian linguistic profile. Accounting for the niceties of interlinguistic relations between the languages that make up the Algerian linguistic background helps draw on a more faithful representation of what constitutes the Algerian varieties. This research objective is attended to via accounting for how Standard Arabic, Algerian Arabic and French take part in forming the lexical inventory of Chaoui.

The final objective of the present study is to investigate how the influence of Arabic and French on words in citation form is reflected in the actual behaviour of speakers in casual form. Given that speakers within the same speech community affiliate with different social subgroups, the present study seeks to investigate how social and psychological factors such as gender, age, education, nationalism, psycholinguistic distance, etc., help explain the variations across the speakers' language production.

6. Research Significance

The present study draws significance from the generality of the phenomenon investigated and the particularity of the application. The analysis of language change as a linguistic phenomenon is of an essence as it encapsulates the dynamic nature of language and makes a liaison between the form of language and the social factors. It

embodies language not only formalistically as a system of patterns that has a generative capacity but also humanistically as an entity that is unsegmented from the speaker. While it has been the goal of generative frameworks to understand the nature of human faculty of language and explain what speakers know when they know language, it is the goal of language change research to delineate the inherent features of language that make it intrinsically susceptible to change and the external factors that make materialise these changes.

These empirical and theoretical goals are achieved only by the actual investigation of cases of language change in naturally occurring speech event contexts. While such a query has been addressed in numerous research efforts, it is the replication of such research protocols that gives reliability to the outcomes and allows to have more generalisable findings. The present study, thus, seeks to provide more insight into language change in multilingual contexts.

On the other hand, the present study gains significance from the particularity of the applied measures. The Berber varieties in Algeria are under-researched and findings thereabout are inconclusive. The present study is, thus, of a considerable significance as it celebrates the sociolinguistic diversity of Algeria and helps preserve its cultural heritage. The data collected in the present study transcend the immediate context of the present study and constitute a secondary source of data for other researchers. The relatively exhaustive glossary of translated words (more than 1500 items) can be worthwhile to researchers who seek to analyse Chaoui morphology, phonology and lexicology or even to researchers whose objective is to replicate the study or metanalyse its data.

7. Structure of the Dissertation

The first chapter in the present study offers a primary theoretical background about language change. It reviews some theoretical models that account for how language change is instigated and how it is propagated. The chapter sheds light on the internal factors that lead to language change. That is, the purely linguistic properties that cause language to change in the first place. In addition, the chapter discusses the external non-linguistic factors that are closely relevant to the discussion

of change. Within this chapter, a brief discussion of change is offered within the general frameworks of formalist and functionalist linguistics. Finally, the chapter provides a more particular discussion of Labovian sociolinguistics and variationist viewpoint on the phenomenon.

The second chapter delves more in-depth into the issue of variation and change as it discusses the role of multilingualism, language contact and language acquisition in the process of change. This chapter discusses some empirical studies that investigate change across the different micro-linguistic levels in relation to variables such as prestige, attitude, awareness and planning. The goal of this chapter is to sketch a context for the interpretation of the prospective findings in the context of the present study.

The third chapter is devoted to the discussion of the methodological framework developed to address the research questions. This chapter discusses the research approach, the target population, the sampling measures, the data collection and administration and the protocol of analysis. The chapter also discusses the psychometric features of the tools and the piloting procedures and covariate analyses that are performed so as to enhance the quality of the measurement.

The forth chapter discusses the findings obtained from the translation of the list. It presents the results of the analysis within each semantic field and across the various grammatical categories. By providing a qualitative and quantitative discussion, the goal of this chapter is to help understand how Arabic and French influence the different lexical items in Chaoui.

CHAPTER ONE

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Theoretical Considerations in the Study of Language Change

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1.1 Introduction

One of the omnipresent characteristics of language is that it is dynamic. This capacity is reflected in the fact that it allows for adjustment as speakers of one variety in two speech communities can elect to manipulate it based on their practical needs. After all, the general premise in the linguistic theory is that languages are constructed in such a way that meets the needs of the speech communities where they are spoken. It is natural that languages undergo change through time in consonance with the change affecting the social needs of the speech community thereof.

Research in the field of sociolinguistics attempts to comprehend the depth of language change by addressing the issue of how language change starts, why it starts and what social groups are responsible for its transmission. The answers to these questions are, however, inconclusive and scholars have differing views giving rise to different approaches. The following sections discuss the theoretical considerations pertinent to each approach.

1.2 Language Change: Theoretical Models

Notwithstanding the relative discrepancy in the extent to which certain speech communities reserve their linguistic profile, all languages are bound to change (Aitchison, 2001). The linguistic variables that are subject to variation are more susceptible to change. The latter is determined by factors that are, more often than not, non-linguistic. That is, the ensemble of, inter alia, social mobility, sense of identity, patriotism and nationalism is what identifies what variables are more likely to change and the speed at which language change occurs.

1.2.1 The Family Tree Model

In the past 150 years of language studies, the basic account of language change has been represented in the *Family Tree Model* proposed by the Neogrammarian School between the 1860's and 1880's headed by August Schleicher (Crowley & Bowern, 2010). The basic assumption in the Neogrammarian School of thought is that contemporary languages evolved from a proto-language. Establishing relatedness between languages that are likely to be descendants of one protolanguage

is within the epistemological concerns of comparative philology. This is achieved by the assumption that establishing patterns of sound correspondences between languages serves as evidence for the genetic relations between them. Languages under examination are projected on a linguistic family tree illustrating how the proto-language branches out into these languages which, in turn, may branch out into other languages.

Campbell (2004) offers an account of the *Family Tree Model*, also known as the *Stammbaum* (Francois, 2014), with its basic premises. First, it is generally believed within the Neogrammarian School of thought that sound change is regular. The German linguists, Karl Brugmann and Hermann Osthoff (1878/1967) refer to this as *Neogrammarian Hypothesis* The hypothesis goes in line with the conjecture that "every sound change, in as much as it occurs mechanically, takes place according to laws that admit no exceptions" (Campbell, 2001, p. 92). This means that whenever sound change occurs, it occurs everywhere in that language.

The Neogrammarian Model is challenged by some empirical evidence demonstrating instances of phonological change that does not spread across all levels of language. In view of that, Hickey (2010) offers a counter-example from Middle English. In the latter variety, states Hickey (2010), a very noticeable sound change occurs shifting the /ʊ/ sound to /ʌ/. Words such as "love", initially pronounced /lʊv/, had a new phonological representation /lʌv/. According to the Neogrammarian Model, this sound change would affect all instances of the language. Nevertheless, words such as "push" and "pull" maintained their initial representation and resisted change (Hickey, 2010).

The second basic tenet of the Family Tree Model is that language change occurs via the diversification of language. That is, one language undergoes a process of splitting into several dialects which later, in turn, develop into separate languages. These newly-developed languages undergo the same process and further develop into new dialects and, hence, languages without any further interaction between the branches (Am-David, 2014). This tenet leads to the third principle of the family Tree Model where the assumption is that all actual languages go all the way back to one

proto-language. Moreover, proto-languages are believed to have single forms. However, the belief that a given linguistic variety exists in invariability is heavily challenged by contemporary variationist frameworks.

Further challenges of the Family Tree Model come from the field of *Creolistics*, i.e., the study of pidgins, creoles and mixed languages. It is well-attested that some languages, such as the Basque-Icelandic pidgin, Babalia-Arabic Creole of Chad, Vedda Creole of Sri Lanka, etc., arise not from the proto-language as assumed by the Family Tree Model but rather from situations of intense language contact (François, 2014). These languages do not have a single parent language but two languages, with one acting as a *lexifier language* and the other acting as a *substratum language* (Am-David, 2014).

1.2.2 Indeterminacy and Variability

Research in sociolinguistics offers some counter examples to the Neogrammarian Hypothesis and the Family Tree Model who approach language change as a diachronic scope of inquiry. Labov's work, as it will be discussed in subsequent sections, offers great insight into the synchronic aspect of language change. These synchronic traits of language change are best-manifested in the phenomena of indeterminacy and variability (Crowley & Evans, 2015).

Indeterminacy is heavily related to cases of *Grammaticality Judgement Tasks*. Here, native speakers of a given language are offered series of grammatical structures in order to evaluate whether such structures are grammatically acceptable or not. Crowley and Bowern (2010) argue that evaluating well-formedness is possible for many structures inasmuch as native speakers can readily identify the ill-formedness of some structures. However, in some cases, native speakers cannot assuredly identify whether a given structure is clearly grammatical or not. This suggests that there can be a spectrum of grammaticality ranging between sentences that are clearly grammatical, sentences that are clearly ungrammatical and sentences that are in-between (Crowley& Bowern, 2010).

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It is true that formal analyses of language do not acknowledge such a spectrum given that the rules of grammar are definite; contemporary functional analyses of language recognize such instances of indeterminacy as evidence on the synchronic nature of language change (Andersen, 2006). Indeterminacy is indicative of the fact that some structural patterns are either entering into "the core grammar of the language or leaving it" (Am-David, 2014, para.10). In other words, structures that are indefinite with regard to the norms of well-formedness encompass structural patterns that are either in the process of being deleted from the structural repertoire of that language and are, hence, not readily accessible to the language users, or they are in their way of entering into that repertoire and are, hence, not visible to all users of that language yet. This intermediate stage of structural patterns is, according to Crowley and Bowern (2010), reflective of change-in-process. This belief goes against the general assumption that the grammar of language is a static closed set of rules that are definite and consummately accessible to language users at any point in time post-acquisition. Instead, the indeterminacy phenomenon shows the rules of grammar as dynamic allowing for accounts for synchronic changes that affect language.

While the phenomenon of indeterminacy addresses the linguistic competence of native speakers, variability addresses the linguistic performance thereof. It is observed that native speakers do not perform invariably. Instead, one can easily identify variation in the speech representing one linguistic form within one speech community and even with the speech of one individual. It is cogent that language speakers change their lexical and grammatical forms based on non-linguistic factors. Different linguistic forms are more suitable for given social settings than others indicating that neither language form nor language function are static systems.

Indeterminacy and variability go against the Family Tree Model which assumes invariability in proto-languages. Evidence shows that contemporary languages, which serve as proto-languages for languages to come, enjoy high levels of variability in their systems of grammar and use and that this variability is not always determined by linguistic and, hence, predictable factors. Language, thus, cannot be defined as a clearly-defined set of static rules that admits of no variation.

Rather, every language at any point in time exists in a continuum of variables that are subject to linguistic and non-linguistic parameters.

1.2.3 Change as an Internal and External Phenomenon

One of the long running debates relevant to the discussion of language change is reflected in what aspects of language change the researchers tend to focus on and what explanation they provide for it. This results in a bipartisan distinction between proponents of the internal explanation and those of the external explanation of language change.

Advocates of the internal aspect of change (e.g. Martinet, 1952; Ohala, 1993) assume that the linguistic system itself provides a clarion call for language change. Thus, languages, regardless of any external factors, are prone to change. Their view is not in total dismissal of the role of external factors in propagating language change. Instead, they aver that certain linguistic elements licence and prompt language change, and the role of the external factors is only to aid the propagation of change. To them, language change is induced linguistically and promoted extra-linguistically by means of social, psychological and functional factors.

Language imbalances are the main motive behind internally-induced language change (Hickey, 2003). Such imbalances result in the loss of marked elements and the reduction of irregular patterns. Moreover, language change can sometimes occur via the projection of regular patterns upon language irregularities. As language seeks regularity, a change in one linguistic level may result in an imbalance in another, which results in the linguistic levels not mirroring each other. Consequently, language resorts to resetting some of its parameters so that the stable variables match the changed ones.

One example that can be in support of such a claim is the phonological decline of case and gender morphology in many modern Arabic dialects. As Arabic lost its word-final case morphology (nominative and accusative), many verb conjugation lost gender marking word-finally. In the same vein, Hickey (2003) argues that Old English witnesses a phonological change at the level of word endings which led to a

loss of case system in Middle English resulting in a complete loss of gender morpho-syntax in Modern English.

Some researchers, namely Weinreich et al. (1968) and Milroy (1992; 1993), argue that language change is a social and not a linguistic phenomenon which is induced by the speakers of that language rather than the language system itself. Proponents of this view do not deny that certain linguistic elements are more susceptible to language change than others. However, they assert that the internal explanation of language change is fraught with some empirical complications as the view entails that there is an inherent feature about certain linguistic elements that cause them to change. The logical conclusion from such a claim, given the long established theory of language universals, is that there is a uniform pattern to which languages change. Empirical data, however, suggest otherwise; it is observed that even one language can undergo two differing processes of change in two speech communities.

Some researchers, namely Hickey (2003), consider language change to be internal when there is a clear reason and pattern for this change that can be explained in terms of marked and unmarked features or linguistic analogy that is noticeable in language acquisition. However, when there is no recognizable internal reason for change, these researchers make the claim that change is likely to be external. Other impetuses for language change are going to be discussed in details in the subsequent chapter. At this juncture, we suffice with the contention that language change is a sociolinguistic phenomenon that can bear some systematicity to it, yet it is mostly arbitrary. It is a phenomenon that can sometimes be motivated by linguistic typology and the internal features of the linguistic forms, but it is, by and large, a process that has ample social implications (Andersen, 1989).

1.2.4 Language Change and Language Evolution

One of the frameworks accounting for language change is that of Croft (2000). The evolutionary approach to language change takes its roots from the neo-Darwinian ideology of evolution, specifically Hull's (1990) generalized Theory of Selection. Croft chooses the term *evolutionary*, since he uses patterns related to biological

evolution of animals and plants. Likewise, Lass (1990) and Dixon (1997) propagated roughly the same approach espousing strands of the biological conception of change, namely the concept of *exaptation* and *punctuated equilibrium*, respectively. The term *exaptation* was first used by Gould and Vrba (1982) in evolutionary biology; Lass (1990) was a pioneer to propound this concept in language change. He nevertheless failed to establish a biological approach claiming that language is social in its nature, "claiming that the notion of exaptation seems useful in establishing a name and descriptive framework for a class of historical events, I remain fully aware (even insistent) that languages are not biological systems in any deep sense" (Lass, 1990, p.96). The reason why he failed to establish a biological approach is that thereare limits that restrict analogies from biological evolution. Of course, it is true that it may be of great aid to make some matches between the evolution of some linguistic patterns and the evolution theory; however, it remains metaphorical and it fails to make a final elucidation of the process. In parallel, Dixon (1997) introduced the notion of *punctuated equilibrium*– which was first proposed by the evolutionary biologists Eldredge and Gould (1972) – in historical-comparative linguistics to account for language change.

However, Croft implies discrete aspects of the term evolution, presuming an analogy between biology and linguistics; he attempts to give suggestions and principles for his analogy unlike Lass. In essence, the core of his approach is the utterance as it is the DNA of language. Croft alleges that language change occurs via the replication of these utterances (also called replicators or *linguemes*, Croft 2000), that is, uniquely innovative utterances that are duplicated repetitively (reproduced by the speakers or *interlocutors*) can cause change. The main contention of this model is that there is an inherent component about language mechanism that renders it non-stable, self-progressive and evolutionary (Aikhenvald & Dixon, 2001). At this juncture, Croft distinguishes between normal replication and altered replication. Normal replication occurs when speakers or interlocutors use a usual expression within the linguistic community following the conventions, whereas altered replication occurs when the speakers use the innovative utterance against the conventional laws of the speech community.

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When referring to language change and variation, Croft introduces the terms *innovation* and *propagation* instead of *actuation* and *transmission*, respectively as it was recognized by the proponents of the sociolinguistic approach. The processes of innovation and propagation are distinguished based on their temporal characteristics. Innovation is synchronic and "occurs in speaker action at a given point in time" (Croft, 2000, p.5), while propagation "is a diachronic phenomenon: it occurs sometimes over a very long period of time, even centuries" (idem). At this point, Croft raises the question of how change starts from the beginning; Croft here uses the term *convention* as a key word. He asserts that when the speaker shatters a convention and changes it by carrying an innovation into the speech community, change spreads and becomes an entrenched convention. Croft labelled it the *Utterance Selection Theory*. In sum, as Croft (2000) observes, this theory is usage-based in that language does not change by itself, but through speakers' use of this language. Hence, with regard to language change, the terms altered replication and innovation can be employed synonymously as well as the terms selection and propagation. In other words, "innovation is essentially language use beyond conventions [...] and propagation is essentially the establishment of a new convention in a language" (Croft 2000, p.95).

Additionally, in his attempt to elucidate why language change takes place, Croft refers to the form-function dichotomy which is quite similar to De Saussure's signifier-signified dichotomy. He suggests that each utterance has a structure (form) and a meaning (function) that is based on the linguistic and extra-linguistic makeup of that speech community. However, this form-function mapping is never stable because speakers usually produce utterances without paying attention to every word. In other words, when a speaker utters a word, a different mapping is constructed which will in turn alter the replicator in form or function (or both) (Lightfoot, 2002). That is, the form-meaning mapping is reanalysed by speakers or listeners. Change, here, is a process that resets the conventional mapping of forms and functions whereby new forms express old functions and new functions are fulfilled using old linguistic forms that would, otherwise, be indicative of other sociolinguistic functions.

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Given that language change is a process of remapping new forms and/or functions, Croft recognizes different types of language change based on whether linguistic elements gain or lose their content and whether this gain or loss is partial or complete. He, thus, acknowledges four types of form-function mapping: *hyperanalysis*, *hypoanalysis*, *metanalysis* and *cryptanalysis*. Hyperanalysis is the loss or depletion of a functional property, i.e.

> "the listener reanalyses an inherent semantic/functional property of a syntactic unit as a contextual property […]. In the reanalysis, this inherent property of a syntactic unit is then attributed to the context […], and so the syntactic unit in question loses some of its meaning or function. Hence, hyperanalysis is a major source of semantic bleaching and/or loss in general" such as the loss of oblique case in Russian and Germanic (Croft, 2000, p.121).

Hypoanalysis, however, is the insertion of a new functional unit to a particular syntactic unit. Simply put,

> the listener reanalyzes a contextual semantic/functional property as an inherent property of the syntactic unit. In the reanalysis, the inherent property of the context […] is then attributed to the syntactic unit, and so the syntactic unit in question gains a new meaning or function (ibid, p. 126).

Metanalysis is the two processes of hyperanalysis and hypoanalysis happening concomitantly (Croft, 2000); it is exchanging a contextual and functional property of a grammatical unit (ibid). To illustrate, colloquial French negation is an adequate example; the loss of the particle *"ne"* of negation makes the particle *"pas"* the new indicator on negation instead of being a reinforcement particle. Last, cryptanalysis is when "the listener analyses a covert semantic/functional property of a syntactic unit as not grammatically marked, and inserts an overt marker expressing its semantic value" (ibid, p. 134).

The typological categorization of language change in Croft's approach is heavily dependent on the listener's perception of the given linguistic units. His discussion of the four types of language change starts with Hyperanalysis where the

"the listener reanalyses an inherent semantic/functional property of a syntactic unit as a contextual property" (2000, p. 121). Moreover, Croft's approach to language change does not acknowledge the existence of variation within language which, as will be discussed in subsequent sections, is a vital component of the inherent characteristic of languages to undergo change. A good deal of criticism is levelled against the evolutionary approach for being liberal with the analogy of language mechanism to the natural organism. Indeed, there is a pressing need for this approach to establish a comparison grid in order to meet the requirements of theoretical validity (Lightfoot, 2002). Andersen (2006, p. 9) claims that "there is no chance of explaining language change by the mechanisms of evolutionary theory" because of the make-up of language change itself. Moreover, it is generally acknowledged that language change is unpredictable. Therefore, in order to compare human organisms and genes evolution to language behaviour within society, there are some patterns that need to be predicted and put under investigation for a good analogy (Bowern & Evans, 2015).

1.2.5 Language Change: Form and Function

The functional approach to language study views language change as a functional occurrence. Proponents of this framework consider that language change is a result of a kind of innovation to fulfill a particular function in language vis-à-vis Croft's approach. These intended functions can be an attempt to preclude equivocacy or to attain coherence in speech for instance by acquiring novel structural units or even words (Aitchison, 2003).

One general assumption in Croft's evolutionary approach to language change is that innovations in language use have functional implications. This claim is partly in consonance with the tenets of works in functional linguistics. The functionalists, at bottom, are ardent patrons of the communicative essence of language above all other features, and language change is, hence, consequential to changes in the communicative setup of the speech community in question. In other words, language change occurs as speakers try to work out certain communicative deficiencies that the present linguistic system fails to contend with. The speakers' quest to fulfill

functions, such as resolving ambiguities mirrors their desire to attain higher degrees of communicative efficiency.

Language tends to change for an optimal use avoiding any instance of loss or reduction. The ultimate goal is to opt for a simplified repairing change that does not hinder communication or understanding; this principle is also labelled *economicity* or *simplicity* (Crowley and Bowern, 2010). Notwithstanding the solutions this principle provides, it puts scholars in a conflict. That is, if simplicity or economicity is of paramount importance in language change, then change would occur at the same time, with same rate and in all languages universally (Crowley and Bowern, ibid).

Besides, the innovations that speakers introduce into their language are set to meet the necessary needs in a particular situation to achieve appropriateness, coherence and, at the end, perfection of language where there would be no changes in language at all (when the gaps in language are repaired). However, the two schools of thought (the evolutionary and functional) do not share every idea in that the functionalists do not consider the actuation and transmission as distinct processes with deviated inclinations but rather as two steps or two stages within the same process (Keller, 1997). Keller (1997) further adds that language users are the initiators of this change in order to fulfill certain functions. What is noteworthy here is that the fulfillment of such social or linguistic functions does not necessarily entail that the sociolinguistic setting of that language lacks such functions. Rather, speakers of a given language can resort to newly introduced linguistic variables on sheer communication-driven purposes. In this respect, Keller (1997, p.15) asserts that "the claim that change is a function of use is correct, while the claim that change has a function is wrong".

Language users are in constant process of "evaluate[ing] their tool – the language – as to its effectiveness for their particular needs in relation to the shared language habits of the community" (Gvozdanovic, 1997, p. 71). This evaluation process is determined by means of how effective the existing linguistic system is in addressing the communicative needs of the speakers.

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Eliasson (1997) further elaborates on the above-mentioned process. According to him, language speakers start by scanning the communicative context to determine the level of communicative efficiency. The second step is the "grammatical or lexical lookup" (Eliasson, 1997, p. 55) where speakers evaluate the structural elements responsible for the communicative deficiency. Speakers, then, compare the ambiguous elements to other possible structural equivalents. Finally, the structural equivalents are confirmed or rejected via testing against the general norms of grammar and in actual communicative events.

Eliasson's discussion (1997) implies that language change is substantially a speaker-based process that is motivated by functional reasons resulting from communicative deficiencies of the actual linguistic system, and it aims to achieve higher levels of communicative efficiency that is ambiguity-free. Language change is, thus, an intentional phenomenon that, contra the claim of the evolutionary approach, transcends the limits of the linguistic system. Proponents of this view lend validity from earlier work of Weinreich, et al. (1968) who believe that there is no methodologically sound reason to make a distinction between the actuation and the transmission of language change. The actuation of change is of little importance to the explanation of the phenomenon as speakers choose new forms from the linguistic repertoire available which, ultimately, results in language change.

Lass (1980), Milroy and Milroy (1985) and Labov (1994) share the view that change is a speaker-based phenomenon to communicate intentional functions, and "if functional theories of language change and variation are theories of intentions, they will be leading us down a very slippery path indeed" (Labov, 1994, p.550). This indeed is the most noticeable defect of this approach in that the functional explanation of language change is quite unreasonable. One reason is that some functions are "fishy and devoid of principles support" (Lass, 1980, p.69).

Another approach that is worth considering when discussing language change pertains to the formal school of thoughts in analysing linguistic units. The formal approach to language analysis views language as a structural system and studies it accordingly. That is, a formal linguistic study is interested in understanding

the systematic rules that govern the structural patterns. In such studies, language is viewed as a system that is the result of the human cognitive setup, and the social intricacies are but external factors that are not directly responsible for the existence of such structures.

One of the main figures in the formal approach of language studies is Noam Chomsky who views the study of the grammar of language as a cognitive science that allows understanding the functioning of the human mind and brain. To him, language makeup mirrors the cognitive processes inside the brain (Chomsky, 2006). Grammar is, hence, a window to the understanding of the human cognitive faculties.

Chomskyan linguistics, therefore, leaves little, if any, room for the integration of linguistic variation in the study of linguistic behaviour. To him, language is an individual capacity, and he discusses the linguistic units in terms of *ideal speaker's competence* rather than in terms of *conventional social norms*. The tenets of Chomskyan linguistics corresponds to an extreme case of language-based internal perspective. This contention translates perfectly to the view of Faarlund (1990) who argues that the analysis of language change is, by and large, "to explain changes in the grammatical system, not changes in the actual linguistic behaviour of individual speakers" (p. 31).

While some of the previous approaches do not utterly dismiss the social factor in accounting for linguistic variability, the formal approach argues that an explanatorily adequate theory of language change would account for the pattern to which linguistic forms change regardless of the social background of these patterns. A linguist would, thus, be concerned with the structural description of the innovated forms and the investigation of the universal patterns that govern these structures with no reference to the social factors that monitor the surfacing of these structures.

By all means, the Chomskyan view, although not directly initiated by Chomsky himself, is heavily criticized for its negligence of the social factors that govern linguistic variation. It should be clearly noted that formal linguists do not deny langue use (and hence language variation and change), they only neglect it since it is not necessary in their language theories that are contingent upon purely linguistic

patterns and not the social ones. It is, at bottom, the polar opposite of the view adopted by Milroy, Labov and other sociolinguists where the main contention is that language variation is central to the analysis of language and is as inquisitive as are the formal units of language. By so contending, language change becomes a society-driven phenomenon that is neither language nor individual speaker induced. Rather, it is a social phenomenon that is caused by a variety of social and non-social factors. In Milroy and Milroy's words (1985, p. 345), "it is not languages that innovate; it is speakers who innovate". This contention can be tracked all the way back to the 1920's where Henry Cecil Wyld averred that the "drama of linguistic change is enacted not in manuscripts or inscriptions, but the minds and mouths of people" (1927, p. 21).

1.3 Variationist Sociolinguistics and Language Change

Although the social study of language is generally acknowledged to have begun in the mid 1950's, earlier studies that document the interplay of linguistic and non-linguistic factors can be traced to the third quarter of the nineteenth century. The work of George Wenker in 1876 reports the very beginning of sociolinguistic methodology to understand linguistic variation. Wenker would send a list of sentences containing more than fourty structures that are chosen to trigger specific linguistic variables. The sentences, written in Standard German, are submitted to teachers and academics in north Germany, and they would send it back to him transcribed as pronounced in the local dialects. Ten years later, his description of the German dialects would cover the entire country as he reached a total of 50.000 questionnaires sent to more than 45.000 teachers and academics.

Although seemingly outdated, research in contemporary sociolinguistics still embeds modified versions of his methodology. However, one of the serious disadvantages of such an approach is that the extreme abundance of data renders it rather impossible to account for the entire linguistic variables. Wenker's methodology also struggles to display the findings or generate patterns for variation due to its wide scope of analysis. The methodological framework developed for the present study makes use of the advantages of such a research approach. However, a

narrow-scope approach is taken in order to sketch the context for more blatant and more clear-cut variation pattern.

Further development in the methodology of dialect geography was introduced with the work of Jules Gilliéron in 1896 in France. Gilliéron introduced a data collection technique that is based on the use of trained fieldworkers. His main assistant Edmond Edmont, a man known in the field of dialectology even more than his tutor, was trained to use phonetic notation to transcribe speech. He travelled throughout France for four years collecting data using both questionnaires and interviews. One very advantageous methodological standpoint is the integration of trained assistance (Friðriksson, 2008). Gilliéron's influence on the methodology of sociolinguistics can be best-exemplified in the work of his students, Karl Jaberg and Jakob Jud who projected their teacher's methodology in France on the Italian and Swiss dialects. Their further contribution in the field of trained assistance resulted in the fruition of the Linguistic Atlas of the United States and Canada (1929). Gilliéron and Wenker's attempts were epitome of dialectology as it is because of their contribution that the value of the methodology of dialect studies becomes apparent.

The present research avails itself of the prospect of using trained assistants which has several empirical and practical conveniences that are going to be detailed in the subsequent chapters. Another very interesting piece of methodological trivia in Gilliéron's work is the reliance on two distinct data collection techniques: questionnaires and interviews. Although the documentation of his work does not illustrate the bases for data analysis, the present research combines several data collection techniques that will be used for both enriching the data and comparing the results to offer more reliable findings which can warrant a level of generalizability.

1.3.1 Sound Wave Model

The developments in the field of dialectology, i.e., the geographical analysis of regional dialects, and sociolinguistics offer further evidence against the Tree Model discussed earlier. The previously held assumption is that the proto-language is the locus of language change and linguistic innovation and that genealogical relations are formed on the basis of similarities in sound change patterns. The proto-

language is represented as one node in the linguistic family tree wherefrom a set of languages branch out. However, the early works of dialectology, namely those of Gilliéron (1880) and Wenker (1881), posit that there is no such a thing as a language that exists invariably. Rather, each language is composed of a set of dialects that show some similarities and are significantly diverse from other varieties in terms of lexis and syntax.

Dialects can, by no manner of means, be divided on sole linguistic basis as they are distributed on a spatial continuum wherein no clear-cut boundaries can be drawn. A given dialect (X) may share a set of linguistic features with another dialect (Y) which, in turn, shares other features with another dialect (Z). The two dialects (Y) and (Z) may or may not share other linguistic features that can or cannot be present in the dialect (X). The intricate patterns with which linguistic forms are distributed are tranformed into map representations (linguistic atlases) formally referred to as *isoglosses*. The spread of the linguistic features is represented in forms of geographical waves, hence the name the Wave Model, illustrating the spread of linguistic innovation.

This approach of analysing language change rejects the view of language or dialect as being the locus of innovation. Rather, it acknowledges idiolects, i.e., the speech of individuals, as the genesis of analytical measures. While a language can be considered as a large network of mutually intelligible dialects, a dialect is a large network of mutually intelligible idiolects. Language change within the Wave Model is a process whereby linguistic innovation in one idiolect is diffused into other idiolects of that speech community resulting in a changed linguistic form in the long run.

In the 1870's, the scholars namely Johannes Schmidt and Hugo Schuchardt laid the early foundations of what is referred to as the Wave Model (also known as *Wellentheorie*). Under the tenets of this model, linguistic innovation arises within one idiolect and spreads across the network of the adjacent idiolects (François, 2015). Bloomfield (1933, p. 317) explains that "linguistic changes may spread, like waves, over a speech-area, and each change may be carried out over a part of the area that

does not coincide with the part covered by an earlier change". This means that a given linguistic innovation spreads like a wave targeting a given dialect and speech community, and it can be followed by a larger wave targeting a larger dialect cluster and more speech communities that are not targeted by the earlier innovation wave.

The Sound Wave Model goes against the Tree Model in the sense that it views sound change as being substantially regular yet not necessarily affecting all areas of the language. Instead, it spreads selectively across the dialect's sound and grammar systems (Am-David, 2014). Moreover, this model further refutes the second tenet of the Tree Model which assumes that language diversification entails dialects not further interacting and influencing each other. Instead, it suggests that change spreads in a social/geographical continuum, and dialects affect each other's' developments.

1.3.2 The Sociolinguistic Approach to Language Change

The rise of sociolinguistics owes a great debt to the developments in dialectology. While dialectology, also referred to as dialect geography, has a clear focus of understanding linguistic variation on the basis of geographical factors, sociolinguistics arose with a formative influence from, inter alia, formal linguistics, sociology, psychology, anthropology and social psychology. The basic contention in sociolinguistics is that the use of language parallels a continuous evolution of that system (Tagliamonte, 2012). This contention conjoins a fundamental question of *how does this change happen*?

Proponents of the social analysis of linguistic phenomena assume that change can be described through the description of ''orderly differentiation'' (Weinreich, et al., 1968, p. 101). In other words, one way of observing and conceiving language change is to observe patterns in language use that are systematically different from the normal use as acknowledged by the speakers of that speech community.

The epistemological and methodological developments in sociolinguistics are best illustrated in the definitional reflection of the way vernacular varieties are perceived. Casual speech was first considered to be ''the style in which the minimum attention is given to the monitoring of speech'' (Labov, 1972, p. 208). This suggests

that vernacular varieties are seen as natural instances of speech. Later sociolinguists, including Labov himself, viewed vernacular speech as the main subject of enquiry to the sociolinguistic research by virtue of being ''everyday speech'' (Sankoff, 1980, p. 54) which is the ''real language in use'' (Milroy, 1992, p. 66).

The formal analysis of speech builds on the premise that the economy of language dictates that no two linguistic forms are mapped unto one function (Ginsburgh & Shlomo, 2020). That is, exact lexical and structural synonymy does not exist. However, the functional sociolinguistics of speech shows that speakers from one speech community can use different lexicons or different pronunciations to refer to the same referent, also known as *interspeaker variation*, and that even the same speaker can alternate between two different forms without any intention to express different semantic contents, also known as *intraspeaker variation* (Meyerhoff, 2006, 2015). These variations indicate that language is not always regular, and the aim of the sociolinguistic study is to investigate the extra-linguistic patterns that govern the surfacing of these irregularities and whether there is any paralinguistic or non-linguistic implications therein.

One way of determining the organizational patterns governing linguistic variation is the analysis of linguistic variables which are ''two or more ways of saying the same thing'' (Tagliamonte, 2012, p. 2). Although some authors, namely Meyerhof (2006), choose to make a conceptual distinction between linguistic variables (the feature that varies) and linguistic variants (the ways one variable is realised by the speakers), the present study uses the term variable as an encompassing term in the fashion observed in the works of Labov (1970; 1971; 1972; 1994; 2001), Milroy (1992; 1993; 2001), Tagliamonte (2012) and others.

The variationist approach to language change views the linguistic variable not as a haphazardly occurring incident of linguistic behaviour but rather as a systematic behaviour that can be quantitatively modelled (Labov, 1969; Tagliamonte, 2012). The quantitative modelling is warranted whenever there are two or more options for the speakers to express one given linguistic unit provided that the choice is dictated by factors bearing social implications.

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The primary objective of variationist sociolinguistics is to find the overriding principles that govern linguistic variation and language change. What is considered to be language change in the sociolinguistic approach is the cases where one linguistic form replaces another either in the course of time or in certain social groups with characteristic economic, cultural, political or demographic features (Sankoff & Thaibault, 1981). This view challenges the preceding views that language change can be studies only when it occurs. Labov's (1961) study of linguistic variation in Martha's Vineyard indicates that there is a direct relationship between the speakers' behaviour in a certain point in time and the long-term behaviour of language itself. That is, observing *synchronic linguistic variation* is a sine qua non for understanding *diachronic linguistic change* (Meyerhoff, 2006).

Labov's principles offered a new perspective into the study of language and society. His functional principles meet the theoretical norms of adequacy set by Labov's formal counterpart Chomsky. The Labovian framework is observationally accurate as it enables the researchers to explain the sets of data in a certain point at time and account for the social implications governing existing linguistic behaviours/ performances. Moreover, his framework is descriptively accurate inasmuch as it helps identify patterns of speech and whether these variable are free or constrained with reference to the social norms of acceptedness. Finally, the Labovian variationist approach bears an explanatorily adequate norm with predictability force as it helps predict the path language is taking given the sociolinguistic variables of actuality.

In order to test the validity of Labov's approach, Pope (2002) attempted to replicate Labov's study of Martha's Vineyard quest to investigate language change 41 years later. Her findings offered support to Labov's approach as she "provide[d] support for the practice of drawing inferences about change in progress from the distribution of variants in speakers of different groups" (Meyerhoff, 2006, p. 142).

The study of language change in the variationist approach is, at bottom, concerned with linguistic variation where five main conceptual axes are addressed. These axes, elaborately discussed in the work of Weinreich et al. (1968), are related to the following research problems:

- *Constraints:* that is, the identification of the constraints on linguistic variation and change.

- *Transition:* that is, the identification of the way language change takes place and how linguistic forms and functions change.

- *Embedding:* that is, the identification of the ways linguistic variation and change are embedded within the social and linguistic layout of a given speech community.

- *Evaluation:* that is, the identification of the individual's overall evaluation and attitudes towards changed/stable variables with particular reference to the impact of such attitudes and evaluations on the process and outcomes of change.

- *Actuation:* that is, the identification of the spatio-temporal context of language change.

Some proponents of the sociolinguistic variationist approach to language change, like Lass (1980), seem to agree on the fact that while the path of change is highly predictable and quantifiable, it is impossible to predict what linguistic units will change and when they will change prior to any instances of sociolinguistic variation. However, the vast majority of the variationists aver that it is the job of the sociolinguist to account for not only the social implications governing linguistic variation but also the actuation problem (Johnstone, 2006). In view of that, Weinreich et al. (1968, p. 102) argue that it is within the heart of sociolinguistics to address the following questions:

> What factors can account for the actuation of changes? Why do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at other times?

This series of questions inaugurates a very important element in the discussion of the sociolinguistic approach to language variation and change: *actuation and propagation of language change.*

1.3.3 The Actuation Problem: Actuation and Propagation of Language Change

Diversity in the literature dealing with language change is indicative of the intricate nature of this phenomenon. Although some approaches to language change seem to swerve between being overly simplistic to being unnecessarily convoluted, there has been a bipartisan consensus between externalists and internalists that the caption of the very moment of language change (formally referred to as *actuation of change* is impossible. Lass (1980, p. 95) represents an extreme perspective of the claim as he posits that "[t]he irreducible fact seems to be that we can never observe the 'exact' moment when a change begins". Lass's views are rather pessimistic as he claims that the theoretical ground available lacks validity as "there are at present no intellectually respectable strategies for explaining linguistic change" (ibid, p. xi). To him, neither the actuation nor the transmission (also formally referred to as *propagation* of change are explainable.

Lass (1980) draws a very interesting analogy between language change and art style. He believes that both art style and language behaviours are socio-cultural phenomena "for which no apparent cause can be determined" (Friðriksson, 2008, p. 7). Predicting evolution in art style or fashion is a far-fetched endeavour as there are no apparent patterns governing their change. By the same token, according to Lass, language change is neither explainable nor predictable.

The analogy, however readily comprehensible, seems to be fraught with all sorts of empirical and theoretical complications. While it is true that language is a socio-cultural phenomenon that is partly subject to social norms, language is primarily a cognitive system that is essentially subject to cerebrally constructed organizational configurations. Labov (2001), among many other researchers, shows intellectual discontent with Lass's ideas. He argues that while both art style and language are highly comparable, change in fashion requires conscious processes as opposed to change in linguistic behaviour which is, by and large, an unconscious process.

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Earlier discussion of language change, namely that of Weinreich et al. (1968, p. 102), address the actuation problem expressed in questions such as: "why do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at other times?". Unlike Lass (1980), Lesley and Milroy (1985) offer a more optimistic view of the actuation problem as they view that a better analogy than Lass's would be between the variationist linguist and the meteorologist. While both seek after variables that are nearly impossible to account for their place and time with surgical precision, it is excusable for neither to seek after the betterment of their predictions.

Milroy (1992) offers a view to language change that takes into consideration the factors relevant to the actuation of change. He posits that change is a process that is speaker-based rather than language-based. That is, it is the speakers of language who are responsible for the surfacing of new forms and functions and not the linguistic system itself. This view, however unilateral, allows for the distinction between *linguistic innovation*, *linguistic variation* and *language change*. It is the language that changes, but it is the speakers who innovate. In the same line, Milroy argues that "speaker-innovation [i]s an act of the speaker which is capable of influencing linguistic structure. [i.e., language change]" (1993, p. 221).

The question that accompanies the change-innovation dichotomy is why some innovations carry out in certain cases and results in a fully-fledged language change while other innovations soon die out. To answer that, Milroy (ibid) suggests to examine the social structure of the speech community. The issue of which social subgroup is responsible for the success of linguistic innovation will be discussed in subsequent sections.

The relevance of Milroy's discussion stems from the fact that the conceptual distinction between linguistic innovation and language change allows for a better conceptualization of the actuation of change. Further examination of the theoretical literature shows that Andersen (1989) proposed a ground of analysis that is very comparable to that of Milroy. Andersen (1989) explains that innovation is the term used to refer to language change at its early stages. That is, while the variationists see

linguistic variation as a sine qua non for language change, Andersen sees linguistic innovation as an instance of "diachronic development", with the term being "used to refer to any element of usage (or grammar) that differs from previous usage (or grammar)" (Andersen, 1989, p. 13).

Andersen's view is based on the premise that language speakers can report instances of language change in their time. However, to call such case linguistic change is more of a "liability [to the linguistic theory] than an asset" (ibid, p. 11). This is because what actually takes place is that innovated linguistic elements occur along with the traditional ones and may, eventually, be traditional themselves. Andersen's main disagreement with his fellow sociolinguists is that in such cases of innovation no change actually happens in the sense that no linguistic element completely replaces the other. His refusal to speak of language change is supported by a use of an alternative term, i.e., *diachronic correspondences* (ibid, p. 12). The term is used to refer to any element of language in one temporal setting and an equivalent element in later temporal settings. It is only a series of diachronic developments, linguistic innovations, that a language may reach a fully-fledged instance of diachronic language change.

Having explained the Andersenian view, it is noteworthy at this juncture of discussion that this view differs subtly from that of traditional variationists in the sense that while the latter consider linguistic innovation to be the starting point of language change, the former considers them as a separate phenomenon, the accumulation of which may, or may not, lead to eventual language change.

The discussion above alludes to a both empirically and theoretically inconceivable quest of the identification of the very instantiation of language change. Variationists, Weinreich, Labov, Herzog, Milroy J., Milroy L. and Lass inter alia, seem all to agree on that while the scholar can see the social implications of language change, the sociolinguistic theory is better off distanced from the attempts to address the actuation problem. A more essential epistemological concern for sociolinguists, according to Labov (1972), would be accounting for why certain linguistic innovations carry on while others die out.

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Being aware of the shortcomings in the sociolinguistic approach in addressing the actuation of linguistic change, Friðriksson (2008) argues that the actuation problem is more of a historical linguistics concern and that sociolinguists are concerned only with what happens after the actuation presuming that innovations antecedes language change. He suggests that the tracking of the actuation of language change requires some treatment designs that are by no manner of means attainable. To do that, researchers have to record every speaker in a speech community taking notes of any linguistic innovation made by any speaker of that community. This, of course, requires a complete knowledge of the traditional variables in that speech community. Innovations taken note of are, then, tracked among different social groups in that community to see whether or not they carry on. Even if we surmise that such a research protocol is doable, it would be very time-consuming and not theoretical yielding.

1.4 Synchronic Transmission of Language Change

The literature discussing language change shows two opposing views pertaining to the nature of such a change. The bipartisan views revolve around the primary incentive of language change. Proponents of the internal line of arguments, namely Martinet (1952) and Ohala (1993), view that language change is motivated by the internal structure of language change, which works out irregularities and seeks balance. However, proponents of the external explanation (see language as a passive constituent during the process of language change and that change is speaker-motivated rather than language-motivated.

The disagreement about the very motivation of language change comes in concurrence with a recondite agreement about three main facts. First, all languages undergo change despite the rate discrepancy at which language changes. Second, language change, notwithstanding prediction-proof, is, by and large, a regular process. Third, despite the disagreement about the role of the speaker in the initiation of change, speakers play an active role in the transmission of change. This means that transmission of change is, at bottom, a social phenomenon with heavy linguistic bearings.

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Hickey (2010) points out to an interesting piece of evidence about both the relationship between variation and change and the active role of the speakers in propagating and transmitting this change. His discussion is motivated by the idea that new generations can observe the change taking place in their language even without having been part of that language change. His assumption is that there can be, at any point in time, two or more competing variants of one linguistic variable, with one being a dominant variant and the other(s) being recessive.

During language acquisition, children can observe the linguistic forms of their language and many of the speaker-based deviations from these forms. That is, they can take note of the co-existence of these variants. Arab Children can, for instance, observe that their language possesses the linguistic variable /qaal/ (said). They can also observe that there are two possible variants of this variable [ʔa:l] and [ga:l]. What is interesting is that children not only acquire the two forms but also draw conclusions about the distributional patterns of these forms. Although a highly subconscious process, children can conclude that one of these forms is used, for instance, by older speaker and/or males and in more formal settings, and the other is more predominant in female speech and/or colloquial settings. Hickey's assumption (2010) is that children use these conclusions to determine the direction of language change and "later contribute to this [change] by unconsciously favouring those forms which are preferred in the change" (p. 15).

Hickey's ideas help account for the continuous, and often unidirectional, drift in language forms. The assumption that first language acquisition involves an evaluation of the aspects of variant distribution, which later translates to an active involvement in the realisation of language change, helps explain the definite movement of language change in one direction even if it takes place in a relatively large temporal frame. The involvement of the speaker is more observable in the process of transmission of change. Therefore, the following sections highlight the accounts of the major figures in sociolinguistics about the theoretical aspects of the transmission process and the role of the speaker therein.

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1.4.1 The Labovian Framework

William Labov, often considered as the founding father of variationist sociolinguistics, is an ardent patron of the social view of language change. His ideas stem from his earlier works on linguistic variation in homogeneous and heterogeneous speech communities. His study of the New York variation in three department stores (1966), his replication of the study in 1972 on a larger New York population and his well-known Mathra's Vineyard (1963) allowed him to conclude that language change is inextricably embedded in the social structures and that social subgroups often model and regulate their speech and linguistic behaviour in consonance with other social subgroups.

Labov's account of language change is by no means exclusive to the social aspects of change. On the contrary, his volumes of the book "Principles of Linguistic Change" consist of three volumes divided on the basis of the scope of enquiry. The first volume (1994) tackles the internal factors of language change. Here, he discusses the study of language change in real and apparent times and the general structural principles governing chain shifts in linguistic forms of vowels and other subsystems. He also discusses mergers, splits and near-mergers of linguistic varieties. He concludes his discussion of the internal factors leading to language change with an account of the regularity of sound change with particular reference to the need to revisit the Neogrammarian Hypothesis.

Labov's third volume (2010) discusses the cognitive and cultural factors relevant in the discussion of language change. Here, he focuses on the perceptual consequences of language change, such as the impact of changed linguistic forms and functions on comprehension across and within dialect. He also refers to the impact of rule acquisition and transmission on language change and vice versa. Given the close intertwine of cognition and the formation of grammar, Labov puts further emphasis on the patterns of syntactic change and the role of grammaticalisation and the place of variable forms in the universal principle of grammar.

The scope of discussion in this chapter is not concerned with factors that are not characteristically social. Therefore, further accounts of the para-social and extra-

social factors will be presented in subsequent chapters. At this juncture, it should be noted that the Labovian framework is multi-faceted and has principles that can account mainly for the transmission of linguistic innovation from a pure socio-variationist standpoint.

According to him, language change can be summarised in two main principles, the *Non-Conformity Principles* and the *Constructive Non-Conformity Principle* (Labov, 2001). The first principle, the Nonconformity Principle, refers to the fact that "Ongoing linguistic changes are emblematic of nonconformity to established social norms of appropriate behaviour, and are generated in the social milieu that most consistently defies those norms." (Labov, 2001, p. 516). One very interesting point discussed in Labov's works is that older generations report an appreciation of the new changes in society, particularly modern technology, yet none of his thousands of old informants reported an appreciation of the changes affecting language. On the contrary, it goes along the lines of the Golden Age Principle (ibid, p. 514) that language was in a state of perfection at some point in time.

This state of perfection, in a more technical representation, can be referred to as the set of social norms of linguistic appropriateness. However, these "established social norms of appropriate behaviour" (Labov, 2001, p. 516) can be defied by some social groups who create a state of nonconformity with these norms; these social groups are the *social milieu* that is likely to embrace and promote these innovated linguistic forms. In his works, Labov (1972; 1994; 2001; 2010, inter alia) refers to this social milieu as the *leaders of linguistic change*.

Leaders of linguistic change are by no means the inventors of new forms; a claim as such requires an accurate pinpointing of the actuation of linguistic change which, as discussed earlier, is neither theoretical nor empirically attainable (Walkden, 2017). Rather, this social group refers to individuals who share "social histories and patterns of behaviour" and are likely to "advance ongoing change more strongly" (Labov, 2001, p. 34). Linguistic innovations arising from these nonconforming social subgroups will be defied by the more conforming social subgroups, and they will be rejected as soon as speakers are aware of them.

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While earlier models of linguistic change, such as the Sound Wave Model, view individuals' separate performances, i.e., idiolects, as the centre of analysis, Labov (2001) follows on the proposition of Meillet (1921; 1926) and subsequently advanced by Weinreich et al. (1968) that the main object of analysis in linguistic innovation is the dialect of that speech community and not the idiolect of individual speakers. He, nonetheless, acknowledges the prospective, and arguably omnipresent, variation across speech performance of individuals within even the most homogeneous speech communities. This stance is plausible given the fact that individual's idiolect are interpretive only when analysed against the general scheme of intersecting idiolects that form the society's patterns of sociolinguistic behaviour (Weinreich, 1963). These idiolects, still, serve as units of analysis that make possible the modelling of the sociolinguistic profile of a given speech community.

Empirical evidence shows that leaders of linguistic innovation can be males, females, working class, middle class, etc. This is heavily dependent on the socioeconomic layout of the speech community under investigation. It is not always the case that a speech community consists of different social classes or diverse ethnic groups. It is, therefore, mandatory to take into consideration the particularities of the speech community under investigation prior to any conclusion about the social subgroup to lead linguistic innovation. One universal property of the leaders of linguistic change is that they are groups "with a particular ability to confront established norms and the motivation to defy them" (Labov, 2001, p. 516). Empirical evidence (see Kroch, 1978; Labov, 1963; 1966; 1980) also suggests that some social groups are more likely to lead change than others. This is referred to as the *Curvilinear Hypothesis* stating that "linguistic changes do not originate in the highest or lowest social classes, but in groups centrally located in the socioeconomic hierarchy" (Labov, 2001, p. xii). The subsequent chapters will discuss factors that contribute to the characterization of particular groups with the ability and motivation to be leaders of change.

The transmission of linguistic innovation occurs when there is a pre-existing case of linguistic variation. In his studies, Labov suggests a spectrum of classifying

individuals in a speech community. While, traditionally, speakers are classified on the basis of, inter alia, *male-female*, *urban-rular*, *local-nonlocal*, *young-old spectra*, Labov (2001) proposes a more encompassing *conforming-nonconforming* spectrum that intersects and overlaps all social spectra. For example, in analysing the Philadelphian speech community, Labov (1972) concluded that lower working class, notwithstanding gender roles, are the main leaders of linguistic innovation. Labov (ibid) observes that this social group shows highest levels of nonconformity with the urban norms.

The second principle from Labov's framework (2001) is the *Constructive Non-Conformity Principle*. This principles claim that "linguistic changes are generalized to the wider community by those who display the symbols of nonconformity in a larger pattern of upward social mobility" (Labov, 2001, p. 516). One valid criticism to the first principle is that not all nonconformists in a given society are capable of leading linguistic innovation (Bell, Sharma & Britain, 2016). Therefore, the idea of constrcutivity in the transmission of linguistic innovation adds to the internal consistency and validity of the framework. Labov (2001) makes the claim that only nonconformists who are looked up by their society and have a tendency of upward social mobility are able to model the speech of their community in the process of incremental linguistic innovation.

Labov (2001) lays the theoretical foundation of linguistic change in an acquisition model. Here, he links linguistic change to children's interpretation of linguistic variation. The first principle in his model suggests that children first acquire linguistic patterns by their female caretaker, creating a pattern to which any further changes are added. The second principle in the model suggests that the acquisition of sociolinguistic competence is linked to the acquisition of linguistic variation, which is presented to children not as markers of social stratification but rather as stylistic choices set on a spectrum of formality. In other words, as children acquire different forms of linguistic variation, their perception of this variation is based on different levels of formality to which these variants correspond, and they are not yet cognisant of the social implications of this variation. Subsequently, as illustrated in Labov's

third principle, children develop an understanding of the variants favoured in informal settings are associated with lower social status. Here, children's judgement of linguistic variation transcends the narrowly circumscribed limits of formality spectrum to a broader spectrum of social projection.

The fourth principle in Labov's work relates to the aforementioned nonconformity principle. At this juncture, empirical data suggest that linguistic changes develop primarily in casual speech and spread across subgroups of nonconformist positioned centrally in the social hierarchy as suggested in the *curvilinear hypothesis*. Finally, these linguistic change are transmitted to the wider community by some nonconformists who are looked up by their peers and who did not take "other actions that lessen their socioeconomic mobility" (Labov, 2001, p. 437).

1.4.2 Social Networks and Language Change

One of the main shortcomings of Labov's framework of leaders of change (2001), as pointed by Friðriksson (2008), is that his discussion focuses on how change is carried out in a given society with the aid of some members in a social subgroup. His discussion also focuses on the role of children acquisition in the process of transmission of linguistic change. However, Labov seems to partially dismiss the manner change spread after having "left the "safe haven" of the original leaders" (Friðriksson, 2008, p. 19). It should be noted that Labov (2001) does not leave this questions completely unattended to. Rather, he makes the claim, which is partly implied in his second principle, that socially upwardly mobile individuals are responsible for the spread of change to the larger social networks. Such shortcomings are, perhaps, the result of Labov's content with the theoretical framework previously advanced by his fellow sociolinguists Lesley and James Milroy in their studies between 1980's to the early 2000's. This is evident in the fact that his most cited work (2001) refers to the works of Lesley and James Milroy in more than forty instances (Bell et al., 2016).

One interesting aspect of discussion in Milroy and Milroy (1985) is an acknowledgement of the regularity of linguistic change, particularly at the

phonological level, which are transmitted to society in a *wave form* by dint of "extra-linguistic factors such as the age, sex, social status and geographical location of the speaker" (Milroy & Milroy, 1985, p. 338). It is acknowledged that individuals in a speech community are marked with certain links that define them (Croft, 2000). These social ties are introduced in the work of Bott (1970) and Milroy (1980) where they acknowledge the existence of *social networks* that represent levels of contact within that speech community. These networks, as argued by Croft (2000), vary in terms of density and complexity, that is, the number of individuals involved in this social network and the number of domains at which these individuals know each other.

The social networks are very central in the discussion of language change inasmuch as the general views of Labov, Milroy and Milroy share the idea that, regardless of the social status of the speaker, speakers with the highest extent of local contact within and outside the "neighbourhood" are more likely to lead linguistic innovation with all other things being equal. Put otherwise, individuals with an expanded centrality (speakers positioned in the centre of the social class and have frequent interaction with speakers outside of the local network) are generally the leaders of change.

Social networks that are marked by higher levels of acquaintance and contact are formally referred to as *closely-knit social networks* (Bott, 1970; Milroy, 1980; Milroy & Milroy, 1985; Labov, 2001). Such networks are believed to exert some sort of informal pressure on members of the network in such a way as to create a norm-conforming mechanism at the linguistic level so as to maintain such closely-knit ties (Milroy, 1980). This mechanism translates to an overall tendency of these networks to resist linguistic innovation introduced by networks external to their immediate locality. Moreover, Milroy and Milroy (1985) argue that the resistance of external pressure correspond to a linguistic criterion for assessing the extent to which a member is integrated within that network. That is, the closer the member is to the established norms of locality, the more integrated they are believed to stand within that social network.

Milroy and Milroy's discussion of social network (1985) seems to be in consonance with Labov's discussion of linguistic innovation (2001) in the sense that both frameworks acknowledge individual speakers to be directly responsible for the spread or the resistance of linguistic innovation and that local community exert some norm-enforcing functions that determine the linguistic behaviour of the speakers. However, there seem to be some differences in the two views with regard to the position of the leaders of change within the speech community. While Labov (2001) argues that high-contact speakers centrally positioned in the network and looked up to by the general network are the leaders of linguistic innovation, Milroy and Milroy (1985) view that individuals that are more integrated to the social network add to the close-knitting thereof rendering it more norm-enforcing and change-resisting. Instead, they propose that individuals with weaker ties within and outside their locality are likely to be leading linguistic change.

1.5 Conclusion

The analysis within the present work is guided by the views of variationist sociolinguists. Data obtained from the field work will be approached sociolinguistically inasmuch as the researcher's belief is that linguistic innovation and change are linguistic phenomena that have salient social bearings. This stems from the idea that language is as much of a behaviour as it is a system; a good understanding of such a system requires the projection of its various forms on the social systems and behaviours.

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CHAPTER TWO

Chapter Two

Linguistic and Social Aspects of Change

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2.1 Introduction

Investigating language variation and change entails tracking the linguistic variable of a particular language, the choice of variables, the direction of variables and the factors defining this choice. This field of research is of paramount importance to researchers and to language producers as it helps understand the nature of our languages; that is to say, how languages are inherently variable. Language variation and change is highly linked with dialectology (the social variables determining the direction of change such as age, gender, mobility, etc.), psycholinguistics (language acquisition and second language learning), historical linguistics (diachronic and synchronic linguistic variation) and sociolinguistics (other social factors such as education, occupation, etc.). Therefore, learning about these evaluative developmental (linguistic and social) characteristics of language use and, thus, language differences explicates the process of variation, its direction and the mechanisms underlying these variations.

This chapter provides a thorough description of the theoretical background of this field, and shows how comprehensive it is as a field of research. At first, the researcher attempts to account for the notion of linguistic stability highlighting the peculiarity of this phenomenon compared to language change. The chapter points out the interaction of language, its users, culture and society and how these elements interact resulting in an influence on language structure and its use.

2.2 Is there such a Thing as Language Stability?

Understanding the nature of stability is still under debate as there is no clear cut definition of the term language stability. Some scholars view stability as immunity from change while others regard it as a kind of resistance to change (Dediu, 2013). Nichols (2008, p.284) further appends that "stable does not mean immutable; it means more resistant to change, loss or borrowing". Critically speaking, it is hard for a language to remain stable as every language undergoes a change through time regardless of its complex social and linguistic rules that might seemingly apprehend any prospects of change. At the same time, the way and the rate at which languages

change differ from one language to another; for example, conservative Icelandic is characterized with a slow rate of change compared to other languages (Friðriksson, 2008). Some linguistic items are reportedly subject to systematic processes of change albeit at a comparatively very slow rate. This implies that language stability is not precisely the polar opposite of language change. Indubitably, there is no linguistic system that is exempt from change (De Saussure, 1916/2013).

It should be highlighted, at this point, that language stability is sometimes confused with language maintenance. The former involves naturally occurring processes of innovation, variation and eventually substitution while the latter means how speakers exert conscious efforts to maintain their language in the face of external forces like occupation or undesired modernism (Braunmuller, 2014). Remarkably, the terms language stability and language maintenance can be bewildering. In fact, language maintenance is defined as a kind of 'relative stability' (Baker, 2011) where speakers tend to maintain and conserve their language from external influence. In this vein, Benrabah (2007, p.195) claims that "language maintenance refers to the continuing use of a language or language variety in the face of competition from a more prestigious or politically more powerful language".

From a linguistic point view, some researchers claim that certain linguistic features do not change eventually and remain stable over time (Labov, 1972; Trudgill, 1974; Weinreich, Labov & Herzog, 1968). Similarly, Wichmann and Holman (2009) and Parkvall (2008) maintain that some linguistic features tend to resist change more than others. Parkvall (2008) referred to these features as features that have a strong genealogical lineage with language i.e., language family-specific features. He further avers that such stable features are a bona fide example of stability as they do not change in defiance of internal change or contact-induced change. He also claims that "a language needs to be 'born with them' in order to have them" (p.234) as opposed to other features (unstable features) that are more prone to change, i.e. features that " come and go as they please" (p.234). He further adds that these features are "easily borrowable or transferable" and "easily gained or lost in contact" (p.235).

What is worth mentioning at this juncture is that the language system is dynamic, and it may be nebulous to even contend that there is such a thing as stable linguistic behaviour. Put otherwise, language is bound to change given the fact that all what is affecting and affected by language is unpredictably fluctuating as well. In general, investigating linguistic features that are in a state of variation or change can be more tempting to the sociolinguistic query to observe and probe than static features. This does not imply that stability does not fit into the sociolinguistic research paradigm inasmuch as stable features can also be unique and remarkable to examine. In this respect, some scholars (such as Rundblad, 1998) argue that sometimes stability of certain elements is necessary as it warrants and facilitates comprehension. It is only conceivable to assume that substantial changes in the linguistic system within small temporal windows would inexorably result in cross-generational intelligibility gaps, which contradicts the essence of the interactional and transactional aspects of language use. It is only through the conventionalized stable features of language that individuals can maintain a healthy level of communicative interchanges across the, inter alia, age, gender, education and class strata.

Some of the reasons that contribute to the inherent dynamic nature of language are attributable to the intrinsic parametric variation ascribable to the linguistic units. Other reasons emerge consequentially to the social materialization of linguistic behaviour. It follows that variability is not only inevitable but also necessary for the social and linguistic systems. This variability of linguistic features precipitates the existence of various linguistic forms that are mapped onto more or less the same sociolinguistic meaning. Soon after, the usage of either of the available forms is chiefly determined by social attributes (hence sociolinguistic variation). The elapse of time along with the redistribution of status across the social subgroups necessitates that one variable be overridden by another. It is more often than not the case that the innovated variable overrides the core variable, and the latter can either be completely lost or given a marginal status. Scholars refer to cases where the innovated variable completely replaces the core variable as **replacive change** while cases where the two variables coexist (with one being assigned a peripheral status) are referred to as **additive change** (Rundblad, 1998).

One advantageous outcome of the perception of change in light of linguistic status and co-variability is that stability be seen not as antonymous to change but rather a peculiar trajectory thereof. Put more blatantly, stability does not imply that linguistic variables are not susceptible to variation. Rather, it implies that core variables retain their social status in the face of innovated competing variables. Scholars discuss **additive stability** when the primary focus is placed not on the emergence of new variables but rather on the retained status of the core variables (Sankoff & Blondeau, 2007; Trudgill, 2010). The terminological intersection between additive change and additive stability can be summarized in the following figure adapted from Rundblad's work (1998, p.2):
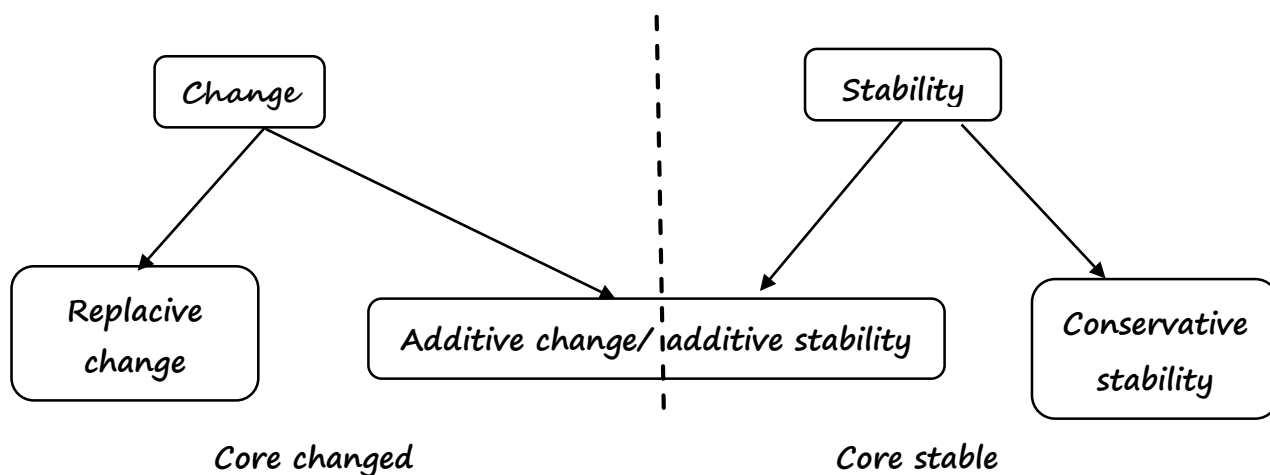
Figure 2.2: The Interrelation between Change and Stability

Another attempt to understand the phenomenon of language stability and how it works was also made by Keller (1989; 1994). Keller argues that it is, in fact, possible for a particular variant to remain stable although he did not explicitly refer to it as stability. Keller uses the term '**statis**' instead of stability. In his model, Keller accentuates the vitality of understanding the difference between the concepts of 'variation' and 'selection' in order to fathom change and/or statis as their outcomes. According to him, variation refers to the coexistence of variants while selection is the actual linguistic behaviour of speakers as they choose among the available variants. Keller claims that the behaviour of any given linguistic variant is unpredictable; thus, we cannot contend that the variant in question will remain unaffected. According to

his claim, statis can be achieved when a particular variant keeps its status as the prime variant after the selection between the available competing variants takes place.

On equal footing, Ritt (1995) refers to the same process as '**constancy**'. Here, we can consider a particular linguistic variant to be stable if it is the selected (favoured) one. The process of selection operates on the basis of two communicative principles: s**tatic maxims** and **dynamic maxims** (Rundblad, 1998). The static maxim of language use occurs when speakers strive for comprehension only (their purpose is to be clearly understood). In such cases, the selection of the variables is predicated upon the desire of achieving optimal levels of intelligibility. On the other hand, the dynamic maxim of language use occurs when speakers seek uniqueness and exceptionality within their speech community. Here, the speakers' choice of linguistic forms is predominantly motivated by their quest to diverge from established norms. All in all, these variants predominantly serve the function of making the communicative illocution interpretable to the vast majority of the target addressee population.

Nerlich and Clark (1988) set some conditions for the selection of the competing variants available within society. Factors such as frequency, expressivity and accessibility can determine the outcome of variation. Within their model, **the word-wave**, they argue that the semantic content of a linguistic form is directly correlated with the likelihood of the form to be stable in the sense that semantic density, i.e., a high level of expressivity, stabilize the linguistic variant. On the other end of the spectrum, the frequency of occurrence of a given linguistic form, they argue, is inversely correlated with the semantic density thereof. Hence, less expressive and highly frequent variants are less favoured by speakers and are more susceptible to change.

2.3 Impetus for Change

Language change is inevitable in any language that is under current use by speakers; dead languages are generally stable unless conscious decisions are made to change them (in cases of dead language revitalization). Some of the proposals

discussing language change view the change observed in the linguistic behaviour of speakers as consequential to the a priori change that befell the linguistic system. In other words, some scholars argue that change occurs due to inherent features in the linguistic system and is translated to variations at the level of observable language use (Bauer, 2003). In this vein, Aitchison (2004) further appends that language users adapt their speech with the already-made changes. This implies that the extralinguistic motives that are generally discussed as purveyors of change are but a tool kit that aid in realizing the changed norms.

The elapse of time is believed to be one of the main correlates of language change. Indeed, language change is not a one day process but rather a gradual one. This, however, does not mean that time is the solely determining factor of change in the sense that it is the laws that govern language which are responsible for licensing change. For this reason, instances of stability may be seen irregular and odd, for they are rather exceptions proving that some elements are even more resistant to and proof against change. However, these elements are not perpetually stable; they are just in the back of the queue spending a length of time to change.

Mostly, languages change and keep changing at regular intervals due to many factors that induce change in the inherently changeable nature of the language system. However, the view that speakers adapt their speech to changes occurring to the linguistic system can be challenged by more empirical evidence. It is observed that dialects of the same language change differently due to different contexts of linguistic contact and multilingualism. Change materializes differently in these dialects. The conceptualization of change as primarily internal would fail to explain different patterns of change in two dialects that are essentially similar. It can, thus, be argued that change is not always internally-stimulated as there can be other extraneous incentives for it. Simply put, in addition to the intrinsic tendency of language to change, there are other motives outside the language system that trigger the structural patterns of language to change. The objective of the following discussion is to simplify the main motives responsible for language change.

Inspired by the aforementioned contention that language change is both an internally and externally induced phenomenon, Newmeyer (2004) offers a 'formal' and 'functional' explanation of language change. He alleges that any process of language change can involve a structural and communicational facet which are closely interlaced. The formal factors entail changes in the grammar of language, which includes all form elements (structural elements). The functional interpretation, on the contrary, refers to the function of this language within society, more particularly to language users because they are considered the backbone that controls the function of language within society.

Indisputably, the phenomenon language change is a complex process where formal and functional factors intertwine. Dik (1986) in Hickey (2003) asserts that if a particular linguistic feature undergoes a relative process of change and the functional role is dismissed, it does not imply that there is not a functional interpretation; rather it is not discovered yet. On the other hand, some other scholars (Traugott and Smith, 1993 and Lightfoot, 1999) reject the idea of this asymmetric relationship between form and function in language change. That is, it is possible to explain a certain changing feature referring to either of the two and not necessarily both.

On the ground of this, many paradigms have been proposed to address the phenomenon of language change. Take for example McMahon (1994) who propounded a model of three main conditions: discontinual transmission, polysemy and arbitrariness of the sign. Polysemous words, in this vein, are words that have assorted meanings or simply words of related senses. According to Rundblad (1998), polysemous words and linguistic variants have the tendency to change more than monosemous words for the fact that these words cover a portmanteau meanings (McMahon, 1994). In other words, this kind of words involves a set of meanings in which there is at least one basic sense and many other peripheral meanings. This variety of senses makes them semantically manifold and, thus, more prone to change. However, the meaning in use is not always the predominant meaning as speakers may adopt one of the minor senses to use in speech and neglect the central one.

The second condition (discontinuous transmission of language), according to McMahon (1994), implies that language is transmitted at varying rates and intervals from parents to children. Children, however, as the receivers of language, do not adopt the given linguistic input in its current condition. They rather innovatively mould it into a conforming formula with the newly transmitted data by their parents. On this basis, imperfectness (errors) may take place in the sense that the new input that they create may be imperfect. This imperfect acquired language justifies the linguistic changes that occur over time. This faculty that children are characterized with, also known as *neogrammarian change*, enables them to generate, regularize and generalize new forms in language striving for regularity and uniformity in language (Mufwene, 2001; Hickey, 2010).

As far as the arbitrariness of the sign is concerned, it is crucial to go back to De Saussure's dichotomy that posits that there is an arbitrary relationship between the signifier and the signified except for onomatopoeic words. For instance, there is no logical link between the word book and the book itself as a hard copy of a written/printed work because it is conventional. In the case of onomatopoeic words, change does not occur freely. Onomatopoeic words tend to be relatively stable as opposed to other words with conventional associations.

Concerning the issue of the features that tend to remain stable in language through time, McMahon (1994) introduced the psychological factor illustrating with slang and informal language (e.g. Taboo words). He argues that taboo words, for example, tend to be more stable compared to other words due to their 'copulative meaning'; that is to say, the vulgarity of such words give them a high level of expressivity which is directly correlated with stability.

In this respect, there are various models, conditions and motives of change, Braunmuller and Kuhl (2014) recognize three main factors of language change, namely, "language internal (i.e. linguistic characteristics), language external (i.e. contact) and extra linguistic (i.e. political and economic factors, prestige and attitudes)" (p.2). They established this classification based on linguistic case studies from European languages, particularly German. The prevailing focus of their research

is on linguistic systems in contact situations. The factors can be summarized as follows:

- **Internal factors:** or system-based factors refer to the fact that some linguistic features of the same language tend to change more than others.
- **External factors:** have to do with society and language use within a peculiar society; it is highly related to the socio-cultural influence on language such as language contact.
- **Extra-linguistic factors:** include elements such as prestige, identity, awareness, language planning, attitudes, etc.

2.3.1 Internal - External Dichotomy

Supporters of the language-internal drive such as (Martinet, 1952; Hawkins, 1976) claim that the focal point of language change is structure-based. Kurylowicz (1947, p. 84) endorses this claim stating that the external-social explanation is at most "a methodological derailment" and it is "superficial and otiose" (Lass, 1980, p.121). That is to say, a linguistic phenomenon such language change, as the term itself denotes, is language-internal and can only be explained by referring to linguistic drives such as phonology, morphology and syntax. Welmers (1970) further appends that the background knowledge available in the bulk of literature about language change requires that "we seek explanations first on the basis of recognized processes of internal change" (1970, p. 05). By the same token, Ohala (1993) concurs with the fact that mentioning the social and cultural forces when accounting for language change is needless and time wasting.

On the other side of the coin, advocates of the external drive of language change such as (Labov, 1972; Woods, 1997, 2001) argue that internal-based explanation of language change is insufficient. They assert that structural-based interpretation is void and deficient as language is used within a particular social community by a group of speakers in a certain context. This implies that there are some historical/social, political, economic and cultural agents at play. Research further displays the significance of the social position within the spectrum of language

change and how it is pivotal to fathom how and why change happens in a particular language at a particular time but not in another language or the same language at other different times (Herzog, Labov and Weinreich, 1986). Similarly, Milroy (1992a, 1993, 1999) asserts that the actuation of change occurs at the level of the interlocutor (speakers innovate the first instance of change), and the real motives behind language change are beyond the linguistic system of the language in question. Milroy further postulates that the internal drive is not valid as "no empirical study so far carried out has actually demonstrated that sound change can arise spontaneously within a variety" (1999, p.24). Milroy (1999) and Thomason and Kauffman (1988) acknowledge the fact that our understanding of language change is becoming more increasingly based on language external explanations. This is motivated by the fact that more data is available now about varieties and contact situations.

This debate over this dichotomy is, however, unjustified as each facet plays a crucial role in explaining language change. In view of that, Labov (1994) claims that in order to account for the patterns of language change, it is of paramount importance to refer to the social structure corresponding to a given linguistic structure. In the same way, Weinreich et al. (1968) argue that language change can only be understood by reference to the external impact on the linguistic structures in addition to the internal forces accompanying them. Correspondingly, Thomason (2008) and Hickey (2010), among others, further append delineating this two fold liaison to portray the coaction between internal (linguistic) and the external (social) nature of language change. Thomason (2008) also ponders that the interplay between the two is a determinant step in accounting for the full picture of language change from the innovation time to the transmission phase:

> Even if the innovation is entirely linguistic in nature, however, the spread of any innovation […] must certainly be social at least in part, because it is governed by such things as social networks, prestige, and various demographic factors. […] The spread of a structural innovation is also very likely to depend in part on linguistic factors […] Nevertheless, the spread of an innovation cannot be due entirely to linguistic factors. (p.50-51)

The two sides of language change are both essential to fully explain language change. The social impetus is necessary to explain how and/or why a particular linguistic change occurs. Anderson (1989, p.10) contends that "language is entirely social phenomenon and can in no way be separated from its social functions". He additionally affirms that the focus on one drive over another is solely when one of the two factors functions inadequately or fails to attend to the real reasons responsible for language change or when they find no indication of external contact. In the same matter, Weinreich et al. (1968, p.188) explain that " explanations which are confined to one or the other aspect, no matter how well constructed, will fail to account for the rich body of regularities that can be observed in empirical studies of language behavior".

2.3.2 Multilingualism and Language Change

Multilingualism and language change is an issue that has been widely discussed in the bulk of literature (Weinreich, 1953, 1968; Aitchison, 2004; Kerswill, 2005, 2013; Matras, 2009; Fromkin et al., 2011; Braunmuller et al., 2014 and so forth). Deciphering instances of change requires a closer attention to the main conditions and factors triggering cases of language change. From this perspective, Kuhl, Hoder and Braunmuller (2014) point out the main factors inherently relevant to the context of language change. The key premise to their classification is that multilingual speakers are "the ultimate source of all outcomes of contact between languages" (Kuhl et al., 2014, p.2).

In a primary sense, the difference between language and society should be reviewed at this level. Chomsky renewed the former distinction between speech and language claiming that there is an internalized language (I-language) within each speaker's repertoire and any occurring changes take place at the level of this I-language. This indicates that the crucial part that language users play in the variation and change process is of a great prominence. Language users are the prime motive of change as they are the leaders of any kind of social change be it, technological, political, scientific, cultural, etc. (Morena-Fernandez, 2017). In simpler words,

language does not change suddenly nor randomly. Rather, it is the language user who initiates change while practicing language. Language is assuredly affected by its speakers and their society; that is to say, the essence upon which this society is built induces language change. By way of explanation, there is a nexus between language change and language as a social phenomenon as Aitchison (2004, p.83) states: "the spread of language change . . . is essentially a social phenomenon, which reflects the changing social situation".

Moreover, Braunmuller et al. (2014) and many other scholars such as (Weinreich, 1953/1968) acknowledge the power of the speaker in any contact situation as the language itself cannot change if not used and exchanged by individuals within group interactions. As a matter of fact, since bilingual/ multilingual interlocutors are the ones who take part in interaction in any contact situation, they are considered the "locus of contact" (Weinreich, 1953/1968, p.1). On equal footing, Kerswill (1996) maintains that speakers in contact situations constantly use many different structures through their interaction with other speakers of different languages, stating that:

> 'language contact' is but a cover term for speaker-internal restructuring of constructions across his/ her multilingual repertoire (viz. the bi- or multilingual language use by individual speakers) based on the interaction of speakers of different languages, language internal varieties and/or sociolects. (p. 91)

As noted earlier, bilingual/multilingual individuals as a smaller unit are considered as the root of change and variation within speech communities as a wider unit. For this reason, multilingual competence of speakers plays a great role, both at the individual level and the societal level, in determining the type of the occurring language change. Multilingual competence facilitates speakers' choice in terms of the most and least cross-linguistically corresponding elements to be used (or not) in their native linguistic system. In other words, when change takes place within a multilingual setting, it is described as contact-induced change which further insinuates the critical part of the multilingual competence of speakers in electing the

wanted patterns or forms. This brings to light the contribution multilingual speakers make to "shape linguistic change and stability by favoring or avoiding certain linguistic items according to their *cross-linguistic perception* of certain forms and patterns" (Braunmuller and Kuhl, 2014, p.18).

Another issue to be raised is that speakers in a case of contact-induced change tend to change and adopt new lexical and grammatical forms to address, fill in and/or expand particular functional gaps in their native tongue (Thomason, 2001; Matras, 2009 & Winford, 2003). Interestingly, multilingual speakers are cognizant of both the equivalent and different items in the other languages in contact; this means that "some forms and patters are more likely to be borrowed than others in certain contact situations (Aikhenvald 2007, p.2). This entails that contact mostly affects the lexical side of language attributable to borrowing.

Aside from language contact, bilingual/ multilingual speakers themselves are creative in nature apropos of the choice of structures within their linguistic repertoire as they tend to manoeuvre their bilingual/multilingual resources exploiting them to create and construct new forms and patters. In this respect, Matras (2007, 2009, 2013) and Matras and Sakel (2007) believe that this kind of ingenuity prompts a long-term language change. All in all, multilingual speakers represent the dynamic essence of the system of language. They are the epitome of the crucial role that language users play in shaping and moulding new forms and structures.

2.3.3 Language Contact and Language Change

When referring to the motives of language change in the scholarly literature, language contact is the first eminent aspect to be mentioned as many languages have been influenced by contact between their speakers (bilingual or bi-dialectal members). As discussed earlier in the chapter, interlocutors tend to fulfil particular gaps in their linguistic repertoire at odds with the rules of their linguistic and sociolinguistic prototype. Simply put, when it concerns language contact, bilingual/multilingual competence must be mentioned in view of the fact that the multilingual behaviour of individuals is deemed to be the incipient phase of language change. Undoubtedly, when contact takes place between bi-linguistic or multi-

linguistic speakers, change occurs eventually. It is even presumed that language contact, as time goes on, will drastically change languages in a contact situation because they influence each other (Weinreich, 1953; Thomason and Kaufman, 1988; Aikhenvald and Dixon, 2001, etc.).

It should be noted that the significance of accentuating the linguistic practices of multilinguals is merely to detect the outcomes of this contact referring to the varieties in question. It is also worth mentioning that the impact of contact on languages can be intended and purposeful or non-deliberate (Thomason, 2007) for the reason that speakers are not always conscious of the changes that occur. To be precise, Thomason (2007) contends that language users cannot change their mother language purposefully.

Before delving into the details of this issue, it should be highlighted that bilingual/multilingual speakers do not always have the choice to make in the matter of contact with other speech communities. In some cases, they can be socially, politically, economically, culturally, etc. empowered and stimulated to communicate with speakers of other languages. Besides, the linguistic repertoire of speakers also interferes in defining the type of language contact (Auer, 2020). This simply entails that language contact is not the appropriate term at this juncture; it should be explicitly termed contact-induced change since contact eventually leads to change when two or more languages exert influence on each other.

Basically, linguists define language contact as two or more languages being used by the same person, in the same area and at the same time (Weinreich, 1963 and Thomason, 2001). In the same vein, Auer (2020) also emphasizes the possible influence that language contact can have on monolingual speakers or among a group of isolated speakers. Auer (2020) provides a set of reasons that may pave the way for contact to take place, namely: migration, invasion/colonization, living in a border area, education, spread of international languages and ethnic awareness.

Taking into consideration the linguistic setting in Algeria, the French colonization that once took place in Algeria represents the effect of colonization on languages and how contact was enforced. Concerning education and the spread of

international languages, the status and use of English in Algeria can be taken as an instance. In Algeria, English is a foreign language taught in schools besides French and a needful language in today's conditions. In the current state of the nation, speakers, for example tend to use it in everyday field such as home, social media, administration, education, etc. This indicates that language contact is not always direct, but can also be through written forms (Braunmuller & House, 2009). Regarding internal migration, Mzabi language, Arabic and French in Algeria demonstrate the correlation between language contact and migration for trade. Mzabi individuals migrate from Ghardaia (their original region in the south) to the north, east and west of Algeria for business purposes where there is contact between Mzabi and Arabic. As a result of this contact, a lexical change took place and a morphological interference with Arabic (Ibrir, 2018).

As for the neighbouring dialectal contact, another example can be found in Tlemcen and Tebessa dialects in Algeria which are highly influenced by Moroccan and Tunisian varieties respectively as the effect is apparent in their pronunciation and lexicon and mutual intelligibility is high. Braunmuller and House (2009) pursue the same trajectory as Auer when explaining contact-induced change maintaining that travelling and intermarriage are also deemed to be significant motives behind language change besides the above mentioned ones. In this respect, Van Coetsem (2000) maintains that influence relies heavily upon the norms of both languages (recipient language and source language). That is to say, it is not only the speakers of source language active participation that determines the impact inflicted. The donée language adopts, borrows and integrates new linguistic structures that may also be enforced by the main source language itself; Coetsem (2000) labelled the process as the 'push and pull transfer'.

Notably, languages in contact (in nature) tend to lessen the integration of new complex items, favouring simplicity as an outcome; Dahl (2004) labelled it the 'system complexity of language' (the system here refers to the grammar, phonology and lexicon). This can be achieved, for instance, by eliminating some elements among others; however, Dahl (2004) himself maintains that this process can also lead to the

initiation of new structures and thus a high level of complexity. Added to that, newly borrowed items from the recipient language do not always oust the already-existent items as they can be added to the inherited forms contending for resistance.

Following the same purpose of explaining facets of language change, Van Coetsem (1988, 2000) model points out the importance of the cognitive side of bilinguals or multilinguals minds as most scholarly documents about contact-induced change do not address the involvement of the process of acquisition and perception (psycholinguistic considerations). His model relies heavily, according to his distinction, on psycholinguistic perspectives in contrast with Thomason and Kaufmann's model (1988) which describes contact-induced language change from a sociocultural standpoint. Van Coetsem (1988; 2000) differentiates between borrowing and imposition in terms of agentivity demonstrating that in borrowing influence is under the recipient language (RL) agentivity while imposition is change under the source language (SL) agentivity. Put simply, "the distinction between borrowing and imposition boils down to whether the agents of a particular change (i.e. the bilingual speakers who first introduce it) are cognitively (not sociolinguistically) dominant in the SL or the RL" (Lucas and Manfredi, 2020, p.13-14). In account of this, it is important to distinguish between the two processes of transfer: borrowing and imposition.

Before going into details, it should be highlighted that borrowing and imposition processes are considered the core of contact-induced change. Earlier, the discussion was about the RL and SL agentivity that determines whether we are dealing with borrowing or imposition. However, there are some differences regarding their effect that need to be highlighted. First, it is critical to define the two processes: "if the recipient language speaker is the agent, transfer of material (and this naturally includes structure) from the source language to the recipient language is borrowing (recipient language agentivity) Van Coetsem (1988, p.3). On the flip side, when "the source language is the agent, as in the case of a French speaker using his French articulatory habits while speaking English (1988, p.3), it is imposition.

Though this paradigm was first presented by Van Coetsem, he did not simplify or define the term 'dominance'. For this reason, Lucas (2012, 2015) attempts to elucidate this matter using the term 'nativeness'. Meaning, in the case of borrowing, the agents of change are the native speakers of the RL while in the case of imposition, the RL is not their mother tongue. One should tell apart, at this level, the difference between linguistic and social dominance. When speakers are competent in a particular language, it is an example of linguistic dominance. Here, social dominance is exerted through the status of this language within society. This is very eminent in the introductory overview of Lucas and Manfredi (2020, p.14) where they subsume that:

> Imposition occurs essentially because adults . . . consciously and unconsciously draw on the resources of their native language(s) to fill in the gaps in their knowledge of the non-native RL. Borrowing, on the other hand, occurs either as a deliberate enrichment of the native language with material drawn from a second language.

Heine (2005, 2006) shares the same contention that speakers make use of linguistic tokens and patterns that are already existent in the recipient language to model these tokens. This means that instances of languages are predicated upon the remodeling of old materials and are not entirely new. (p. 14)

In his discussion, Van Coetsem (1988) sheds light on some linguistic elements' inherent tendency to be stable contending that some structural items (such as morphology and grammar) are more resistant to change than others (mainly the lexicon and phonology to a lesser degree). This accounts for the fact that borrowing is primarily lexical in nature and that imposition can cause drastic changes in the grammar of the RL which he refers to as a "catastrophic modification" (Van Coetsem, 1988, p.20). This means that borrowing is intermittent in nature while imposition tends to be more methodical and thus less limited.

It should be noted, at this juncture, that change remains unforeseeable be it contact-induced change or internally motivated (Thomason, 2000, 2001). This reverts to the point that speakers are the locus of change because their linguistic behaviour cannot be predicted. In fact, speakers can be linguistically creative when inaugurating

new ways of communication to attain certain interactive goals with the speech community and, thus, enriching their linguistic repertoire (Matras, 2007). This implies that linguistic creativity is crucial in the process of contact-induced change since speakers are the language builders and their behaviour cannot always be predicted (Thomason, 2001).

Furthermore, the analysis of language change requires an account for the causes that induce certain linguistic elements to change but not others. While the inquiry of the causes of linguistic change seems to spill a lot of ink in contemporary linguistics, earlier literature offers insight into the complexity of the phenomenon. As early as the nineteenth century, scholars pondered upon the intricate nature of linguistic change. For example, Raumer (1856, cited in Labov, 1972) highlights a simplistic approach to the identification of linguistic change and, still, acknowledges the fact that change, however observationally perceptible, is very difficult to account for, particularly given the notable paucity in the scholarly literature. He argues that:

> We ascertain that the sounds of words have changed when we compare the older state of languages with the more recent. The process of the change itself however has not yet been investigated enough. If we penetrate deeper into the darkness which in many ways veils these questions, we find a huge multitude of highly different processes at work. (p. 72)

Raumer (1856, cited in Labov, 1972) is perhaps the first to acknowledge the interface of multiple factors which are, however closely related, very different. His statement instigated many scholarly documents that attempted to relate phonological change to linguistic factors in a purely philological fashion. Endeavours were, however, not enough to offer a holistic understanding for the nature of change. The father of modern linguistics, De Saussure, expressed his growing discontent with the theoretical development at which the linguistic knowledge stood. He argues that "the search for the causes of phonetic changes is one of the most difficult problems of linguistics. Many explanations have been proposed, but none of them thoroughly illuminates the problem" (2011 [1916], p. 147). On equal footing, Bloomfield attributes actual linguistic representations to antecedent ones. Any linguistic form that

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is observed at a given point in time is a result of amalgamated forms that pre-existed or co-exist with the observed form. He asserts that the core of the analysis of linguistic change is essentially "establishing a correlation between sound-change and any antecedent phenomenon", the ignorance of which suggests that "the causes of sound-change are unknown" (cited in Labov, 1972, p. 16).

Despite the main linguistics figures' corroboration of the intricate nature of linguistic change, numerous accounts were offered in an attempt to provide logical explanations for the causes of change. One well-known explanation relates to the economy of language form and language use. Scholars, including Bloomfield (1933) and Jespersen (1921), argued that humans speak in the most economic fashion and exert the least amount of efforts to communicate a given message. This may involve phonological truncation and lexical substitution. Sound change is believed to be consequential to this property of communication. Overtime, proponents of this view claim that phonological elements that can be reduced without influencing the propositional content of the communicative message will be prone to loss. While this view can account for many instances of linguistic change, it does not offer any principled criteria that enables us to predict what linguistic elements will be prone to change nor does it allow scholars to explain why certain phonological elements, despite their seeming semantic void, resist change. Another criticism that can be levelled against this view is that it accounts for phonological loss which is part of change and does not offer any account for phonological substitution and other instances of change at other micro-linguistic levels.

2.3.4 Language Acquisition and Language Change

Language acquisition and language change are highly concomitant because language change typically takes place during the process of language acquisition. Clark and Roberts (1993, p.300) appends that "the logical problem of language change cannot be separated from the logical problem of language acquisition" as "the former is a subcase of the latter". To pursue a more linguistic view of reasoning, it is critical at first to call attention to Chomsky's theoretical concept of Universal Grammar which suggests that children have an innate set of linguistic parameters that

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explain diversity in languages. On this basis, we can consider language acquisition as 'a process of language change' (Crain, Thornton and Gora, 2006).

Broadly speaking, language change occurs between the generation of children and the parents' generation. For this reason, it is of great significance to refer to child language acquisition in order to fathom how language change works. It should be noted that it is not the changes in the child's language that cause change. Rather, language change is transitional from one generation to another, i.e., gradual change during a period of time (diachronic change). During this transitional period of learning, children tend to change their grammar and yield their own structures as an elaboration on the parents used constructions. Put simply, the grammar/language of parents is not accessible for children to directly obtain from it; rather, children modulate their own grammar on the ground of the grammar of their parents (Hróarsdóttir, 2003; Lightfoot, 1979, 1991, 1999, 2007, 2010). The following representation made by Lightfoot (1979, p.148) clarifies how the parameters of grammar and output operate cooperatively:

Older generation	Younger generation
Grammar 1 → ↓ Output 1	Grammar 2 ↓ Output 2

Grammar, here, refers to internal language while output refers to external language. To elucidate more, this model implies that the "small changes in E-language [which is influenced by the child's environment: our note] sometimes trigger new I-languages with more far-reaching consequences" (Lightfoot, 2010, p.681). In accordance with Lightfoot's model of I-language and E-language, Hróarsdóttir (2003) alleges that explanations of language change within the field of language acquisition may lie in the selection phase where children get to adopt some patterns and discard others from the parents' output. However, this does not necessitate that change is at the level of the I-language (language competence); it can rather be in the E-language (language use/ performance) with the consideration of the extra-linguistic factors such as language contact, type of network, etc.

At this juncture, it is of paramount importance to allude to Aitchison's averment (1991, p.173) that E-language can cause change in the I-language. In accordance with this claim, Hróarsdóttir (2003, p. 124) sets a three-fold process of diachronic language change; "the innovation of variation phase, the diffusion phase and the acquisition based grammar change". In other words, after the actuation phase, the variations (changes in E-language) merge into the stable I-language. This simply implies that grammar change occurs when there is change in the E-language (language use) of the preceding generation. By the same token, Lightfoot (1979, 1999 & 2007) maintains that variation in the language of the subsequent generations can also be the cause of language change.

Following the same principle of I-language and E-language concomitance and the concept of selection enacted by Lightfoot, Kroch (1989, p.349) adds that language change is when "speakers learning a language in the course of gradual change learn two sets of well-formedness principles for certain grammatical subsystems", and they select one of the existing linguistic forms in competition. That is to say, when the two competing forms are introduced in the language in question (the innovation of variation), they are diffused gradually, and eventually one of the competing forms perishes (language change). It is worth bearing in mind that this selection process is based on the frequency of using the available competing forms. It is should be also pointed out that it is during the diffusion step that the competition period takes place. In a nutshell, Spouse and Vance (1999) state that:

> Parametric change involves a change in the underlying grammar, which may or may not result in a striking change in the linguistic environment. Change through competition results in no change in the underlying grammar, and it results in a subtle change in the linguistic environment, measured in the relative frequencies of the forms involved. (p.277)

2.4 Cross-Categorical Types of Language Change

Language change can affect any linguistic level such as sounds, vocabulary, meaning, usage, etc. Historical linguists investigated different levels of linguistic analysis to track change over time (diachronic change) and, thus, understand how

change operates structurally. Before looking at how change takes place within each linguistic level, it should be noted that there is a broad consensus about the interconnectedness of these layers of language. In other words, these subsystems (phonology, morphology, syntax, etc.) are highly linked from the system of sounds to the system of meaning.

2.4.1 Phonological Change

Change at the phonological level refers to any change that occurs at the level of sounds and pronunciation and thus alters the patterned diffusion of phonemes within the linguistic system. In point of fact, studying sound change facilitates tracking language change over time as it is a regular process that occurs at the level of a word (different variants of the same word). Davletshin (2016, p.350) states that "sound change usually involves the replacement of one sound or a phonetic feature by another, the complete loss of sound, or the insertion of a sound in a place where there previously was none".

There are three divisions of sound change: conditioned, unconditioned and sporadic. Usually, sound change is environmentally conditioned; that is to say, change takes place in one particular phonetic environment and not in another. What is puzzling at this level is that sound change can also occur unconditionally in any phonetic environment regardless of the placement of the phonetic segment in the language in question. However, empirical data suggests that phonological change that is constrained within the phonological and phonotactic parameters of language is more prevalent than change that does not conform to an observable segmental pattern (Hock and Joseph, 2019).

Phonological change, whether conditioned or unconditioned by language specific phonotactics, is observed to be distributed evenly across the lexical categories that display analogous patterns. However, some instances of phonological change are observed to affect some lexical items but not others. This irregular distribution is formally referred to as sporadic sound change. The most salient cases of sporadic changes are assimilation, dissimilation, metathesis, epenthesis, elision, etc.

All in all, sound change denotes sonority of speech sounds; it is highly constrained by the intra-syllabic representation. For example, phonetic segments in syllable-final positions are more prone to change than those in syllable-initial positions (Harya, 2016). It is critical at this juncture to stress the difference between phonetic change and phonological change. Phonetic change involves change at the level of pronunciation only and no radical change happens to the sounds of language such as the phoneme /q/ of Arabic and its different variants (/g/, /k/, /ʔ/, /ɣ/, and /ʧ/) all over Algeria. Phonological change, on the other hand, can cause drastic changes in the phonological system of language such as the change of the phoneme /u:/ in OE (Old English) into /əʊ/ in ME (Modern English).

2.4.2 Morphological Change

Morphological change refers to change at the level of word forms/lexemes, i.e., the structure and inflection. Given the fact that morphological change is highly interconnected with syntax, semantics and phonology, identifying and tracking it is quite complicated. This fairly pinpoints the prominence of morphology in the grammar of languages as it can be sometimes referred to as grammatical change in lieu of morphological change (Trips, 2017).

Morphological change can be internally motivated and/or externally motivated. That is, change can be due to the naturalness (markedness) of morphological units (Mayerthaler, 1981)   and/or language contact. As far as naturalness is concerned, not all morphological entities are affected by language change in the same manner pursuant to their uniformity, transparency and iconicity (for further information, see Mayerthaler, 1981; Dressler, 1995, 2006). For descriptive purposes, we can use naturalness to indicate form and meaning uniformity. If the form concords with the basic criterion of one-form-one-meaning (i.e., transparency and uniformity parameters), it is highly natural. In other words, when a particular morpheme (suffix) complies with one meaning, and when each meaning is predicted from its associated form, the pattern in question is regarded as a natural pattern.

Iconicity, on the other hand, is an important feature of naturalness; it deals with sign aspects; i.e., the analogy between the linguistic sign and its meaning (Haiman, 1983, 1992). The parameter of iconicity indicates that it is natural for a certain morphological form to mirror an interconnectedness between semantic complexity and form complexity. For example, the singular-plural form *house-houses* is a case of maximum iconicity (unmarked and, thus, natural) due to the addition of the suffix (-s) in the coda, while the example of *mouse-mice* is considered minimally iconic for there is no additional morpheme but just a change in the stem of the word. The singular plural opposition *moose-moose*, on the other hand, is considered non-iconic (more marked) because there is no apparent change in the form between the singular and plural (Willems and De Cuypere, 2008). The idea is that the naturalness (markedness) of morphological structures denotes their tolerability to variation and change. In this vein, Haspelmath (2006) claims that unmarked (natural) structures are more detected cross-linguistically, and they are less affected by language change.

The other aspect of this change is language contact, where new loanwords are borrowed from the SL into the RL (lexical borrowing), which also plays a vital role in the structure of derivational morphology. A moot issue arises at this stage which is what forms can be borrowed in morphology (Thomason, 2001; Matras, 2009 and Hickey, 2010). Generally, morphological change like any other type of language change involves an addition, loss or change of a particular morphological pattern such as the case system, derivational constructions and compounding. Take for example the insertion of prepositions in English to recompense for the loss of dative agentive cases (Trips, 2017). Another case is the addition of new borrowed derivational affixes such as the loan affix (Latin) [-able] into English among many others. Besides, the change from OE to ME provides a rich exemplary; for instance, the loss of the singular pronouns 'thou' /ðu: /, 'thee' / ðe: / and 'the'/ ði: / as the only remnant is the pronoun 'you' (though they are not completely lost as they are still used in religious context) (Hickey, 2009).

In a contact situation, new borrowed words may be morphologically complex for speakers of the RL (unrecognized morphology) who in turn may keep, alter or

misinterpret the original moulding of the loanword and thus create an eccentric patterning (also referred to in the literature as morphological misinterpretation). In a holistic view, speakers are always the locus of change as they can add, modify, neglect or misinterpret unintelligible non-transparent details so as to alleviate the complexity of the received data.

2.4.3 Syntactic Change

Just as sounds and morphemes change, words can also change in their order within a sentence. As a matter of fact, syntactic change is tightly related with language acquisition (language learning) since word order is mainly learned as an innate process. The learnability of syntactic features during contact during in the process of second language acquisition can cause a transmission failure. In other words, it is more likely that adult learners in contact situations will acquire deformed structures and pass it to children who will in turn use this imperfect version of data as a primary linguistic input and therefore approve it to be part of the native language (Kroch, 2001). A proper case in point is the study of Ellegard (1953) of the gradual shift of the main verb 'do' to an English auxiliary. For this reason, it is somewhat complicated to track syntactic change as it is not visible in the way that phonological and morphological change is (Longobardi, 2003).

From a broader perspective, syntactic change entails two main processes; the first is the grammaticalisation process which is the conversion of the structuring and functioning of linguistic elements from lexical to grammatical or from grammatical to more or less grammatical forms. The second process is when word order changes modifying the general structure of clauses. Concerning the first process, many other phonological, morphological or even semantic units are in the play as they can be affected, and, thus, the whole grammar of language changes. To illustrate more, some particular effects can occur as a result of grammaticalisation such as:

Desemanticization (or semantic bleaching), the loss of semantic content; decategorialization or morphological reduction, when the linguistic unit loses morphological or syntactic features characteristic of its initial category; phonological reduction or phonetic erosion, when the linguistic

unit loses phonetic substance (syllable, stress) and obligatorification, when the linguistic unit becomes obligatory (Moyano, 2014, p.3).

The second process, on the other hand, affects the clause as a whole linguistic element in which the placement of the focal components of the clause (the subject, predicate and object) changes besides the other peripheral constituents of the clause (such as conjunctions, articles, pronouns, prepositions, etc.) (Wallenberg, 2013).

2.4.4 Semantic Change

The meaning of words is just as erratic as the form of words; semantic change can be internally and/or externally induced. This kind of change is not as regular as the other types of change because meanings are intended messages by speakers who constantly alter their intentions according to their needs or due to other linguistic or extra-linguistic influences. In connection therewith, Hock and Joseph (2019, p.10) allege that semantic change is "notoriously unpredictable and fuzzy . . . and one of the consequences of the fuzziness of semantic change is that semantic flip-flops may occur". This insinuates that shift in meaning may take place and affect related words. Hock and Joseph, here, are referring to the words of a word-field that are closer in meaning but have different connotations.

Like other cases of change, semantic elements can as well undergo a process of shift, loss, differentiation, expansion, etc. Discussing the case of loss is a complicated matter as it may imply that language is actually losing a word, not just a meaning from its native inventory. In fact, it is quite infrequent in historical linguistics that borrowed words, which are closely related in meaning, replace the original words to the extent that they disappear from the repertoire. Rather, new meanings are usually appended to the newly borrowed words (as synonyms of the original word) without eliminating the first inherent meaning.

Broadly speaking, semantic change can be either a shift in the main implication (denotation) of a particular word, leading to the emergence of radically divergent meanings (semantic shift) or a change in the value associated with it (either and improvement or disimprovement) (Hickey, 2010). This value can be exemplified in

the case of the evolvement of pejorative (negative) and positive meanings. In addition to this, duality in meaning can also be a good example; twofold meanings can be derived from the same original word, unlike expansion whereby a variety of meanings evolve over time for the same word.

In essence, semantic change is a change or progression in the meaning of a particular word over a period of time to the extent that the new expanded meaning diverges from the original meaning of the word. Hickey (2010) statements are nevertheless disapproving as he asserts that there is not really an original meaning; he referred to this prospect as an 'etymological fallacy'. He simply claims that meaning is bound to its latest use by speakers, and every generation and every juncture is different from the previous one.

One issue with the analysis of semantic change is the epistemological limit of defining what the word meaning really means. It is readily conceivable that other levels of analysis (e.g., phonological, morphological and lexical) can be scaled on the basis of **whether** the core variable is in use **or** it is replaced by the new one. Semantic content, however, is discussed only in terms of **the extent to which** new meanings conform to the old one. The dichotomy **either/or** and **the extent to which** implies that the nature of semantic change is adjunctive and continuous rather than bipartisan which makes it very challenging to quantify.

2.4.5 Lexical Change

At the beginning, it is important to highlight the relationship between lexical and semantic change, as the latter can be part of the former. Both types of change have to do with words/lexemes, but the subject of analysis is not the same. Lexical change, in fact, is the richest and the most prevalent type of language change. Similarly, changes in the lexicon also involve additions of new words, loss of words and shift of words meanings. In view of that, researchers can draw conclusions about the speakers' age, gender and even attitudes based on the lexical items they use. For example, the word (neghda) /neɣda/ meaning 'to go' is mainly used by old people in Tlemcen speech community as opposed to the word (nrouh) /nru:ħ/ which is used by younger individuals. In sociolinguistics, the discrepancy in the vocabulary can tell

apart one particular speech community from another. For instance, the word (yaser) /jæser/ meaning 'a lot' is used in the centre of Algeria and the neighbouring regions while the words (bezaaf) /bəzæ:f/ is used mainly in the northern regions.

In a contact setting, the lexicon of speakers is the most affected level of the system; individuals have a propensity for selecting some words over others while interacting. In other contexts and for some reasons and according to some needs, speakers may remove the existing word and replace it with a new lexical item that is evaluated by the speaker as more context-fitting. Thus, these variations in the lexicon of social groups denote a sort of innovation in the lexis, eventually inducing change.

2.5 Language Change as a Variable of Speech

The discussion thus far is tantamount to saying that there are multiple variables at play in determining not only the causes of language change but also the outcome thereof. Within the heart of variationist sociolinguistics, all aspects of linguistic behaviour cannot be segmented from the social context of occurrence. The following sections introduce factors that are seemingly social but are indubitably linked to linguistic variation and change.

2.5.1 Prestige

One of the auspicious implications of functional analysis of language is its recognition of language not solely as a system of patterns and rules but also as a reflection of the humanistic nature of language users. With this new intellectual outlook came a better understanding of the niceties of linguistic behaviour. In essence, not only do individuals have knowledge of the structural patterns of the language, nor do they only conform to those norms in their speech, but they also form highly individualized opinions about different codes and even different variables within each code. The differing opinions are substantiated by powerful social groups and ascribed status of prestige.

Languages in a state of contact are apt to change to a certain extent. Nevertheless, in such contexts, change is usually towards the variety of a higher prestige (Trudgill, 1972; Labov, 1966; Crystal, 2003). In most cases, languages often

converge towards a prestigious variety; however, they diverge from a less-prestigious variety. In other words, "the language with more status influences that with less stays" (Hickey, 2010, p.8). Interestingly, the relationship between change and prestige is not always readily fathomable inasmuch as the status of prestige is circumstantial. That is, the context of use of any variety can outlay its level of prestige; a given variety can be highly prestigious in one context but completely non-prestigious in another.

The same matter regarding lower status and higher status languages is mentioned but differently by Hickey (2010) as "**substrates** and **superstrates**" respectively. In a contact situation, the substrate language is usually influenced by the superstrate language, and this impact can be a case of change. Similarly, Croft (2000) and Fischer (2003) followed the same stream with different terms only; they used the concept of power, social identification and dominance. One presupposition in the discussion of substrate and superstrate languages is that the direction of change is predetermined by the circumstantial sociolinguistic power of the languages/ societies in contact situations (Lutz, 2013).

Furthermore, the principle of prestige as an inducer of change is not totally restrained to overt prestige In other words, predicting the direction of influence on the basis of public prestige in society is not always evident. Covert prestige, though subconscious and not overtly valued, should also be put to the fore in the case of language change (Crystal, 2008; Labov, 1963; 2006; Trudgill, 1972). By means of this differentiation, Crystal (2003, p.115) clarifies this distinction establishing a relationship between the two types of prestige:

> In covert prestige, forms belonging to vernacular dialects are positively valued, emphasizing group solidarity and local identity. This kind of prestige is covert, because it is usually manifested subconsciously between members of a group, unlike the case of overt prestige, where the forms to be valued are publicly recommended by powerful social institutions. (p.115)

In language contact situations, the factor of prestige is not always a motive for change, but it can also be a motive for stability. For example, lower-status varieties in Southern Spain displayed a kind of resistance against the power of the dominant

standard language which is Standard Castilian. This is simply due to the high social covert prestige of the local native varieties in Andalusia that symbolizes their identity and their tight social network and through this they became a close linguistic minority (Auer, 2005; Ponsoda, 2008; Ponsoda and Ávila-Muñoz, 2014). This simply implies that prestige is just one of the values among many other tenets that can interfere in the process and direction of change.

2.5.2 Attitudes

In the discussion of language change, it is critical to refer to the notion of attitudes as a branch of study on its own. There are two different views when it comes to defining attitudes: a mentalist and behaviourist trend. The mentalist view defines attitudes as "a disposition to respond favourably or unfavourably" (Ajzen, 1988, p.4).This camp divides attitudes into three main elements: feelings, cognition and behaviour (Ladegaard, 2000 and Oakes, 2001). Following this trend, researchers are required to report informants directly (self-report for the informants) or simply interpret their behaviour indirectly. The behaviourist camp, in contrast, considers attitudes as an observable reaction to a social impetus; it views attitudes as one entity, consisting of one main element which is behaviour. Researchers following this framework focus mostly on explicit behaviour. Usually, the mentalist view is the most followed approach when it comes to investigating language attitudes. That is to say, language attitudes is to respond favourably or unfavourably to a language or language variety and thus determine the social status of a particular language and its speakers (Oakes, 2001 and Preston, 2002).

Language attitudes can also be subcategorized into sub-constituents. For instance, Oakes (2001) claim that language attitudes as an entity are bi-faceted; they can be instrumental or integrative. Instrumental attitudes, on one hand, mirror the socio-pragmatic forces responsible for the dominant status of a particular language or language variety. Integrative language attitudes, on the other hand, reflect the speakers' inclination towards a certain linguistic cluster. Others like Preston (2002) and Garrett (2001) consider language attitudes as a three-faceted set, entailing three main elements: superiority (speakers' intelligence and prestige), social attractiveness

(honesty) and dynamism (confidence) (Friðriksson, 2008). Therefore, taking into account language attitudes in conjunction with the previously mentioned social categories of age, gender, etc., provides a complete framework for explaining language change and/or stability. In view of that, Ladegaard (2000) and Garrett (2001) assert that examining attitudinal factors can aid detect sociolinguistic behaviour of individuals and thus determine linguistic change.

In line with this, it should be stressed that language attitudes are not easily collected, quantified and analysed as they are abstract in nature. Besides, language attitudes can sometimes be misleading as speakers may give context-fitting answers instead of their real attitudes. Moreover, language attitudes do no always reflect speakers' linguistic behaviour as in the study of Danish teenagers whose performance demonstrates a different disposition from the given attitudes (Ladegaard, 2000). In this regard, it is critical to refer to attitudinal factors along with the other socio-psychological (prestige, nationalism and identity), geographical and even political factors when investigating language change (Oakes, 2001, Ibrir, 2018).

In point of fact, attitudes are also one of the main social-psychological factors that come into play in the field of language change and stability because individuals can either opt to change their language or resist change according to their attitudes towards some linguistic variables/varieties. Generally speaking, speakers have the tendency to change and follow the flow; however, others reject change as they consider it a menace to their language and thus their identity. So, they choose to conserve and keep their linguistic legacy (language stability).

With respect to language attitudes and language usage, some speakers consider the original unchanged forms as **correct** language and the new changed forms as **incorrect** language (Hickey, 2010). Hickey's ideas of the correctness of altered speech or even writing are also echoed by Milroy and Milroy (1999) who report the view of any kind of divergence from the typical variety as an illiteracy. This indicates the relationship between language attitudes, prestige and the traditional social variables of age, gender, residence, education and social networks. Following Braunmuller's overview about attitudes as a language change parameter (2014, p.20-

21), language attitudes is a multifaceted entity that involves "attitudes towards linguistic change, loyalty towards one's own language (and culture) and, not to forget, attitudes towards bilingual/bilectal language use".

2.5.3 Awareness

When discussing the notion of awareness, it is crucial to refer to the mutual relationship between awareness as a mechanism and language change because awareness is not just the outcome of the influence of language change on speakers' awareness (the product of language change), but it can also be consequential to language change. Kristiansen (2017) referred to it as 'influence from language change on awareness' and 'influence from awareness on language change' respectively. However, the matter that needs to be accentuated at this juncture is the influence of awareness on language change. Kristiansen (2017) claims that human beings (especially laymen) are not aware of the static features that did not go through any process of variation and change. He further appends that the perception of awareness of change differs significantly among individuals, i.e., between linguists (as experts with a linguistic ear) and laymen or 'real people' (with no linguistic experience) (Preston, 2018).

In this respect, it is of a great significance to raise the issue of sound change and awareness by Labov (2001) because he views sound change as the initiation of language change. Labov (1972; 1994; 2001; 2010) argues that speakers/listeners are not aware of all types of sound change. Their perception is contingent upon the types of linguistic variables and the types of awareness of change, either 'from below awareness', meaning changes from within the speech community or 'from above awareness', meaning changes as a result of influence from outside the speech community) (Labov, 2001). He mentions, in this vein, that **'indicators'** are less noticeable and speakers are not acutely cognizant and aware of indicators in language, but they are aware of **'marked features'** and '**stereotypes'**. Markers are usually less conspicuous, yet speakers are aware of them; stereotypes, on the other hand, are publically notices and, thus, widely available for recognition. This distinction reflects mainly the impact of language variation and change on awareness.

The opposite perspective, the influence from awareness on change, is also possible. In his study of the internal factors of linguistic change, Labov (1972; 1994) stresses the role of speakers' awareness in determining the direction of change; he maintains that "there is a part of language behavior that is subject to conscious control, to deliberate choice, to purposeful and reflective behavior" (2001, p. 28).

This discussion intrigues the minds posing an intricate query which is the way and the extent to which speakers can be conscious about the changes that language undergoes. In order not to deviate from our scope, it is important to mention that this discussion is mainly about awareness in relation to contact-induced change, and hence it is about bilingual/multilingual speakers. Broadly speaking, bilingual or multilingual speakers are usually aware of the shared and different features of the languages they know (Luk, 2013; Rivlina, 2015).

Pursuing the same matter as Labov (1972, 1994) in his categorization of the linguistic variables that operate under the manipulation of awareness and those which do not, Von Humboldt (1836, cited in Labov, 1994) provided a two-fold distinction maintaining that there is: an 'inner-form' and an 'outer-form' of language. He alleges that speakers are more conscious of the outer patterns of language (such as sounds, morphemes, words, etc.) as opposed to the inner patterns of language (i.e. grammar). Similarly, Hickey (2010) argues that individuals are more conscious of lexical categories than grammaticalised ones. From this perspective, it is noteworthy to underline the fact that linguistic awareness is highly dependent on the types of linguistic features in addition to the context of these linguistic variables.

2.5.4 Cognition

Besides the aforementioned mechanisms, language contact situations are also affected by the cognitive dimension. At this point, before delving into the relation between cognition and language change/stability, it is critical to first define the term cognition. Broadly speaking, cognition is the process of knowing or realizing something, i.e., the perception and conception of something. Cognitive control denotes the functioning mental faculty of speakers to observe, detect, track, select and attend to any prevailing variation within different contexts (Braver, 2010). It

should be noted that speakers are intrinsically distinct, and their encounters with languages and attentiveness to linguistic variability vary as well. Ergo, their cognitive control is highly affected by these factors (Mattys and Wiget, 2011; Mattys and Palmer, 2015).

When referring to cognition in relation to language variability and change, we should discuss the mental control that speakers use to contend with any linguistic variation. From this perspective, Clopper (2014) avers that speakers' exposure to variability renders their mental ability versatile to adopt to any occurring variant. Green and Abutalebi (2013) share the same contention maintaining that the linguistic patterns that speakers frequently use affect the cognitive structure of individuals. To illustrate, Hartanto and Yang (2016) maintain that bilingual/multilingual individuals who frequently use one language and suppressing the other/s are subsumed to have a different cognitive control from bilinguals/multilinguals who frequently switch between languages such as the case of Voice Onset Time (VOT) of voiceless plosives production and perception by English-French bilinguals and English and French monolinguals. The performance of English-French bilinguals inhabiting France exhibits a French-like production of VOT of voiceless stops in English compared to the French and English monolingual speakers (see Lev-Ari and Peperkamp, 2013 and Lev-Ari and Peperkamp, 2014).

Interestingly, the cognitive control that speakers operate in dual/tri-language modes implies that linguistic variation is no longer problematic as they can control their choice and adaption of this new input within their linguistic inventory. For instance, bilingual/multilingual speakers, in a contact situation, find themselves under the pressure of choosing context-fitting structures from their linguistic repertoire taking into account the kind of situation they are in, the participants in the speech event and the types of features to be selected. Nevertheless, this can be a complicated burdensome problematic, so they tend to lighten this 'linguistic burden' by converging some interlingual features with the intention of alleviating the **'cognitive cost'** (Weinreich, 1953, 1968; Matras, 2009).

Moreover, speakers, when attempting to lower the cognitive cost, have the tendency to select compatible system-internal equivalences (i.e. forms that are shared by the SL and the RL) and make the challenge less daunting for them (Aikhenvald, 2007; Hoder, 2012). This, in turn, can also lead to stability of these selected features. Therefore, this implies that these two linguistic processing features, i.e., the perception of congruent patterns (stability) and speakers' construction of common features (convergence) can account for cases of stability and contact-induced change. In a nutshell, language variability, in fact, is the underlying drive that requires speakers to use their cognitive mechanisms in order to aid them in their selection from the existing linguistic input and output and to adapt to any occurring linguistic modulations.

2.5.5 Political and Geo-demographic Setting

As far as language change and stability, the structure of speakers grouping and how loose or tight their network is are determinants factors a propos of the spread of innovation or maintenance of language stability (Milroy, J., 1992; 1993; Milroy and Milroy, 1985; 1992; Milroy, L., 2002a; 2002b;, Aikhenvald, 2007; Braunmuller et al., 2014). For more elucidation, Croft (2000) defines the term network as follows:

> Networks vary in density (how many individuals know each other) and multiplexity (in how many different domains the individuals know each other). Individuals have relatively strong or weak ties, defined in terms of density, multiplexity, and intimacy of links with other individuals in the network. (p.240)

This entails that the density and the tightness of speech communities can either ease the spread of linguistic change or impede it. In opposition, loose networks are more open to external innovation and, thus, more prone to linguistic change (Milroy 1992; Auer and Hinskens, 2005). If change is welcomed and 'admitted' within society, those resistant tightly-knit networks are more likely to spread the change among them and in the whole society.

As a matter of fact, speakers in tightly-knit networks tend to resist external linguistic and social influence using their own unique structures and norms as a way to represent "solidarity and loyalty" (Milroy, 1980, p.194). Similarly, Milroy and Milroy (1985, p.375) affirm that "linguistic change is slow to the extent that the relevant populations are well established and bound by strong ties, whereas it is rapid to the extent that weak ties exist in populations".

In addition to the network framework (tightly-knit or loosely-knit networks), the number of speakers within this network (demographic settings) and the natural borders that separate regions and nations (geographical settings) also matter in establishing the conditions for linguistic stability and/or change. These geo-demographic features can be contributing factors for language stability and change (Woolhiser, 2005; Sandoy, 2004). In his study of stability in Icelandic, Friðriksson (2008) discovered that speakers' resistance against change is due to their small social and geographical structuring within the whole speech community. Ponsoda and Avila-Munoz (2014) share the same observation with Friðriksson in his investigation with the local varieties of Andalusia. They both conclude that their resistance is contingent upon their type of settlement because their speech communities were geographically too small and isolated, consisting of few folks only, to accept innovation.

2.5.6 Language Planning and Language Change

Language planning, in its essence, means to intervene in the structure and limit the usage of a particular language or variety with the purpose of revivifying or changing a linguistic code. Language planning refers to "the activity of preparing a normative orthography, grammar, and dictionary for the guidance of writers and speakers in a non-homogeneous speech community" (Haugen, 1956 quoted in Cooper, 1989, p.29). This implies, at this level, that the purpose of language planning is to fix, purify and solve language problems and decide on optimum solutions. This definition highlights the main procedures involved in the process of language planning. For this reason, it is critical to relate language planning to our scope of interest which is language change and/or stability.

In line with this, Deumert (2001, p.644) states that "language planning refers to deliberate, conscious, and future-oriented activities aimed at influencing the linguistic repertoire and behaviour of speech communities, typically at state level". Clearly, Deumert's definition associates language planning with change when referring to 'influence'. By the same token, Cooper (1989, p.45) made the same connection with linguistic change in his definition; he maintains that language planning is the "deliberate efforts to influence the behaviour of others with respect to the acquisition, structure, or functional allocation of their language codes". In other words, language planning is a deliberate planned influence or change of a particular linguistic system. The word 'influence' is mentioned yet again; it apparently denotes 'change'. Cooper (1989) further appends that this influence "includes the maintenance or preservation of current behavior, a plausible goal of language planning, as well as the change of current behavior" (p.45). This claim evidently reveals that the chief principle in language planning is to achieve stability and invariability though it can sometimes lead to variation and change.

Having defined the term language planning in relation to language change and stability, it is important to review, at this point, the related phases involved in this process so as to fathom how language planning can intervene in language either towards stability or change. Since Haugen (1956, 1966, 1972) is the pioneering figure of this political and linguistic practice, it is significant to start with his description; he mentioned four main phases. The first phase is to select a social or regional variety; the second is codification of the selected variety, i.e., the decision upon the arrangement of the structural elements of the selected variety (grammar, vocabulary, etc.). The final two steps are implementation; that is, the acceptance of the newly-established norm, and elaboration is the diffusion, spread and adaptation of the newly-selected variety (Haugen, 1966, 1972; Vikor, 1994; Deumert, 2001; Deumert and Vandenbusche, 2003) These four stages simply demonstrates the whole process of standardization. The first two steps are linguistic in nature concerned with the form and structure of language, while the other two are social in essence, related with the functions of this newly-established variety within society.

This model, however, was amended in accordance with the new investigations and developments in the fields (Kloss, 1969; Cooper, 1989; Vikor, 1994; Schiffman, 1996; Ager, 2001).The new classification also includes two aspects: a linguistic and social aspect. The first two types are 'corpus planning' and 'status planning'; they go hand in hand with Haugen's fourfold model. Corpus planning is simply concerned with the structure of the selected language/variety whereas status planning deals with its social function within the speech community in question (Kloss, 1969). Later on, acquisition planning and prestige planning were added to complement the previously mentioned types and in response to the functions of languages and speakers attitudes and needs within society (Cooper, 1989; Haarmann, 1990).

From this, it can be entailed that variation and stability can be plausible outcomes of the process of language planning in compliance with the linguistic and social ideologies and functions of the variety in question within a particular speech community. It is noteworthy to highlight the fact that language planning is a delicate issue that requires a careful examination of some criteria before the selection or implementation of any variety such as speakers attitudes towards the elected variety, which variety is of higher prestige within society, whether there other languages or varieties in contact with the selected variety, speakers tolerance towards the selected variety and language users ideologies, e.g. sense of patriotism, equality, social tolerance, etc. All these principles can be determinant terms for the selection, direction and acceptance of a particular variety within any speech community.

From a narrow perspective, it is crucial to refer to the process of standardization as a main factor of language change and stability and because it is a pivotal issue in language planning. For this reason, it should be given a section for its own to briefly view its role in language change and/or stability. It is established in the literature that standardization is a contributing factor to language change and stability as the degree of standardization of a certain variety matters in establishing the direction of change. Following Haugen's claim, the role of standardization is to reduce any kind of variation and this minimize change; Haugen elaborates further

(1966/1972) defining codification "as minimal variation in form" and elaboration is defined "as maximal variation in function" (p.252).

The ultimate goal of standardization, as a matter of fact, is to create a uniform standard variety with a unified grammar, phonology and lexicon. Haugen (1972) argues that after the process of standardization is fulfilled, change may not find the way through as it cannot penetrate the newly-codified variety. Put differently, Milroy (2001, p.531) relates standardization with uniformity and thus stability; meaning the "imposition of uniformity" on a selected variety. In the same vein, Deumert (2003, p.21) refers to the term uniformity and stability quite differently averring that it is "the capacity of a language to be used in new functions, genres and styles while maintaining its linguistic identity and fundamental structural properties".

On the other side of the spectrum, standardization can also lead to variation and change if we consider uniformity as an unattainable goal (Haugen, 1966, 1972; Milroy, 2001). Hence, it is critical to, at this level, to say that standardization is an on-going process that seeks uniformity and stability as an outcome.

2.6 Language Change in Empirical Research

The discussion of language change and stability within its social context is not complete without the discussion of some empirical studies that shed light on how linguistic forms are used within social implications. Of course, an exhaustive analysis of all factors in empirical studies would be beyond the scope of this study; rather, a brief discussion of some major studies is offered.

The first instance that triggers attention is the case of Icelandic and Faroese which are considered an emblematic example of language purism (i.e., linguistic stability) (Trudgill, 1992; 1996; 2002; Jacobsen, 2012). Language purism, in this context, indicates the resistance of the language holders against foreign influence to the extent that they may create neologisms to replace any intruding foreign words. In this case, speakers did not succeed alone in maintaining their local vernacular variety stable; it is the language governmental supervision that aided the maintenance of the variety. The language institutional officials kept a record track of the use of language

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(especially the written language). By so doing, they managed to keep a socially comprehensive authentic version of their variety. This denotes the success and usefulness of language planning practices to preserve the dialect and thus maintain stability (Peterson, 2010). Clearly, the language officials could not achieve this without the aid of language users who endorsed the institutions' proposals and practices and showed a high sense of nationalism and loyalty towards their language (Braunmuller, et al., 2014). An illustrating example is the case of Croatian divergence after a successful language planning implementation in which any shared linguistic form between Croatian and Serbian and Bosnian as neighbouring influence and Spanish as a foreign colonial influence was eliminated (Kunzmann-Müller, 2000; Wingender, 2000; Gröschel, 2009).

By the same token, Friðriksson (2008) examined stability in Icelandic in relation to nationalism and speakers' attitudes towards the variety in question to confirm that the sense of membership, identity and pride towards Icelandic are contributing factors to its stability. Remarkably, not only do speakers reject foreign linguistic influence, but they also attempt to distinguish themselves from proximate neighbouring groups with a sense of local membership and distinctiveness, i.e., neighbouring opposition (Trudgill, 1988, p.554) by stressing and enlarging the saliently different features from the other neighbouring local varieties. In this case, language holders seek to distance themselves linguistically so as to be marked as an inimitable unique linguistic group.

Concerning the geographical networking of linguistic assemblies Milroy and Milroy (1985) tracked the changes occurring in English and Icelandic; English witnessed a flux while Icelandic maintained its stability due to the close bonds and the tightly-knit networks among its speakers. Milroy and Milroy clarified this issue claiming that "in situations of mobility or social instability, where the proportion of weak links in a community is consequently high, linguistic change is likely to be rapid" (1985, p.380).

In hindsight, it is noteworthy to refer to the fact that stability can take place despite contact in cases of genetically related languages. For example, the case of

Low German and Danish (Bock, 1933, in Braunmuller et al., 2014) provides an illustrative situation where transfer was possible, yet they exhibited no instance of interference though these varieties are typologically close. In effect, such a case reveals how convoluted their structural features and how complex the linguistic system are. To illustrate more, Thomason and Kauffman (1988) give the example of Balto-Slavic languages against the influence of Finnish and Estonian (Uralic languages) where the latter languages '"exercised a conserving influence" (Braunmuller et al., 2014, p.27) on the former languages. These examples show how phenomenal languages is in which no merging and no interference were allowed though the conditions for that were available i.e. despite contact, and genetic relatedness.

This implies that change and/or stability can occur depending on which linguistic level is in the play such phonology and syntax as an example. Usually, phonology can be easily influenced and more prone to change compared to syntax which is more complex and speakers are not aware of its marked features as in the case of Sofia Judeo-Spanish variety of Bulgaria (Fischer, Gabriel and Kireva, 2014). Similarly, Berg (2014) conducted an investigation to reveal how the intricacy of forms can help retain their stability; he provided the example of case marking in Low and High German, more specifically, definite articles of neuter gender specially (full-form vs. reduced form). Berg establish that the full-form of definite articles remained stable as opposed to the cliticised form which were more susceptible to change. He explained this referring to the fact that cliticised forms could not inhibit the influence of German as they were "more receptive to standard German" (Berg, 2014, p.71).

It follows that contact does not always designate the occurrence of change of the linguistic system in question. Put differently, contact does not always lead to change as there are some structural features that tend to retain stability such as basic terminology, and there are other forms that halt change such as cultural vocabulary (Milroy and Milroy, 1985; Thomason and Kauffman, 1988; Wichmann & Holman, 2009; Kauffman, 2010, Trudgill, 2010; Dediu, 2013; Berg, 2014; Nichols, 2018, etc.). These structural features "are most indicative of the overall structure of a language .

. . of the typological profile, or 'genius' of a language" (Cysouw, Albu and Dress, 2008, p.263).

Highlighting the impact of contact on language use, Okumura (2011, 2018) investigated the use of the phonological variable (ng) in a dialect spoken in north-eastern Japan as an attempt to explain the intensive use of the [ŋ]. In her analysis, Okumura, makes use of a set of words in isolation and then used in a conversation to verify the use of this variable in their active linguistic production. She even explored the speakers' perception of this variable. Given the fact that this phonological variable is an intruding element to the dialect, Okumura justifies this impact with the direct social contact with the outsider settlers of the Japanese town who first introduced this variable into the repertoire of the speakers of this town.

What is of interest at this juncture is that the analysis of change in one research endeavour is expected to take into account one aspect. The present study entertain the possibility of investigating instances of linguistic change in the Chaoui variety of Berber with particular focus on the contact-induced lexical change. The social implication are tackled in relation to the theoretical foundation offered in the discussion above.

2.7 Conclusion

The discussion of language change and stability is tantamount to arguing that there is no such thing as a linguistic system that is completely immune to change. Change, however, occurs at very slow rates so as to ensure that there is a healthy level of mutual intelligibility across social subgroups. It is also mentioned in the chapter that the degree and the rate at which different languages change is contradistinct. More importantly, different linguistic levels within the same linguistic variety are marked with different levels of susceptibility to change. While the former is the outcome of extralinguistic features that can be substantially society-motivated, the latter is a reflection of the inherent dynamism of linguistic features.

The literature offers some interesting insight into the motives of language change, often with conflicting findings that reflect preliminary differences in the

scholars approaches to sociolinguistics. Many scholars prefer to account for linguistic change in terms of the inherent capacity of linguistic features to acquire new forms and map them unto new functions. However, it is proven that attributing linguistic change to purely language-internal factors can be inconclusive in accounting for the direction of change, nor can it explain why certain linguistic changes are carried out more rapidly within certain speech communities but not in others. Other scholars, however, prefer to account for the dynamic nature of language in relation to the predominantly dynamic nature of the speakers of language. Societies are marked with a highly intricate level of diversity, and it is only through the understanding of social structures that language structure can be understood. This view, while not necessarily adequate on its own, offers more insight into the way language speakers interfere in the shaping of not only their linguistic behaviour but also the structure of language as a whole.

Language change can be observed in different linguistic levels; it can affect phonological, morphological, lexical and syntactic features of language, and it can even transcend the level of the sentence to affect meaning at the textual level. What is of interest to sociolinguistics lies in not offering predictability criteria for what variables are going to change. Rather, the essence is capturing the exact picture of how linguistic variable change and explaining the social implications a posteriori. The following chapter highlights the main methodological considerations in the present study with reference to the core methods in sociolinguistic research.

CHAPTER THREE

CHAPTER THREE

Research Methodology and Study Design

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3.1 Introduction

This chapter presents the methodological template pertinent to the current study. It describes the research approach (qualitative/quantitative), the sample, the setting, the procedures and the methods used to collect the data. The first phase of this chapter is devoted to the pilot study and its presumptive outcomes. The informants, research instruments and results of the pilot study are discusses in this chapter to test the feasibility of the research protocol established for this study. The second section of the chapter describes the informants selected for the study and a description of the speech community involved (the Chaoui community). The third section provides a meticulous description of the used data collection tools in carrying out this study. It should be noted that the current research adopts others methodologies available in the bulk of about language change and adapt it to fit in with the objective of the current work.

3.2 The Pilot Study

The pilot study is the first step that the researcher goes through; it can be a planning and application of the research protocol deployed for this research on a small-scale population in order to avoid any kind of diversion of results and thus false generalizations. In this vein, Lowe (2019, p.117) states that "the primary purpose of a pilot study is not to answer specific research questions but to prevent researchers from launching a large-scale study without adequate knowledge of the methods proposed". In other words, the pilot study paves the way for inquirers to feasibly conduct their investigation. In technical terms, pilot studies (also called feasibility studies) are designed for the purpose of 'trying out' or 'pretesting' the methods planned for a more scrupulous and thorough investigation (Polit & Beck, 2017; Arain, Campbell, Cooper, & Lancaster, 2010, etc.).

3.2.1 Purpose

The use of the pilot study in this research provides the researcher with a guide to follow concerning the overall research design; it also tests to what extent the research instruments used are practical and effective appertaining to its results, i.e.

validity and reliability. The pilot study offers as well a chance for the inquirer to avoid unforeseeable complications regarding the methods or other parts of the research design. The Pilot study used prior to the present study proves to be convenient in collecting the preliminary data and assessing the protocol of the current work. The results of the pilot study are not as important as the viability of the hypothesis and the utility of the questionnaire and the interview.

As far as the questionnaire is concerned, the pilot study helps organize the constructs and the items of the questions and fix problems concerning the language, wording, comprehension, type of questions, length of questions and of the whole questionnaire, the time consumed, etc. In this view, Cohen et al (2007:260) states that "the wording of questionnaires is of paramount importance and that pretesting is crucial to its success". Regarding the data obtained from the pilot study, no major modifications are made at the level of the whole protocol except for some minor changes at the level of the questionnaire such as merging some questions and deleting others.

As concerns the interview conducted, some questions are added to the initial prepared questions for the interview; some questions were deleted as they prove to be impractical. On the basis of the answers provided by the pilot study participants, the questions prepared for interview do not require drastic modifications as they are merely designed to elicit the desirable variables for the study. The researcher also formulates other questions as an insight obtained from the participants who indirectly provide useful suggestions. Moreover, the non-cooperative behavior of some of the pilot study participants during the interview phase (some refuse to be recorded) necessitates the construction of a grid to score the attained results.

It is also worthwhile noting that the participants of the pilot study were not included within the main study as it not preferred in research. To elucidate more, conducting questionnaires and interviews with the same participants make the informants bored and impassive, also known as 'semantic satiation' (Black, 2003). In more simple words, when the participants are asked the same things for more than

once, the meaning intended may be lost, and thus they lose interest in the study which is not going to be of much help and effectiveness to the research and the researcher.

For a high level of viability and validity, the participants involved in the pilot study are selected based on the same background; that is to say, they were classified on the same way as the sample of the actual study e.g. age, education, gender, mobility, urbanization, etc.

3.2.2 Validity and Reliability

This empirical research takes into consideration the importance of the psychometric properties in order to ensure the feasibility of the methodology applied and the results obtained. The properties of validity and reliability are one of the milestones of empirical research as they back up the researcher and the research in that they make the investigator and the results creditable and 'worth paying attention to' (Lincoln & Guba, 1985, p. 290).

a. Validity

The validity of a research tool entails how well a research tool and its results are relevant to the problematic of the study in question, i.e. to what extent this instrument measures what it is supposed to measure (Carmines & Zeller, 1979; Seale, 2004; Rasinger, 2010). In other words, validity tests the usefulness and applicability of the designed questionnaire in that it should only measures the purported variables of the study, and in this way the researcher will verify if the research questions are in full conformity with the questionnaire items. Furthermore, validity can also test if the results of the questionnaire are compatible with the related literature and thus more plausible (Guoin, 2002; Krug and Schluter, 2013). It is more appropriate when it comes to measuring the unmeasurable such as attitudes.

In order to achieve validity of the research instruments used in the present study, the researcher used a prior small-scale study to assure that the constructed questions do fittingly comply with the objectives of the study. For a more definite function of the selected instruments, the inquirer used already-prepared constructs and items based on other prior works on language variation and change in the bulk of

literature (Diallo, 2006; Friðriksson, 2008; Hickey, 2009; Krug and Rosen, 2012; Hilbert and Krug, 2012; Dweik and Qawar, 2015; Ibrir, 2018). This subsumes the validity of the used instruments besides the consultation of the supervisor.

In addition to this, the researcher also opts for a random sampling in order to warrant an equal chance of selection and thus eliminate any kind of preference during the selection of sample phase. This procedure, in fact, ensures validity, objectivity and hence maximum generalizability. In the present study, the constructs of the questionnaire and Loanword Typology meaning least are the main data collection tools. The meaning list is a tool that has been tested on 41 languages and has proven to be very relevant to the study of language change. Therefore, it is taken as a tool of significant reliability. Moreover, the questionnaire items are modelled after the study of Kabyle and Mzabi by Al Rousan and Ibrir (2017) which has been reviewed by Dr. Okab Shawashreh and Dr. Mahmoud Wardat from Yarmouk University and Majed Al-Quran from Hashemite University.

b. Reliability

Reliability is always associated with consistency; that is to say, it is how consistent the results of a particular instrument are (Kane, 1982; Kirk & Miller, 1986; Joppe, 2000). To explain, the reliability of a research tool is when the study is repeated under the same conditions and in the same setting, and it gives stable and consistent results. In other words, "Reliability refers to our measure repeatedly delivering the same or near the same results" (Rasinger 2008, p. 55). Reliability of data is paramount because this data is going to be used for future scientific research.

As far as reliability is concerned, the researcher depends on a computer-assisted method which is SPSS; the data obtained were entered into this software programming to test the results statistically. This software measures statistical values for reliability such as the correlation of Cronbach's Alpha value (Webb, Shavelson & Haertel, 2007). Moreover, for a more reliable output, the researcher makes of use of trained native speakers as assistants since the researcher does not speak the variety under investigation. The purpose of this assistant-based protocol is to assure that informants understand all the questions especially those who do not speak or read

Arabic or French. The assistants were also of much a help in administering the questions of the questionnaire and the interview.

Another important point at this level is that the researcher also opts for the mixed method approach to ensure greater validity and reliability to the overall work (triangulation). This approach is a compensation method that accounts for the lacks of each of the quantitative and qualitative methods (Denzin & Lincoln, 2005; Trueman, 2015).

It should be noted that these two criteria of reliability and validity operate together as the former is a prerequisite for the latter. Hence, in order to guarantee a high degree of generalizability of results, the researcher should opt for these properties during the investigation process. The reliability of the study refers to the extent to which the tools would produce consistent findings when tested twice. To test the reliability of the questionnaire, Chronbach's Alpha coefficient is calculated, which provides an index of the internal consistency of the measurement, hence, its reliability. The guideline for acceptable levels of consistency is that the coefficient be higher than 0.7. In the present study, the measurement yielded a value of $\alpha = 0.773$, which, according to Webb, Shavelson and Haertel (2007), is indicative of higher levels of internal consistency.

3.3   The Main Study

The prior phase of the pilot study and the data gathered from it pave the way for the large study sample to be conducted based on an ideal-like framework. The research scheme and the research instruments previously validated and tested in the small scale study also certifies the initiation of the investigation. This section, thus, introduces the research design, the research setting (the investigated speech community), the participants and the data collections methods used.

3.3.1 The Research Design of the Study

Selecting the appropriate research design is momentous for the success of any research. As a matter of fact, the design selection is an important phase to decide on the research approach used; it is, thus, the lay out through which the inquirer can

proceed with his plan. Akhter (2016, p.68) regards it as "the glue that holds all of the elements in a research project together". In more technical terms, the research design is the overall framework of the research work that connects the conceptual research problems with the pertinent (and achievable) empirical research (Creswell, 2014).

It should be noted that the choice of a suitable research design is highly contingent upon the established research questions. In such regard, the current study opts for the case study method as a research strategy. The case study as a research methodology is often defined as an intensive methodical investigation of a particular community or group in which the inquirer can easily observe and probe a set of variables (Twycross and Heale, 2017) with no control over them. Interestingly, a case study researcher can also manage and answer his research questions through an amalgamation of ample data sets (quantitative and qualitative) and thus gain insightful conclusions. What is worthwhile noting at this phase is that case study research usually provide answers for 'how' and 'why' questions for the purpose of exploring, describing and explaining a particular phenomenon. The 'what, where and who questions, on the other hand, are generally answered through a survey and interview investigation (Rowley, 2002). For a more adequate study and more convenient results, a blending mixture can be efficient, in some cases, to further fathom and scrutinize every possible feature specific to the phenomenon in question. Put simply, a case study proves to be constructive when "a how or why question is being asked about a contemporary set of events over which the investigator has little or no control" (Yin, 1994, p.9).

Traditionally, there are three conventional research approaches to conduct research, the qualitative method, the quantitative method and the mixed method (also referred to as the triangulation method). The current study adopts the mixed method approach as it is using a combination of qualitative and quantitative data collection and analysis techniques. The triangulation or mixed method proves to be a useful and most relevant approach as it rigorously addresses the probed research questions with the integration of different types of data (Creswell & Plano Clark, 2011; Bryman, 2012; Creswell, 2014; Creswell, 2015; Maxwell, 2016, etc.). It also compensates for

the weaknesses of each method if used alone in research; that is to say, the strength of one method counteracts the shortcomings of the other. This integrative application assists the researcher in dealing with more complex issues as it provides an in-depth detailed view of the findings and hence more accurate generalizations (Poth & Munce, 2020; Dawadi, Shrestha and Giri, 2021).

Another point to be taken into consideration when opting for this approach is the priority decision; the option of priority is closely related to the questions, objectives and informants participating in research. To clarify, the researcher can either focus on one type over another or give them an equal priority. In this view, the present study gives a matched attention to both quantitative and qualitative data collection and analysis in that the researcher used a variety of methods, a questionnaire, an interview and a glossary translation. Moreover, on the basis of the research design and objectives, the data were collected concurrently because the researcher addressed different types of questions (open-ended and close-ended) and within each instrument, specifically the questionnaire, the consultants provides both qualitative and quantitative data. In sum, preferring the mixed method as an approach is of a great significance to researchers as it provides rich insightful conclusions from the investigation.

It should be also pointed out that the current work's main purpose is not to come up with a new developed methodological framework into the field of language variation and change as the present thesis adopts already-used methods and followed previous works (methodologically) on the field of variation and change.

3.3.2 The Population

Defining the target population and the sample pertinent to the work is an essential matter before launching any investigation. This section describes the population and sample of this study. Broadly speaking, population includes all the members (every individual, every possible item); Banerjee (2010) states that a population refers to a whole group of people with distinctive characteristics that the researcher needs to draw conclusions about. The population of the present study

involves all native speakers of the Chaoui variety of Berber who are the inhabitants of the Berber constellations of Batna.

3.3.3 The Sample

As mentioned earlier, the population is a larger set of individuals; this means that the researcher cannot collect data from all of its members due to time, energy and resources constraints. For this reason, a sample is selected in order to condense the cases of the study, and to "make inference about a population or to make generalization in relation to existing theory" (Taherdoost, 2016, p.20).

The sample of this study is selected based on a number of sampling techniques. First, it is generally acknowledged that random samples that are representative of the target populations are more likely to yield generalisable research outcomes. Representativeness, in this regard, encompasses the feature of reflecting the qualitative and quantitative diversity of the population. In other words, the selected sample should be proportional with the population's size, and it should mirror the social diversity thereof. In the present study, the sampling paradigm is not constructed on a purely random basis. Rather, it is a mixture of purposive, snowball and convenience sampling. The purposive sampling is justified by the researcher's desire to include all possible social stratas in the selected sample. Here, the researcher made sure that the sample is proportionately distributed across the age, gender, education and geographical background axes as these are reported in the literature as being the most relevant social variables in the analysis of variation and change.

Snowball sampling is a technique where the researcher relies on one informant's network to come in contact with other informants. This method, despite its non-probabilistic feature, can be very useful when target social strata that are less prevalent, albeit central, in the target population. Uneducated relatively younger participants are likely to be excluded from random sampling methods as they are less ubiquitous in modern communities. Moreover, the snowball sampling technique helped the researcher overcome the limitation of informants' refrain. It is noted, however, that this sampling technique was resorted to only when all fails, and it did not form the basis for the sampling paradigm.

The convenience sampling technique is known as a measure where the researcher selects the participants that are most accessible to them. That is, participants that are within the researchers' geographical and/or social network are selected. This method can be very effective in saving time and cost. However, it can lead to biased samples as it lacks randomisation. To overcome this limitation, the researcher opted for enhancing probability via selecting participants from various settings: university, popular neighbourhoods, city-centre market and administration offices.

The sampling paradigm is close to the probability/random sampling technique; this technique ensures that every possible member of the community has a chance of being elected as part of the sample. Subsequently, the researcher opts for the random stratified sampling as it warrants an equal probability and thus a maximum diversity. In this type of sampling, "the researcher (1) identifies in advance the types of speakers to be studied; and (2) seeks out a quota of speakers who fit the specified categories" (Tagliamonte, 2006, p.23).

This sample is also greatly representative of the whole population; in this way, the inquirer will be able to make statistical inferences about the larger entity (population). This, as Shi (2015) argues, will raise the degree of efficiency and preciseness of research findings. In other words, Trudgill and Chambers (1998, p. 47) allege that using this sampling technique implies selecting individuals "at random from the total population in such a way that all members of the community have an equal chance of selection, in order that the speakers investigated should be representative of the entire population". To ensure representativeness, Tagliamonte (2006, p.23) adds, at this level, that "a minimum requirement for any sample is that it has a degree of representativeness on the bases of age, sex, and (some way of determining) social class, education level, or both" which is what the researcher of this study opts for with her sample.

The sample of this study consists of 290 Chaoui participants aged 18 and above. The researcher chooses to collect data from this larger sample in order to assure transparency and clarity of the linguistic situation. It should be clarified that

the sample size compared to the number of the whole population is not that large as the researcher could not opt for more individuals due to time, distance and other reasons. In this view, Milroy and Gordon (2003) appends that using very large samples can be very difficult to handle and even 'counterproductive'.

The age variable can be problematic when attempting to divide it into categories: young, middle-aged and old. First, there is no mutual consensus in the literature with regard to what ages belong to what category. Moreover, certain age groups can be hard to categorise. For these reasons, the researcher opted for two strategies that are believed to resolve these complications. First, the researcher first considered age as a continuous variable where informants are requested to give their age in number rather than category. Second, after obtaining, the researcher transformed the continuous variable into a categorical one based on inter-rater analyses of similarities across answers. By so doing, the researcher managed to identify age-wise congruent strata that can be classified into young, middle aged and old. The distribution of the informants across these categories is illustrated in the following table:

Table 3.1. Participants across Age Groups

	Number	**Percentage**
Young (18-35)	112	38.6%
Middle-Aged (40-53)	105	36.2%
Old (60+)	73	25.2%
Total	290	100%

The table above shows that the participants are not evenly distributed across the age categories. This is not problematic knowing that the vast majority of the population are young. This means that the selected sample is relatively proportionate to the target population in terms of age.

The selected sample is not only stratified on the basis of age, but also according to other social categories that prove to be related to language variation and change in the bulk of literature (Trudgill &Chambers, 1998 among others). The sample selected for the present study includes males and females as shown in the following table:

Table 3.2. Participants across Gender Groups

	Number	Percentage
Males	137	47.2%
Females	153	52.8%
Total	290	100%

Unlike the variable of age, gender was more evenly stratified in the selected sample. The table above shows that males and females are almost identical in number with males being sixteen participants shy. This is motivated by numerous reasons. First, it is noted that generally females are more numerous than males which means that representative samples are expected to reflect that. Second, through the sampling process of sampling, the ratio of '*sample approached: sample participated*' is higher in females as a number of males expressed disinterest in taking part in the study. Third, the researcher's desire to make a balance between the two genders with respect to the variables of residence and education made it very difficult to make the numbers perfectly matching.

The variable of education proved to be the most challenging variable to represent in the sample. While it was relatively feasible to approach educated male and female participants, uneducated participants are less readily available to the researcher. The following table shows the distribution of participants across the variable of education:

Table 3.3. Participants across Education Groups

	Number	Percentage
Uneducated	40	13.8%
Primary/Middle	59	20.3%
Secondary	95	32.8%
Tertiary	96	33.1%
Total	290	100%

The table above shows that the majority of the population are university student. This highlights the convenience sampling measures undertaken for the study as the University of Batna provided a cluster of participants with relative ease to

contact them. Uneducated participants, however, where very hard to approach as reflected by their number in the sample.

It is to be noted, at this juncture, that mobility in this study is used as an opposite of sedentarism or sendentism; that is to say, the researcher wants to refer to individuals who do not move a lot (geographical transregional mobility) as it is not given much attention as a contributing social variable. The relevance of this issue of mobility to language variation and change dates back to the time of traditional dialectology (Chambers and Trudgill, 1998). Britain (2002, p.603) claim that considering its historical origin, "it is paradoxical that one of the social categories that has received least attention of all is space". Blommaert (2010, 2014, 2016) shares the same contention that language is equated with mobility. In light of this, Britain (2016) and Beaman (2021) maintain that it is significant to introduce the issue of mobility/immobility in the spectrum of linguistic variation and change in order to give a more nuanced perspective about this matter.

The purpose is to track the linguistic features of speakers who are static (non-mobile) compared to those who are peripatetic (mobile). The rationale behind this is that speakers who move and travel either inside the same region or out of the region under investigation tend to change and adopt a new social and linguistic lifestyle. In other words, there is difference between the prototypical authentic speakers and the atypical sedentary informants, as referred to in traditional dialectology, in terms of their linguistic practices (Chambers and Trudgill, 1998). Beaman (2021, p.1) also avers that "as individuals move and come into increased contact with speakers of different varieties, they naturally accommodate their speech to their interlocutors throughout their lifetime". What is worthwhile noting is that this study takes into consideration transregional and/or transnational mobility of informants; transcontinental mobility (migration) is excluded from this scale as is deemed to be another subject of investigation in the bulk of literature (Castles et al., 2002; Ellis, 2008; Samers, 2010, etc.).

Along these lines, there is a plethora of literature that manifests the significance of the element of mobility/immobility as a critical factor in the

investigation of language variation and change (such as Kerswill & Williams, 2000; Britain, 2002; Milroy, 2002; Auer, 2013; Blommaert 2014; Britain, 2016; Beaman, 2021, etc.). From this perspective, the present study attempts to unravel the impact of this criterion on the trajectory of language change.

Another point to be raise as well is that studies on mobility and residence are intertwined because mobility can include urban/rural mobility (urban-rural, rural-rural, and urban-urban) (Migge, 2016). The sample of the present study is selected from three regions: Batna city, which is an urban centre; Arris, which is a semi-urban centre; and Chir in Theniet El Abed, which is a rural area. The following table shows the distribution of participants across the three areas:

Table 3.4. Participants across Residence Groups

	Number	Percentage
Urban	158	54.5%
Semi-Urban	91	31.4%
Rural	41	14.1%
Total	290	100%

One of the major limitations of the present study is that the rural areas are not equally represented in the sample. This is conceivable knowing that the researcher did not manage to find research assistants from the rural areas which limited the access participants. Still, knowing that the Chaoui community is predominantly urban and semi-urban, it is understandable that the sample be predominantly urban and semi-urban.

3.3.4 The Speech Community under Investigation

The speech community is an essential unit of analysis in sociolinguistic research as it portrays the linguistic and social practices of the individual and collective behaviour. From this perspective, Batna can be considered as a speech community where its speaker share the same social and linguistic behaviour.

The current study is concerned with three research sites: Batna city, Arris and Chir in Theniet Al Abed.

- **Batna City:** it is the main city of Batna Province in northeast Algeria. It has a population of 340000 (2022 census) It is situated between the sound and the north of the Atlas Mountains, geographically speaking. Linguistically speaking, it is considered to be a hybrid of Arabs and Berber speakers. Historically, it is regarded the capital of the Aurés. The city was originally built as a military encampment by the French in 1844 due to its geographical location for maintaining an access point between the Atlas and the Sahara. Few years later, a new town was established next to the fortress; it was formerly called Nouvelle Lambese.

- **Arris city:** it is the most ancient city in Batna. It has a population of 30700 (2022 census). It is situated in the centre of the Aurés region. It's name in Berber literally translates as the lion (Arr) /ʔaːr/ and the horse(Iss) /ʔiːs/. It can also translate to the white earth/soil /(h)ʔariːsɵ/.

- **Chir in Theniet Al Abed:** it is a municipality that belongs to the town of Theniet Al Abed. It is consists of small rural villages such as, Taghit, Chir, Tisqifin, etc. It is a rural mountainous town known for farming and agriculture. It has a population of 5478.

It should be noted that the process of collecting data from these villages took place over the course of two phases; the first phase is during the summer of 2022 where the researcher spent five days collecting data from the above mentioned places. This phase was primarily concerned with the translation of the list and the questionnaire. The second phase was conducted by the research assistants who provided data that made up the totality of observed language use analysis, i.e., the sociolinguistic interview. The second phase was subsequent to the formal analysis of the translated lists.

3.3.5 Research Assistant Participants

After this sample presentation, it is important to point out how the researcher approached his consultants during the period of data collection. In order to create contact with the informants, the inquirer recruited a number of individuals (friends and colleagues of the researcher) from the same speech community and speaking the

same variety who in turn assisted in establishing a connection between the researcher and her consultants. This technique is usually referred to in the bulk of literature as the snowball technique or the friend-of-a-friend method (Milroy, 1980; Labov, 1984; Tagliamonte 2006; Schilling, 2013; Krug and Schluter, 2013). Broadly speaking, this method means that the researcher gets acquainted with his consultants through other speakers who in turn introduce the researcher as a friend of theirs in order to eliminate any personal or social aloofness and thus ensuring a well-established familiarity with the informants. In the bulk of literature, Milroy (1980) is credited with being among the first ones to use this method where he claims that

> friends of friends perform an important social function by extending the range of goods and services which members of the first order zone are able to provide. Therefore, if a stranger is identified as a friend of a friend, he may easily be drawn into the network's mesh of exchange and obligation relationships. His chances of observing and participating in prolonged interaction will then be considerably increased. … (p.53).

Before establishing any contact with the informants and before administering the questionnaire and interview questions, it is crucial to refer to the ethics of conducting research and contacting informants for data elicitation. As a starting point, the researcher should read about any regulations set by his/her responsible institutions before conducting any scientific investigation for the purpose of maintaining validity and accuracy of results (Babbie and Mouton, 2006).

For this reason, it is generally advisable for the inquirer to first describe the objective of his/her enquiry to his informants, provide them with contact information with the researcher, certify their privacy, pledge for their consent and participation willingly (Drew & Hardman, 2007). Concerning privacy and anonymity, the researcher constructed the questionnaire with no writing-names requirements; the questionnaire was administered anonymously, as neither the researcher nor the reader knows about the consultants' identity. The interview, nevertheless, requires another trend of confidentiality (Gregory, 2003; Oliver, 2003; Smyth & Williamson, 2004) since it was a face-to-face operation with the presence of a recruiter (as a friend and

translator) because the researcher does not speak nor understand the variety in question. Interestingly, the presence of the assistant caused no intricacies during the process of data collection as it (i.e. assistance) was a source of comfort and security. Despite this friend-like closeness with the participants, the researcher certified for her consultants that their identities are and will remain private.

Furthermore, the researcher puts no pressure neither on the recruiters nor the informants as they were given sometimes time to get familiarized with the situation and those involved in it (the researcher and recruiter). The informants were also informed that they can stop the interview and repeat if necessary; they were also told that they can resign at any time in case of discomfort. Through this, the researcher makes voluntariness and consent possible and effective. In here, the researcher presence besides the recruiter is necessary and beneficial to adjust, explain and assess questions and informants' responses. To put it differently, the research, in this way, is being a 'primary instrument' of research (Merriam, 1988; Denzin & Lincoln, 2003).

3.3.6 Data Collection Techniques

The phase of collecting data is as critical as the quality of the data obtained; this implies that the researcher should opt for the appropriate research tools to warrant the accuracy and validity of findings. Generally speaking, the choice of the appropriate research tools is driven by the types of question the inquirer is working on and the variables under scrutiny. The researcher should also pay attention to any linguistic, social or time constraints before deciding on or adopting any research strategy as each tool has its own caveats. In this vein, Marczyk, DeMatteo and Festinger (2005, p. 17) also adds that "the most efficient data collection techniques are also the simplest". This entails that a mal-designed research tool directly affects and greatly confounds the elicited findings of a well-designed research framework (Trochim, 2001).

With this goal, this section provides an overview of the used research tools describing each technique in a minute detail. The researcher opts for a triangulation method as the ultimate source of validation with the aim of recompensing for the cons and caveats of each single method. In this vein, the researcher opts for the use of three

research tools: a questionnaire, an interview and a glossary translation, each designed with regard to the established research questions.

3.3.7 The Loanword Typology Meaning List

It is essential to refer to the origin and the gradual development of this kind of list in historical and linguistic enquiry (Meaning Typology List). Th first attempt that has been made was the Swadesh list. The Swadesh list is a miscellany of basic most common vocabulary that almost all natural languages have (Baptista, 2019); it is originally used in historical and comparative linguistics to explore the extent of relatedness between two languages. This technique was first created by Morris Swadesh (1952) in lexicostatistics and glottochronology to gauge whether there is a genetic relationship between two languages or more and if these languages have deviated (diverged) from the source (mother) language. In line with this, the researcher adopts this tool for a different purpose knowing that the languages under scrutiny are genealogically distant.

The original list consists of 215 words and it was later extended by many scholars according to their purpose of enquiry. There are different version of this list starting from the original one designed by Morris Swadesh to Leipzig–Jakarta list (Tadmor, 2009) which aim is to explore the words that resistant to borrowing and thus more stable than other words (Lees, 1953; Rea, 1958; Hymes, 1960; Cross, 1964; Samarin, 1967; Wilson, 1969; Bender, 1969; Dyen, Kruskal, & Black, 1992; Ringe, 1992; Lohr, 2000; Kessler et.al, 2002 and many others). The list recently contains 240 distinct concepts, each linguist has his/her own intuition in using the list. The principle behind this list is that the lesser the number of borrowed words is the more language/variety in question is resistant to intra-linguistic influence which Fishman (1980) referred to as language maintenance or stability (Lohr, 2000). The opposite situation (lexical borrowing) implies that the language under investigation is highly influenced, i.e. changed.

In essence, the items included in the list are universal as almost every word has an equivalent in any language such as the sky, the sun, to eat, to drink, to sleep, to die, to live, etc. and culturally independent. The list does not include technology-

innovated words and context-innovated words as they may not have an equivalent in the proto-repertoire such the television, the telephone, internet, etc.

With regard to our field of interest (diachronic change), it is established in the bulk of literature that this list can be purposefully exploited in determining the ratio of change of isolated words across a set of languages (Boyd & Richerson, 1985Gray & Atkinson, 2004; Bybee, 2007; Pagel et al., 2007; Haspelmath & Tadmor, 2009; Pagel, Atkinson, Calude & Meade, 2013; Monaghan, 2014; Blasi, Wichmann, Hammarström, Stadler, & Christiansen, 2016; Newberry, Ahern, Clark, & Plotkin, 2017, etc.); that is to say the Swadesh list "can be then used to determine which vocabulary items are more or less prone to change by investigating the variability of word forms expressing a similar concept across sets of languages" (Monaghan and Roberts, 2019, p.147).

These previously mentioned cladistics investigations share the same contention that frequency can be an explanation of linguistic change as high frequency usage of words are less prone to change; Vejdemo and Hörberg (2016) further add that besides the effect of frequency on the rate of lexical change, the type of words such as nouns are more likely to change compared to verbs and other function words. This can be explained referring to the morphology of these words since verbs require a more complex configuration before they get inserted into the recipient language compared to nouns. For this reason, verbs are unlikely to be borrowed for their morphological complexity, and, by this, speakers tend to reduce the cognitive cost needed before the integration of these words. Distinctively, Monaghan (2014) manifests another angle of change where he placed change in a spectrum of two stages of child language acquisition; he established two stages of acquisition, an early and late stage. During the early phase, children tend to replicate linguistic structure from their parents while in the late phase, they start to innovate and adopt their own forms on the basis of the already replicated ones. Monaghan that the forms acquired earlier are more stable than late-stage adopted forms.

However, it should be noted that these words are atypical of the vocabulary of the language in question as most previous investigations are established on the basis

of not more than 200 words (which is a small set compared to the overall lexicon of languages. In principle, the list was first designed to include words that are less likely to encounter replacement (Swadesh, 1955). In this regard, Monaghan and Roberts (2019) append that it is possible to compensate for this weakness by either expanding the list at least doubly or by scrutinizing the inclusion of borrowed words into the language in question as an outcome of borrowing between a set of languages (Thomason & Kaufman, 1988. Grant, 2009).

The list adopted in this study is accumulated on the basis of the Swadesh list (200 words) (1952), and (1955) (100 words) and Grant's list (2009) in Haspelmath & Tadmor WOLD (world loanword database). Homonyms are also included in the list for example, present as a noun and present as a verb, fast as an adjective and fast as a verb, sink as a noun and a verb, etc. The adopted list is originally in English, so the researcher translated it into Standard Arabic, Algerian Arabic and French; the translation process did not stop at this level as it was reviewed by teachers specialized in translation for more accuracy.

The main purpose of this technique in the current study is to shed light on linguistic variation (lexical and morpho-phonological variation) as it allows for a systematic comparison between the Chaoui variety, Algerian Arabic and French. The researcher also takes into consideration the idiolect as being the locus of variation and change. Prior to any linguistic aggregation, it is crucial to stress variation at the level of the individual first before moving to the speech community as it is always intiated by the one and the same person, and within each individual, there is a kind of conflict between the discrete grammatical, lexical, or phonological systems. This implies that the individual is the permanent source of linguistic interference (Weinreich, 1953). Sharing the same view, Mufwene (2001) affirms that

> The variation that matters . . . really begins at that interidiolectal level, before reaching the next higher level of cross-dialect and/or crosslanguage differences. Contact, which has been dealt with primarily at the level of dialects or languages, really begins at this level of idiolects. Since the locus of dialect or language contact is the mind of the individual speaker, the

difference between idiolect contact and language contact or dialect contact is more quantitative than qualitative. (p. 149-150)

Going back to our purpose, it is generally known that Proto-Berber is a distinct language linguistically and genetically from Arabic and French (Kossmann &Stroomer, 1997; Kossmann, 2007). This entails that any lexical similarity is interpreted as a kind of linguistic influence and cannot be by no means considered linguistic cognates. The main objective is to bring forth any possible linguistic variation that took place in the Chaoui dialect due to the linguistic diversity of the speech community (multilingualism) and due to contact with other non-Berber speakers (Arab speakers). Hence, the lower the number of loanwords, the lower the rate of change is (more resistant). The next step is the translation phase where the list is translated into the dialect under scrutiny and thus compared to Standard Arabic, Algerian Arabic and French words for any similarities providing a transcription for each word.

The translation step into the Chaoui variety was achieved with the assistance of 10 native speakers of the Chaoui dialect. The concepts were transcribed by the researcher based on the recordings of the assistant native speakers who read each item in the wordlist. Moreover, each native speaker translated the wordlist separately without the help of the other assistants in order to avoid any kind of influence in terms of the choice of diction. After the translation phase was over, the researcher gave the list to other native speakers for verification in case there exists any variation.

3.3.8 The Questionnaire

The questionnaire as the term itself denotes is a set of questions designed in a predetermined way to obtain information about a sample such as opinions, attitudes, feelings, etc. (Phellas et al., 2011). Put differently, the questionnaire is basically designed to "to collect data on attitudes about language or qualitative sociolinguistic information" (Schleef & Meyerhoff, 2010, p. 4) rather than natural speech data. In principle, questionnaires are usually used "in order to elicit data *about* language, but *not* data on linguistic performance" (Codó, 2008, p.171). For this

reason, questionnaire are most of the time used in combination with other research methods such as interviews and participant observation.

Using questionnaires in sociolinguistic research is very popular and useful for accumulating a large amount of data from a large number of informants (Milroy & Gordon, 2003; Rasinger, 2008). Generally, there two types of questionnaires in terms of its administration and two types in terms of its questions. There is a self-administered questionnaire where the informants themselves answer the given questions either individually or in a group, and an interviewer-administered questionnaire where the inquirer himself/herself asks his/her informants directly and fills in the questionnaire. On the other side, according the types of questions used in the designed questionnaire, there two types as well, a structured and an unstructured questionnaire, also referred to in the literature as close questionnaires and open questionnaires respectively. Structured questionnaires consist of close-ended questions such as multiple item questions where informants have to select a single answer or more from out of the choices available. Unstructured questionnaires, on the other hand, consist of open-ended questions where informants are not restricted with a fixed choice but rather are free to express themselves overtly (Etikan and Bala, 2017). In conducting research with large sampling, it is generally advisable to use structured questionnaire because unstructured questionnaire makes the analysis process difficult to proceed with. For this reason, researchers usually tend to opt for the two types within one questionnaire to compensate for the downsides of each.

Concerning the present study, the researcher uses a structured questionnaire in order to attend to the established research questions focusing on structured items only. The research contends that there is no need to include unstructured items within the same questionnaire (no need for a hybrid questionnaire) because she compensates for this by the use of the interview to obtain qualitative data.

The questionnaire adopted for the current study is a compilation of the researcher's previously used questionnaire (Ibrir, 2018) in addition to some amendments based on previously done studies in language variation and change (such as Diallo, 2006; Friðriksson, 2008; Hickey, 2009; Krug and Rosen, 2012; Hilbert and

Krug, 2012; Dweik and Qawar, 2015). The final version of the questionnaire was amended according to the results of the pilot study with slight modifications concerning unclear questions. Some questions were also modified to suit the level of all participants (as there are some illiterate participants); no terminological concepts were used (simple language).

The questionnaire developed in the present study is divided into four sections. The first section includes constructs that help sketch a context for the social variables that are found in the literature to have a strong interdependence with a number of linguistic features. Here, the constructs identify the participants' gender, age, education and geographical background. With regard to age, the participants were initially asked to provide it in numerical form; it was subsequently transformed into age groups based on the outcome of the other constructs. That is, although the age variable is inherently continuous, it was transformed into a categorical representation. This is motivated by a number of incentives including the sought of representational economy and the fact that such a technique is used in numerous studies such that it posed no complications on the reliability of the measurement.

The education variable was categorised into four categories: uneducated, primary/middle, secondary and tertiary. In view of that, it should be noted that many studies opt for the distinction of educated/uneducated. However, this categorisation is problematic. First, education is a continuous variable that ranges between complete illiteracy to higher post-graduate levels. Narrowing it down to four categories is on its own a considerable reduction of its continuity let alone to two categories. In addition, it is noted that one of the limitations of the present study is that Quranic schooling was overlooked. It was not until the data was thoroughly collected that it came to the researcher's realisation that such types of informal schooling can have some bearings on the outcome of the study. Moreover, another limitation is that education and literacy are two different variables that, however seemingly intertwined, are inherently contradistinct. The element of literacy was overlooked and the sole focus was on the formal education variable. One justification for such limitation is that these aspects of research were not troubleshot in the piloting process.

The residence or geographical background included three groups: the urban from the city of Batna, the semi-urban from the city of Arris and the rural from the village of Chir in Theniet Al Abed. It should be noted that the division of these residence clusters was not based on a clear parameter. Rather, they were based on consultations with educated Chaoui speakers who are well-vested into the anthropological studies of language. It is the judgement of these individuals that served as the main prompt of decision. It should be noted, however, that the judgement is not taken for granted as it was verified in the pilot study and the study proper. In addition, the general patterns of the linguistic behaviour that is reported in chapter five indicate that there are observably regular patterns in the linguistic behaviour of the participant with reference to the adopted geographical labelling such that it suggests that the initial judgments of the residence clusters were valid.

One of the major imitations in the analysis of residence is not taking into account geographical mobility. It is noted that many participants may have changed residence and moved from one residence cluster category to another. This can have a drastic impact on the linguistic behaviour of the participants. However, the examination of the interview findings, as shown in chapter five, suggests that residence is the most consistent variable, which may indicate that geographical mobility did not reduce the internal consistency of the measurement.

The second section is dedicated to eliciting data about the linguistic proficiency of the participants in the varieties that make up the Chaoui linguistic profile. First, the participants are asked to identify their and their parents' mother tongue(s). Data that stem from such constructs can help account for the variance in the linguistic proficiency of the participants. Second, the participants are asked to express the extent to which they perceive they are proficient in Algerian Arabic, Chaoui, French, MSA and other varieties of Berber. The inclusion of these varieties is motivated by the fact that they were found in the pilot study to be probable languages of influence. It is noted that the examination of language proficiency is based on self-report, which may pose some problems of authenticity. However, given the feasibility measures, such research options were the only ones possible because

the checking of linguistic proficiency would require tremendous efforts that are not available to the researcher's disposal within the timeframe of the present study.

The third section has the goal of exploring language use in different contexts. Here, the participants are asked to rate the frequency at which they use Algerian Arabic, Chaoui, MSA and French in the communicative settings of family, friends, neighbours, school or work, mosque and social media. The frequency of use ranges between "never" and "always". It is noted that using one variety "always" does not necessarily mean that the others are not used. In fact, a number of participants reported using two varieties "always". After all, this metric tests the perception of the participants about the place of these varieties in their daily communicative acts, and does not seek to see the percentages of use with reference to the daily total. One possible limitation is the fact that the researcher did not observe the participants in these communicative settings. Rather, the data was elicited on the basis of the participants' self-report. However, it should be noted that the individuals' perception about what is true has been empirically proven to factor more centrally in the interpretation of linguistic phenomena than what is judged by empirical evidence to be true (Mhamedi & Bouklikha, 2019). With that in mind, how frequent a variety is used may be of a lesser relevance than how frequent the individual perceives it to be.

The fourth section is dedicated to the analysis of attitudes. The participants are given six statements describing Algerian Arabic, Chaoui, Berber, French and MSA as prestigious, beautiful, useful, ethnic, patriotic and intrusive. The participants are asked to express the extent to which they agree to these statement on a five-point likert scale ranging from "strongly disagree" to "strongly agree". Although such terms are not used in scientific inquiry to describe language as no language is inherently more prestigious/beautiful, it is the participants' perception of reality that constitutes materials for the interpretation of the linguistic data. The analysis of attitudes towards languages is supplemented with an analysis of attitudes towards loanwords. Here, the participants are asked to express their agreement to the statement describing Algerian Arabic, French and MSA loanwords as distortive of Chaoui language and identity.

It should be noted that the attitudinal analysis is rather direct. The literature offers indirect approaches to the analysis of attitudes such as the Matched Guise Test, which is perceived as a fairly reliable measure. Nevertheless, such measures are not cost-efficient, require high levels of accessibility to the sample, are time-consuming and are more applicable on small samples. The inherent accessibility limitations in the present study made the adoption of such approach not workable.

3.3.9 The Sociolinguistic Interview

Unlike the questionnaire, the interview is a relatively common way of collecting qualitative data in research. In empirical linguistics, the interview is considered "the methodological heart of the sociolinguistic movement" (Wolfram 2010, p.302). According to Meyerhoff et al. (2015), the purpose of using the sociolinguistic interview is to elicit natural speech data on certain variables. In general, the interview is real life-like conversation where the researcher/interviewer initiates a conversation by asking questions and the informant proceeds by proving answers. Although it is generally associated with qualitative data, the coding process can enable the researcher to approach the elicited data quantitatively. In the present study, the variants of the target variable are encoded numerically such that the statistical analyses of description– means, standard deviations and frequencies— and inference –correlation, regression and cross-tabulation– are possible against the quantified variables of gender, age, residence, education, proficiency and attitudes.

Usually, the interview is carried out with one individual, two or with a group of interviewees at a time. However, single interview are favoured when conducting sociolinguistic research because informants are more focused individually than when in pairs or groups (Schreier, 2003). Moreover, in a group interview, although it is very beneficial for the researcher as it saves time and efforts, some informants can get lost or uncomfortable when others are interacting. In view of that, the sociolinguistic interviews of the present study are carried out in an individual fashion where each of the 290 participants are asked a number of questions that elicit data about the target variables.

Another point to consider is whether the enquirer prepares the questions beforehand or directly instigates speech with the informants. In this regard, three common types of interview are known in the literature: structured, semi-structured and unstructured interviews. All the three types depends on the purpose research, the context of the investigation, the interviewer's experience in the field and number of participants.

Structured interviews involve a set of already-prepared questions from a prefabricated list in the sense that all participants are asked the same questions every time. This proves to be effective, for it keeps the researcher and the participants centred on the target topic. Adopting this types of interview has a number of pros and cons. It can be unfeasible for researchers seeking in-depth data as the extent to which the informants are involved in the interview is very low and restricted. On the other hand, researchers working on more exact patterns can find it useful and suitable, for they can control their topic effortlessly (Alsaawi, 2014). On the other end of the spectrum, an unstructured interview is non-directive interview, i.e., a conversation-like interview, where the interviewer asks questions in line with his/her research topic. The interviewees are usually more relaxed during the process because the researcher does not interrupt much relying on spontaneity. However, this operation is beneficial and suitable for experienced fieldworkers solely (Bryman, 2008). Semi-structured interviews, on the other hand, is a combination of both is the sense that the researcher does not rely on a standardized set of questions only but rather can add and formulate new questions during the interview for more flexibility (Dörnyei, 2007).

The current study adopts a structured individual interview. The interview is conducted with 290 speakers of Chaoui. The interview is was administered after the questionnaire as the last step. The purpose of the used interview is to complement the data obtained from the glossary translation in the sense that it provides actual linguistic practices of speakers of the speech community in question. In other words, the use of the sociolinguistic interview at this level has the objective of addressing the gap of the previously used research tool—the glossary translation. That is, the

analysis of the glossary provides materials about how Chaoui is influenced by French, Algerian Arabic and MSA. However, this does not provide a thorough understanding of the linguistic situation in that community as words in isolation are reflective only of the perception of the translators of the list who, in addition to being small in number such that they do not represent the target population, exerted mental efforts to find equivalences in a way that is not normally present in natural linguistic behaviour.

The reason behind the researcher's choice of the structured interview over field observation to examine the target variables is due to some spatio-temporal constraints. First, the researcher has no relationships inside the Chaoui speech community except for some friends and acquaintances, which limited the accessibility to the community. Moreover, If the researcher elected to conduct an observation field, it would be extensive and take a considerable amount of time that would extend beyond the constraints of the present study. Noting, that the data collection processes and the mobility was also apprehended by the Covid-19 pandemic, which caused the researcher to rely on research assistants more centrally.

Another reason that prevented the use of field observation lies in the fact that the researcher does not speak nor understand the variety in question, and the interview was the tool kit to elicit the variables needed with the help of the selected research assistants. It should be noted that recruited assistants were not always available for help; that is why, the researcher chose the interview to reduce the amount of time spent so as not to be a burden on the assistants during the process of data collection. It should be noted that the researcher's lack of proficiency, albeit adding more research burden and demanding of more concerted efforts, does not take away from the reliability of the research protocol. In fact, it can be argue that it adds more value to the findings as many scholars believe that the less the researcher knows about the language or the community, the more accurate the description will be. This premise is referred to as the *Principle of Preferential Ignorance* (Labov, 1972),

The interview was conducted in-person, i.e., a face-to face interview. The research assistants were instructed to phase the interview into two stages. First, the assistants were given freedom to engage in conversations and ask questions that are

perceived to likely elicit the target variable. For example, the questions "how are old times different from now?" is likely to elicit the variable "people". However, it was noted that such an approach, albeit very reliable, is not time-efficient as it requires lengthy conversations to elicit the eighteen variables. The assistants, in case of failing to elicit the variables, would ask the informant "how do you say x?" It should be noted that the researcher was not present at all cases of data collection due to the accessibility concerns voiced above. The assistants would take notes of whether the participant used the changed or unchanged variant (appendix C).

The overall purpose of the present interview is to reveal the extent to which change is reflected on the linguistic behaviour of individuals. The analysis is predicated upon the belief that speakers refraining from using loanwords in their answers can offer a posteriori explanation and a priori prediction for the path of language change. This procedure aids the researcher to track the direction of change in the speech of the different social groups in the apparent timeframe.

Before initiating the interview, the researcher makes sure to act upon the ethical guidelines of academic research. The enquirer obtains the participants' consent at the beginning of the interview. The participants were assured that their identity would not be revealed under any circumstances. Most of the time, the informants knew the recruited assistants which was not a problematic at the level of the elicitation of data. In general, the researcher faced no complications with participants. However, most of the participants were reluctant to be recorded. For that reason, the researcher prepared an observation grid to score the results.

The formal analysis of the glossary results in the identification of the words' typology. Lexical items are categorised on the basis of whether they demonstrate traces of influence by other varieties such as Algerian Arabic, French or MSA. The words that have more than one lexical representation can represent an instance of synonymy or variation. The case where a lexical item has two or more variants from Berber and another variety serve as materials for the sociolinguistic interview. The focus of the present study is the examination of how contact with Arabic and French is reflected on the lexical inventory of Chaoui. Therefore, a list is developed

containing eighteen items. What is common between these items is that they are all represented in one variant that is judged as a non-loanword and another variant that is a loanword.

3.3.10 Data Analysis

Once the process of data collection is complete, the researcher needs to process, organize and then analyse his/her data. During the course of data processing, the enquirer attempts to understand and familiarize him/herself with the obtained data. The processing phase includes classifying or categorizing the data, translating data, coding what needs to be deciphered, transcribing data and quantifying what is immeasurable such as attitudes (Bijeikiene and Tamosiunaite, 2013). Soon after, the researcher can start analyzing her/his data. According to Moyer (2008), data analysis entails 'searching explanations' for the obtained data; nevertheless, data analysis is an umbrella term that involves all the aforementioned steps, i.e., it is the processing, organization and explanation of the collected data.

The researcher deploys a set of techniques to analyze her data in conformity with the used research tools. At first, the researcher begun with the glossary translation for it is a long list of words that requires time and efforts to be arranged. The researcher translated the word list into MSA, Algerian Arabic, French and Chaoui dialect because the original list is in English. After that, the researcher selected the target linguistic variables that are going to be under examination. No software was used for the analysis of the glossary translation as it requires a manual verification to identify any kind of similarity between the Chaoui dialect and Algerian Arabic, MSA or French. The changed words that display a kind of resemblance with one of the varieties were coded according to them. That is to say, if the lexical item is resemblant to that of Algerian Arabic, it is coded **AlgA**. Cases where there is a similarity with the lexical items of MSA, they are coded **MSA**, and instances of similarity with French were coded **Fr.** Unchanged lexical words (words that show no kind of resemblance), on the other hand, were coded **Br** (denoting proto-Berber).

As far as the questionnaire is concerned, the researcher used the SPSS in order to analyze its results given the fact that the questionnaire contains both qualitative

and quantitative data. The findings were entered on the software depending on different tests and using different statistical operations.

- **Means, percentages, frequencies and standard deviations**: for providing an exhaustive statistical description of the dependent and independent variables as well as initiating post hoc inferential analyses.

- **Cronbach's Alpha**: for testing the consistency of the questionnaire items and providing a metric of reliability.

- **Pearson and Spearman Correlation Coefficients**: for evaluating the level of interdependence or correlation between variables and the direction of this correlation.

- **Independent Sample T-Test:** for providing a contrastive analysis of the independent variables (gender, age, education and region), with reference to the probable dependent variables (proficiency, reported use, attitude and observed use).

Regarding the interview, it was the last step of the process of data collection as the researcher used it to elicit the target linguistic variables. This tool was complementary to the word list data in the sense that it prompts the production of the selected variables to identify the path of change among speakers. The participants were given a number of sentences/ questions, and in their answers they can either use the proto-Berber variable or the changed variable (in this case the borrowed item). As stated earlier in the chapter, the researcher scored the results obtained from the interview in a grid. If the informant used the changed variable, it was given the label **'Changed'**, and if the informant used the proto-Berber variable, it was given the label **'Unchanged'**. In the same manner the questionnaire results were treated, the scores were also entered on SPSS for a statistical depiction. For a complementary sketching, the results of the interview were compared to those of the word list in order to check whether these linguistic changes are reflected on the linguistic behavior of speakers within this speech community.

3.4   Conclusion

The present chapter offers an overview of the methodological framework of the present study. It highlights the piloting measures that are conducted in order to foresee any prospective research apprehensions and enhance the quality of the measurement. The chapter also discusses the target population and the selected sample along with the data collection tools and administration process.

CHAPTER FOUR

CHAPTER FOUR

Loanwords across Various Semantic Fields

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4.4   Conclusion

4.1 Introduction

One of the appreciated outcomes of the functional descriptive approach to language analysis is the acknowledgement of language as a dynamic system where not only system-structures but also text-structures are worthy of analysis. Linguists demonstrated an increasing interest in the analysis of the algorithm that governs the production of linguistic tokens as well as the extralinguistic, more particularly the social, implications that linguistic forms have.

The anteceding linguistic traditions at the crosslinguistic level show interest in determining the genealogical relationships between language families based on purely formal analyses of many linguistic subsystems. This formal approach to crosslinguistic analysis is supplemented with the then newly immerging functionalist approaches where explanatory and descriptive cues can be drawn from the analysis of social factors such as mobility, residence and education and psychological factors such as attitudes and orientation.

In light of these observations, the present study acknowledges the necessity to have a thorough descriptive account of language change by accounting for both the formal features of the selected variety, and prospective varieties of influence, at a given linguistic subsystem as well as the extralinguistic, social and psychological, niceties of the target speech community. In this particular context, the data collected have the focus of obtaining an exhaustive description of the lexical items in the Chaoui dialect with a secondary account of the morphological and phonological properties of these items with reference to other Berber varieties, Algerian Arabic, Standard Arabic and French. This chapter demonstrates the findings obtained from the translation of a glossary which serves as a sine qua non for the discussion of linguistic variation in the Chaoui speech community.

4.2 Loanword Typology Meaning List

The analysis of the relationship between two languages can be approached in two ways. The first is analysing the genealogical relation between these languages to determine whether or not they have a common linguistic ancestral background. This

goal can be achieved by a systematic description of the structural similarities and differences between the languages under study with reference to an antedating prospective protolanguage. This approach, however central to the linguistics inquiry, overlooks similarities that are consequential to diachronic or synchronic interlinguistic contact. The second approach, however, has more keen interest in the relationship that is attributable to contact. Here, linguistic borrowing, shift and variation are determined with regard to the similarities between the varieties under investigation. What is different in the second approach is that the analysis is carried out without a primary focus on linguistic genealogy.

What is noteworthy here is that both approaches can make use of lexical glossary analysis. The genealogy-oriented research is predicated upon the premise that "there is a set of words that are highly stable, unlikely to be replaced by borrowings, meaning shift, or new formations" (Haspelmath & Tadmor, 2009, p.01). This means that similarities between languages at the level of these items are indicative of a pre-existing typological relation that is attributable to common ancestry. However, empirical evidence, such as the study of language change in the Kabyle variety (Ibrir, 2017), shows these items that are considered as being the most stable, e.g., the Swadesh List items, can also be subject to variation and, hence, change.

The present study does not reject the historical linguistics' perspective of the inherent changeability of certain linguistic items rather than others. Instead, it acknowledges the usefulness of the glossary-based account of linguistic relation in a synchronic context. In view of that, the present study makes use of a glossary of words that are used by philologists, glottochronologists and historical linguists and adopts it to investigate whether and how the Chaoui dialect shows instances of being affected by other variety in spatio-temopral synchrony.

The glossary list adopted in the present study is not essentially designed for the analysis of language variation. However, the adaptation of Loanword Typology meaning list has some methodological and practical advantages. First, being limited to a predetermined list of lexical items reduces the research bias where researchers

would select only lexical items that illustrate their claims and go in line with their hypotheses. Second, the integration of the list has the practical advantage of guiding researchers in a way that is both economic and exhaustive. The list adopted here has been applied on more than 40 world languages and has yielded some seminal research papers[1]. This means that the reliability of the instrument has been tested, thus, sparing researchers the trouble of developing measurement scales and testing their psychometrics. Moreover, the list originally includes 1460 words, which means that it is relatively more exhaustive than previous lexicostatistical lists (Lees, 1953; Rea, 1958; Hymes, 1960; Cross, 1964; Samarin, 1967; Lehmann, 1984; Ringe, 1992; Lohr, 2000; Kessler, 2002). Finally, the list is divided into lexical categories on the basis of the semantic content of each items.

4.2.1 Lexical Categories in the Glossary

The lexical glossary adopted for the present study is part of the Loanword Typology Project by Haspelmath's team. The guideline for this project is the contention that certain words have an inherent feature of being less prone to be borrowed. This inherent feature is motivated by the markedness of some linguistic features. The idea is that certain features (structures, sounds, lexical items, etc.) are more universal by dint of being found across the majority of world languages. These features are referred to as *unmarked features*. Marked features, however, are language-specific. This contention is blatantly expressed in Haspelmath and Tadmor's words as they claim that "body part terms are unlikely to be borrowed" and "terms for new artefacts are often borrowed" (2009, p.01).

The lexical items that are considered to be unmarked are categorised in the LWT meaning list into 24 semantic fields. The original list is illustrated in the following table:

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[1] The edited book of Haspelmath and Tadmor (2009) is a collection of studies that applied similar methodology on more than 40 languages including Swahili, Chadic and Kanuri.

Table 4.4. Lexical Categories in LWT Meaning List

	Semantic Fields	Number of items	Percentage
1	The physical world	75	5.13%
2	Kinship	85	5.82%
3	Animals	116	7.94%
4	The body	159	10.89%
5	Food and drink	81	5.54%
6	Clothing and grooming	59	4.04%
7	The house	47	3.21%
8	Agriculture and vegetation	74	5.06%
9	Basic actions and technology	78	5.34%
10	Motion	82	5.61%
11	Possession	46	3.15%
12	Spatial relations	75	5.13%
13	Quantity	38	2.60%
14	Time	57	3.90%
15	Sense perception	49	3.35%
16	Emotions and values	48	3.28%
17	Cognition	51	3.49%
18	Speech and language	41	2.80%
19	Social and political relations	36	2.46%
20	Warfare and hunting	40	2.73%
21	Law	26	1.78%
22	Religion and belief	26	1.78%
23	Modern world	57	3.90%
24	Miscellaneous function words	14	0.95%
	Total	**1460**	**100%**

The table above shows that the lexical items are not distributed equally across the different semantic fields. The lexical items representing body parts and animals constitute almost one fifth of the total items (10.89% and 7.94% respectively) whereas the items representing functional words, i.e., grammatical categories, represent less than 1% of the total. This disparity does not pose any psychometric disadvantage inasmuch as it is the universality of the meaning rather than its lexico-semantic ties that directly feeds into the outcome of the analysis.

The TWL meaning list includes items from different morpholexical categories. The following table shows the distribution of the 1460 words across word classes:

Table 4.5. Morpho-lexical Categories in LWT Meaning List

	Semantic Fields	Number of items	Percentage
1	Nouns	905	61.99%
2	Verbs	334	22.88%
3	Adjectives	120	8.22%
4	Adverbs	4	0.27%
5	Function Words	97	6.64%
	Total	**1460**	**100%**

The table above shows that the list is predominantly nominal. This is conceivable given the fact that empirical data amounts to the dominance of nouns even in the most verbally dense languages (Polinsky & Magyar, 2020), with an average ratio of 2.5:1. A seeming contradiction between the tables 4.4 and 4.5 arises as the table y indicates 97 function words whereas table 4.4 indicates 14 miscellaneous function words. The confusion is resolved when recognising that other semantic fields include a number of function words. For example, the semantic field *Kinship* includes 13 pronouns and *spatial relations* includes 13 prepositions. Another observation is that content words are more ubiquitous in the list. This is motivated by the fact that language is inherently lexical. That is, the lexical density, i.e., content words to function words ratio, is an inherent quality of human language (Halliday & Matthiessen, 2004).

4.2.2 Adaptation of the Glossary

The meaning list developed by Haspelmath's team revolves around the concept of universality. This is reflected in the fact that it no natural language in the world can be conceived as not having words for body parts, animals, or time. However, the items within each semantic field are not necessarily present across all world languages. Some items are community-specific and materialise consequentially to the environmental imposition on lexical repertoire. It fact, this is reported by one of the languages studies in the Loanword Typology Project. In view

of that, Schadeberg (2009, p. 87) reports: "I have tried to find Swahili translational equivalents for as many meanings as I could, even if such terms may not be known to or actively used by every speaker of Swahili".

In the present study, similar concerns are voiced inasmuch as linguistic equivalence between English, Arabic and Chaoui is not exact. The process of translation is carried out first from English to Standard Arabic and then to Chaoui. In both phases, the translation was not free of complication. The lexical mismatch between the three languages can be categorised into four types: (a) omission, (b) fusion, (c) expansion and (d) addition. These complications necessitated that some changes be made so as to make the list concordant with the target languages of translation.

The lexical items in a given language are reflective of the environment of the communities where this language is spoken. This means that these community-specific lexical items are expected to be absent from communities that have different environmental and cultural configurations. In the present study, words such as "boomerang", "we-exclusive", "gill", "toast bread", "sugar cane" and "oat" are not found in the Chaoui dialect inasmuch as they are not lexicalised. Moreover, other words are have phrasal rather than lexical representations. For instance, the words "plaintiff" and "defendant" do not have lexical representations in the Chaoui dialect; instead, they are expressed as /ʔirfed fella:s/ and /twerfed fella:s/ which literally translate to "filing a case" and "being filed a case" respectively. Examples of lexical mismatch include the words "guilty" and "acquit" which have no direct equivalence in the Chaoui dialect.

Another type of complication that arises from the translation is semantic fusion. This occurs when two or more lexical items in the source language translate to one in the target language. In the present study, a number of words that semantically distinct in English have one representation in the Chaoui dialect. Examples of this can be found in some function words such as "in" and "at" which both translate to /ði:/. Another example is the words "beside", "before" and "in front of" which translate to /zaf/. Moreover, the Chaoui dialect does not have lexically

distinct items for the words "soft" and "smooth" which are translated to /jərʈɒb/. Finally, some kinship ties are under-differentiated in Algerian Arabic and Chaoui dialect. For example, the ties "father-in-law" and "brother-in-law" and all other types of sibling-in-law ties are expressed in one lexical item.

The third type is semantic expansion, which is the polar opposite of semantic fusion. Here, one word in the source language has two or more equivalences in the target language. It is noteworthy at this juncture that variance is purely linguistic. That is, the expansion does not result from sociolinguistic variation. Rather, it is the outcome of the dialect speakers over-differentiating items that are not otherwise differentiated in English. Examples of this type of complication can be found in the words "world" which translates to /ddu:ni:ɵ/ and /lʕa:lam/. The two meaning are related but there is a subtle difference that is motivated by the religious background of the community. The world /ddu:ni:ɵ/ means "the world as opposed to afterlife" whereas /lʕa:lam/ has the more general meaning of world. Another example, the words "lamb", "kid-goat" and "goat" has two equivalents in the Chaoui dialects so as to specify gender.

The final observation that needs to be pointed out is the fact that some items are considered by the researcher as being important to include so as to compensate for the absence of other items. Some agriculture and vegetation, time words, food and drinks as well as kinship terms that are present in the list do not have equivalence in the Chaoui dialect whereas others that are very central to the Chaoui life are absent from the list. The researcher included items such as "saffron", "turmeric", "funnel", "sunset", "sunrise", "late-night" and "fellow wife" which represent significant concepts in the Choui community.

The following sections display the findings obtained from the translation of the meaning list along with an account of the traces of linguistic borrowing from Arabic and French. Any changes to the original meaning list omission, fusion, expansion and addition are reported in the corresponding semantic field.

4.3 Translation of the Glossary

The first phase in the present study aims to have an exhaustive list of lexical items that have an inherent universal feature. The translation of the adapted meaning list from the WLT meaning list (Haspelmath & Tadmor, 2009) is carried out by asking five male and five female participants "how do you say…?". The task of underpinning every possible variant of the items in the list is arduous and requires a research endeavour that cannot be guaranteed within the scope of the present study. Therefore, to ensure the exhaustiveness of the data collected, the participants chosen for the study to aid with the translation are selected on the basis of the researcher's evaluation of their linguistic awareness. There is no clearly defined measure of linguistic awareness in the present study. Instead, the selected participants, who are within the researcher's acquaintance network in the Chaoui community, are those who demonstrated keen interest in linguistic matters, more particularly Berber-related language issues.

This method of collecting lexical data, despite the seeming subjective judgement, overcomes the researcher's lack of knowledge about the Chaoui dialect and offers more practical advantages related to feasibility. Another point worth mentioning is that the translation predominantly overlooks regional phonological variations where no clear morpho-lexical differences are noted. This is motivated by the fact that the scope of this study essentially revolves around lexical variation. However, constant references are made to other regional variation when legitimised by the explanatory need.

4.3.1 The Physical World

The first semantic field in the meaning list include items that describe the physical world. Although some items are universal such as sun, moon, earth and water, many items are community-specific. That is communities differ in terms of their need to lexicalise certain items. For example, given the fact that many religious practices in Islam require exact identification of periods during the day and days within the month. That is why Arabic, where Islam is the main religion, lexicalises

different shapes of the moon and has an elaborate lexical repertoire that identifies different times during the day. Therefore, the description of the lexical inventory of a given language requires an exploration of both community-specific and universal words that describe the physical world.

The LWT meaning list adapted for the present study includes 78 items that have different specifications. First, many of the analysed words have retained their Berber origins and are used by the Chaoui speakers without Arabic or French alternatives. The findings show that 33 items are lexicalised in the dialect and use terms that do not show signs of borrowing. These items include, for instance, the words /θa:mu:rθ/ "land", /ʃʃa:l/ "soil" , /ʔi:ɣzər/ "valley" , /ta:la/ "lake", /ju:r/ "moon", /ʔa:ðfəl/ "snow" and /ʔa:ʒri:ʂ/ "ice". These words are marked by a high level of universality and are conceivably lexicalised in the dialect.

Another set of words include items that are borrowed from Arabic. These items include 28 items. For instance, the words /ddu:ni:θ/ and /lʕa:lam/ come from the Arabic words /dunja:/ and /ʕa:lam/ where the former is used to refer to "worldly life" as opposed to the "afterlife" while the latter refers to "physical world". Moreover, the words /ʔaɣəbba:r/ "dust", /ləbħʌr/ "sea" and /rmʌl/ "sand" are borrowed from the Arabic words /ɣuba:r/, /baħr/ and /raml/ respectively. What is noteworthy at this juncture is that the mapping of form unto meaning is not always direct during the process of borrowing. That is the meaning of a given lexical item is not preserved and can be subjected to varying degrees of semantic restructuring. For instance, the word /ʔa:ʒənna/ is borrowed from the arabic word /dʒanna/ which literally means "heaven"; the word in Chaoui is used to refer to "sky".

Another example can be found with the word /ʔaʃərʃa:r/ which is the "doer" form of the Arabic word /ʃarʃar/ which means "flow vertically/gurgle". The meaning is restructured to refer to "waterfall" which is essentially a vertical flow of water. The word /ʔi:θra:n/ is borrowed from the Arabic word /θurajja/ which means a group of planets. The meaning is extended to refer to "stars" in the Chaoui dialect. An interesting observation relevant to semantic restructuring comes from the word /lʕafi:fθ/ which is borrowed from the Arabic word /ʕafija/ which literally means

"health, peace and tranquility". The word is euphemistically used to refer to "fire" in Chaoui. In fact, many Algerian dialects use this euphemistic expression, but the use is more common among older generations.

The primary analysis of the physical world semantic field shows that the influence of the French language is not noticeable in this semantic field. The word /zʌlʌmiːtˤ/ is used in both Chaoui and Algerian Arabic to refer to "match". The word is derived from the French word "les allumettes". The word is integrated within the dialects and have acquired a new phonological representation. Moreover, the data shows that two items are not lexicalised in single-unit form. Rather, they are expressed by means of phrasal combinations. The phrase /tamuːrt taʕərjaːnt/ "savana" literally means "naked land" where the second item is borrowed from Arabic. The second phrase is /tasliːθ noːnzɑːr/. It literally means "rain bride" and is used to refer to rainbow. It should be noted that many languages in the world have a phrasal representation for rainbow as "arc in the sky", "arc of rain", "arc of God", etc.

The translation of the list includes a number of items that have no lexical or phrasal equivalents in the Chaoui dialect. These meaning items are not central to the environment where Chaoui varieties are spoken and are, thus, not part of the lexical inventory of the dialect. Out of the 78 items, nine items from the WLT meaning list are reported not to have Chaoui equivalents. The words are: island, ocean, reef bay, lagoon, tide, low tide, high tide and arctic lights. The following table summarises the findings obtained from the analysis of the physical world semantic field:

Table 4.6. Summary of Physical World Items' Analysis

Berber	33	43.4%
Arabic	28	36.9%
Phrasal	02	2.6%
French	01	1.4%
Two+ variants	03	3.9%
No equivalence	09	11.8%

The table above shows that Arabic is the major donor language for lexical items that describe the physical world. The findings illustrate that a considerable

number of items have no equivalence, which leave some residual data unaccounted for. This major limitation is a clarion call for the development of the list on a community-specific basis. However, in the context of the present study, the researcher elected to make minimal amendments to the list so as to preserve the objectivity of the research measures.

The study condicted by Ibrir (2017) reports the findings obtained from the analysis of the Swadesh List that contains findings about Mzabi and Kabyle dialects of Berber. Although the list is not exhaustive (260 items), it contains a number of shared items with the LWT meaning list. The comparison of the outcomes of the findings from that study with those can be useful in giving more insight into the borrowability of certain linguistic items rather than others. The following table highlights the findings obtained from the present study in contrast to those obtained by Ibrir (2017):

Table 4.7. Contrasting Chaoui to Mzabi and Kabyle Physical World Words

Chaoui	Mzabi	Kabyle	English	Chaoui	Mzabi	Kabyle	English
/ʔiːɵraːn/	/ʔiːtri/	/ʔiɵriː/	star	/ʔamaːn/	/ʔamaːn/	/ʔamaːn/	water
/ɵafuːkɵ/	/tfiːwət/	/ʔiṯiːʒ/	sun	/ləbħʌr/	/ləbħar/	/ləvħar/	sea
/juːr/	/taziːri/	/ɵiːziri/	moon	/ʔʌzrʊ/	/ʔṯɣaːɣət/	/ʔazruː/	rock
/taːla/	/lɑk/	/lɑk/	lake	/r̩mʌl/	/jəʒdiː/	/rməl/	sand
/nəwwɵɵ/	/taʒniːwət/	/ʔageffuːr/	rain	/ɵaːmuːrɵ/	/ṯamuːrt/	/ɵaːmuːrɵ/	land
/suːf/	/nahr/	/ʔasiːf/	river	/ʔaɣəḅḅaːr/	/lɣubrət/	/ʔaɣubbaːr/	dust
/sħaːb/	/sħaːb/	/ʔasijina/	cloud	/ləhwa/	/ʔadu/	/ʔaveħri/	air
/ʔaʒənna/	/ʔaʒluwan/	/ʔijenni/	sky	/ɵaːguːɵ/	/ḍbaːb/	/ʔasijna/	fog
/ʔaːðfəl/	/ɵalʒ/	/ʔaðeffel/	snow	/ʔaːʒriːṣ/	/ʔaʒriːs/	/glɑṣ/	ice
/lʕafiːfɵ/	/tfaːwət/	/ɵiːməs/	fire	/dəxxaːn/	/duxxaːn/	/duxxaːn/	smoke
/ʔiːɣəð/	/ʔːɣədd/	/ʔirriːʒ/	ash	/jəħraq/	/jəħrəq/	/ṣarɣ/	burn
/ʔaːðraːr/	/ʔaːwriːr/	/ʔaðraːr/	mountain				

The table above shows that a number of items have been equally borrowed from Arabic in the three varieties of Berber. The words "star", "sky", "water", "sea", "dust" and "smoke" have been borrowed in the three dialects whereas the words "lake", "rain", "cloud", "sand", "air" and "burn" have been borrowed in two dialects. On the other hand, the words "sun", "ash", "mountain", "rock" and "land" have retained their Berber origins in the three dialects. Such findings highlight the fact that

while many studies report the highly prestigious status of French of Algeria, it is Arabic that serves as a donor language for Berber varieties. The highly compatible cultural background of Berber-speaking and Arabic-speaking communities along with the shared historical and geographical backgrounds are factors that warrant the reciprocal borrowing.

4.3.2 Kinship

Kinship terms has long attracted the attention of linguists, sociolinguists and linguistic anthropologists. This is motivated by the fact that "kinship further illustrate the complexities of the relationship between language and culture" (Holmes, 2013, p.349) and that social structures are embedded in the language structures. Social ties that are significant to the speakers are encoded in the lexicon and one's that are of less significance are either used as phrases or not found in the language. This is conceivable given the economic yet exhaustive nature of language as it allows the speakers to lexically express relevant and frequently bought up concepts in the most economic fashion possible. However, social bonds are not universal and so are the kinship terms. It is expected to find considerable crosslinguistic difference. Therefore, a number of modifications are done to the original list so as to conform to the peculiarities of the Chaoui community and reflect their linguistically encoded social ties.

The original list includes 85 items to which s nine items are added in the present study. The items in the original list are composed of 75 nouns and 10 pronouns; six nouns and three pronoun are added. Etymologically, the translation of the list shows that the item are either Arabic loanwords or non-loanwords. That is, none of the items are borrowed from French. However, it is shows that some items are unidentifiable to the researcher by dint of being used both in Algerian Arabic and Chaoui and having no clear equivalent in Standard Arabic. These words, due to the lack of categorical evidence, are judged as non-loanwords pending more evidence in prospective future research. Morpho-lexically, the findings reveal that some meaning items are fully lexicalised in Chaoui while others are the outcome of morphological rather than lexical processes. Other items, however, are phrased whereas a number of

items have no equivalence. Finally, the translation of the list shows that the crosslinguistic equivalence does not form a one-to-one mapping. Rather, an item in the source language, English, can have more than one corresponding form whereas a number of items can be grouped into one corresponding items.

The lexical representation of the social and kin bonds are found in the list to be 61.7% represented in non-loanwords. That is, a total of 58 items are represented in lexical forms that show no trances of French or Arabic influence. Examples of these words include: /ʔaːmətʃuːç/ "person", /ʔaːrgaːz/ "man", /taməṭṭoːɵ/ or /haməṭṭoːɵ/ "woman", /ʔaːwəm/ "male", /jərʃel/ "married" and /jalli/ "daughter". However, it is noticed that gender is encoded in the morphology more than the lexeme of Chaoui. A number of the items in this category are distinguished by means of gender morphemes and have the same root as illustrated in the following table:

Table 4.8. Gender Morphology in Chaoui Kinship Non-loanwords

English	Chaoui	
	Male/Masculine	Female/Feminine
male/female	/ʔaːwəm/	/taːwɵəmɵ/
boy/girl	/ʔaːhjuːj/	/tahjuːçɵ /
married	/jərʃel/	/hərʃel/
brother/sister	/ʔuːmaː/	/wətmaː/
old man/old woman	/ʔamɣaːr/ /ʔawəssaːr/	/tamɣaːrɵ/ /tawəssaːrɵ/

The table above shows that the biological gender (male/female) is reflected in the grammatical gender often via the affixation of the prefix /ta/ and suffix /ɵ/. Another piece of trivia that is shown in the table is the fact that adjectives agree in gender with the noun they modify. Gender agreement is observable in Standard Arabic, Algerian Arabic and Chaoui, but it is mostly lost in Modern English except for some traces (lioness, actress, poetess, etc.).

It is observed that a number of the non-loanwords don't correspond to their English equivalents lexical size-wise. That is, a number of two-word items are represented in one-word for in Chaoui. For example, the words "old man" and "old woman", shown in the table above, are represented in two-word forms in English,

i.e., phrasal form, but have a one-word form in Chaoui, i.e., lexical. Other examples include: /ʔaqijjɑ:r/ "young man", /taqijjɑ:rə/"young woman", /ʔa:mənzu/ "older brother" and /tamənzu:ə/"older sister". What is noteworthy is that all the pronouns in the kinship semantic field are non-loanwords as illustrated in the following table:

Table 4.9. Chaoui Pronouns

English	I	You¹	You²	You³	You⁴	She	He	We	They¹	They²
Chaoui	/nətʃ/	/ʃəkk/	/ʃəmm/	/çinwi/	/çi:nnəməi/	/nətta:ə/	/nətta/	/nəʃni/	/nəʃni/	/nəhənti/
You1= singular masculine, you2= singular feminined, you3= plural masculine, you4= plural feminine They1= plural masculine, they2= plural feminine										

The table above shows some interesting findings about linguistic typology. It is observed that the Chaoui dialect has a number of differences from English with regard to the specificities of reference. First, it is noticed that the Chaoui dialect does not distinguish animate and inanimate objects with regard to pronominal use. The two forms are reference are performed with third person pronouns, with gender and number being a marked feature. Moreover, the table shows that Chaoui, similar to Arabic, distinguished second person pronouns in terms of gender and number. That is, male and female along with singular and plural are encoded in the distinct forms of pronouns. What is interesting, however, is that second person female plural pronoun (you⁴) is, while being a standard Arabic feature that is less marked in modern Arabic dialects, distinguished in Chaoui. In addition, it is noted that the third person plural pronouns are also distinguished with regard to gender. It is observed that the generic pronoun "she/he/it) is non-existent in Chaoui. Rather, like many languages, each one corresponds to a separate pronoun. Finally, clusivity is not a marked feature in Chaoui in that the pronouns "we" does not distinguish addressee-included or addressee-excluded meaning. It is not a linguistic feature that is embedded in the pronouns. Rather, it is para-textual and contextual cues that signal meaning.

Some of the items that are judged as non-loanwords exemplify under-differentiation in the Chaoui dialect. Items that have two lexical representations in English can have one encompassing lexical form in Chaoui. For example, the words "man" and "husband" correspond to the Chaoui form /ʔarga:z/ whereas "woman" and

"wife" are both /h'amətţo:ɵ/. On equal footing, the words "grandparents" and "ancestors" have the form /ʔi:dədda:wən/. Elements that are gender-neutral such as "child" and "grandchild" have the masculine grammatical gender.

On the other end of the spectrum, the Arabic influence can be observed in eighteen nouns. The word "parents" has the exact form in Algerian Arabic /lwa:ldi:n/ whereas the words "widow" and "widower" are morphologically integrated versions of their Algerian Arabic counterparts /tadʒa:lɵ/ and /ʔaadʒa:l/, respectively. What is noticed is that a number of items are included under one term; for example, the word /ʔansi:b/ is used to refer to: "father-in-law", "parents-in-law", "son-in-law" (of a man), "son-in-law" (of a woman), "child-in-law" and "brother-in-law" whereas the word /tansi:bt/, which is assigned a grammatical gender affix, is used to refer to both "mother-in-law" and "sister-in-law" (of a man). On the other hand, the word /taçənna/ is used to refer to 'daughter-in-law' (of a man) 'daughter-in-law' (of a woman) and Fellow wife

These observations correspond to a measurement limitation. One of the shortcomings of the practical framework offered by Haspelmath (2009) is that it does not offer guidelines for whether to count such umbrella terms as one or as multiple instances of borrowing. In the context of the present study, it is argued that since such kin ties are acknowledged in the Chaoui community as bonds that a social value, each is considered as an instance of borrowing where speakers felt the need to refer to these bonds. It, however, is conceivable if a research endeavor argues otherwise. Given these findings, it is concluded that 19.1% of the words in this semantic field are borrowed from Arabic.

4.3.3 Animals

The meaning list containing the animal-related items includes lexical items that describe farm, wild and sea animals. The lists test whether the linguistic system of the language under study lexicalises male and female differences. This categorisation is convenient to a considerable extent inasmuch as it allows the researcher to have insight into the environmental influence on lexical repertoires. However, one of the major limitations of the list is that it is not applicable to all

linguistic systems. For example, languages that represent desert speech communities may not distinguish sea animals. More than any other semantic field, the animal list contains items to which no equivalents are found.

To overcome the limitation of lacking universality, researchers are required to accommodate the list so as to fit the environment of the speech community under analysis. The analysis of the list shows that the lexical items in the list can be categorised into six categories:

- **a.** Items that retained their Berber origins
- **b.** Items that show clear Arabic influence
- **c.** Items that are shared between Chaoui and Algerian Arabic
- **d.** Items that are borrowed from French
- **e.** Items that have two variants from two donor languages
- **f.** Items that have phrasal rather than lexical representations
- **g.** Items that have no equivalents

The first category includes words that are not marked by any sort of influence from French and Arabic. The analysis shows that of the 118 words, 63 words have retained their Berber origins. Examples of these words include "dog" which has two variants: /ʔaɣərzo:l/ and /ʔejði/. What is interesting is that the variants can be found in the Kabyle and Mzabi dialects with slight phonological differences. In Mzabi, the equivalent is /ʔajdi/ whereas in Kabyle it is /ʔaqəʒu:n/. Moreover, the word /ti:lləçt/ "louse" has retained its Berber origins in the same fashion reported in the study of Kabyle and Mzabi (Ibrir, 2017).

The second category includes words that are of clear-cut Arabic origins. Items in this category include fifteen items as illustrated in the following table:

Table 4.10. Animal Words Borrowed from Arabic

English	Chaoui	Arabic		English	Chaoui	Arabic
Herdsman	/ʔa:sərra:ħ/	/sarra:ħ/		Mouse	/ʔaɣərdˤa/	/qɑ:riðˤ/
Stable	/ta:zri:bt/	/zari:ba/		Bear	/dubb/	/dub/
Calf	/ʔaʕəʒmi/ /ta:ʕəʒmi:ɵ/	/ʕaʒmi/		elephant	/fi:l/	/fi:l/
Mare	/lʕu:ða/	/ʕawda/		Centipede	/nna:qʂʌ/	/na:qʂa/
Foal	/ʔa:ʒhi:ħ/	/ ʒaħʃ/		Sandfly	/tbʌʕo:t/	/bʌʕu:d/
Duck	/lbʌʈʈ/	/lbaʈʈ/		Beaver	/qundus/	/qundus/
Bird	/ʔɑ:fro:x/	/fru:x/		crocodile	/timsa:ħ/	/timsa:ħ/
Owl	/hbu:çəɵ/					

The table above shows the items that have lost their Berber variant and are fully lexicalised by borrowing from Arabic. What is noteworthy at this juncture is that the term Arabic refers to items in Algerian and Standard Arabic. Items in Algerian Arabic that have a phonologically resembling equivalent in Standard Arabic, notwithstanding the semantic difference, are grouped under the term Arabic. Moreover, the Arabic influence is not restricted to these fifteen items. In fact, more items can be found to have Arabic origins, but they exist along with Berber alternatives. The table above, however, shows items that have no variants but the Arabic.

The third category involves items that are shared between Algerian Arabic and Chaoui. The reason why these items are not included under the previous category is that the data available at the researcher's disposal does not warrant concluding whether these words are originally of Berber origins and have been borrowed by Algerian Arabic or vice versa. This category includes eight "spider/spider web", /tnamu:st/ "mosquito", /tbu:jja/ "chameleon", /ʔafərṭəṭṭɒ/ "butterfly", /dʒaɣla:l/ "snail", /fakro:n/ "turtle". These words have the following respective forms in algerian Arabic: /rti:la/, /namu:sa/, /bu:ja/, /fərṭaṭṭɒ/, /dʒaɣləllu/ and /fakro:n/ and are widely used across the country with identical semantic content.

The word /krʒ:va:t/ "prawns or shrimp" in the Chaoui dialect comes from the French word "crevette", and the word /fa:liçu/ "hawk" is a phonologically integrated version of the French word "faucon/falcon". Moreover, the word /tnamu:st/ "mosquito" can be argued to have French origins as it shares some phonological features with the word "moustique". These words have lost their Berber equivalents and are not borrowed from Arabic. Other examples of French influence can be found but along with other Arabic or Berber variants.

The fifth category involves lexical items that have two or more representations from two linguistic backgrounds. This category contains six items as illustrated in the following table:

Table 4.11. Words with Variants from Multiple Linguistic Origins

English	Chaoui	Origin	Source Form	English	Chaoui	Origin	Source Form
Animal	/Ɂaɣərsi:w/	*Berber*		**Snake**	/fi:ɣər/	*Berber*	
	/lħajawa:n/	*Arabic*	/ħajawan/		/ṣɑ:ðˤ/		
Pig	/Ɂi:ləf/	*Berber*			/Ɂi:zrəm/		
	/Ɂaxəntu:ʃ/	*Arabic*	/xəntu:ʃ/		/ta:ləfsa:/	*Arabic*	/lafʕa/
Goat	/tɣa:ṭ/	*Berber*		**Hawk**	/gi:ðər/	*Berber*	
	/Ɂaʕəəru:s/	*Arabic*	/ʕəəru:s/		/fa:liçu:/	*French*	falcon
Monkey	/zʌʕțo:ṭ/	*Berber*		**Spider**	/Ɂi:wləlli:/	*Berber*	
	/lqərð/	*Arabic*	/qɪrd/		/rrəi:la/	*Arabic*	/rti:la/

It can be observed from the table above shows that many Berber variants exist along with other non-Berber, particularly Arabic, ones. From a variationist standpoint, it is these instances of variation that are indicative of a language change in process. The examination of how these variants of the same lexical variable are used across the different social groups can give insight into what social factors are propagating/resisting change. After all, the formal analysis of lexical items in isolation is advantageous only in laying the foundation for a more functional analysis that seeks to examine ordinary linguistic behaviour.

The translated list includes another category where items are not fully lexicalised in the lexical repertoire of the Chaoui dialect. This category includes four items: (1) /tajla:lt n ji:ðˤ/ "bat", which literally means "bird of night", (2) /ʒaɣla:l ləbħʌr/ "shell", which literally means "snail of sea", (3) /ʃʃmaʕ n tzi:zwa/ "beeswax", which literally means "wax of bees" and (4) /ti:çəðˤfi:n ti:məllali:n/ "termites" which literally means "white ants". The items termite and shell are not central to the Chaoui environment and are not lexicalised neither in Chaoui nor in Arabic. However, the items beeswax and bat fail to materialise as lexical units despite being very common in the Chaoui community.

The phrasal representation of some items is indicative of a corresponding status of the referent in the community. In many cases, the items in the list represent referents that are irrelevant to the Chaoui community and, consequently, have no

lexical or phrasal equivalents. The data shows that out of 118 items, eightteen have no equivalents. Examples of these items include the following words: tapir, firefly, anteater, quail, raccoon, squirrel, reindeer, coyote, stingray, freshwater eel, porpoise, gill, cormorant, toucan, parrot, seagull, heron, and stallion.

The following table summarises the findings obtained for each category:

Table 4.12. Animals Words Summary

Category	Number	Percentage
Berber	63	53.4%
Arabic	15	12.7%
Algerian Arabic and Chaoui	08	6.8%
French	03	2.5%
Two+ variants	07	5.9%
Phrase	04	3.4%
No equivalence	18	15.3%

The table above shows that the influence of Arabic on the Chaoui dialect is more noticeable. This is conceivable given the shared historical, cultural and social background of Arabic speaking and Chaoui speaking communities; linguistic features are, thus, bound to be transferred from one linguistic system to another.

The lexical density of languages can be discussed with regard to how they distinguish related referents. The analysis of the animal semantic field list shows that the translation of the meaning items does not always yield in one-to-one mapping. In many instances, the Chaoui dialect either under-differentiates similar items in English, over-differentiates distinct items in English or uses morphological rather than lexical strategies to distinguish referents. The under-differentiation of items can be exemplified in the use of /ʔaxəntu:ʃ/ to refer to both "pig" and "boar", /ʔa:fu:na:s/ to refer to both "ox" and "bull", /ʔu:lli:/ to refer to both "cattle" and "sheep", /fa:liçu:/ to refer to "haw" and "eagle" and /ʔa:sləm/ refer to both "fish" and "whale". In fact, Algerian Arabic is known for using the word /ħu:t/ to refer to both "fish" and "whale". This is interesting in that it highlights how language contacts results in not only the borrowing of linguistic features but also the cognitive processes that govern the distinction of items in real world.

On equal footing, the over-differentiation of items occurs when the lexical representations in the translated list outnumber those in the original list. Examples of this can be found in the use of the words /ta:ləfsa:/, /fi:ɣər/, /ʂɑ:ðˤ/, /ʔi:zrəm/, /ʔaləfsi:w/ to refer to snake. What is noteworthy at this juncture is that the existence of multiple lexical items in cases of over-differentiation can be confused with lexical variation. The latter refers to the existence of different lexical items that have the same referent in real word whereas the former refers to the use of different lexical items for the sake of highlighting perceptual differences in two or more referents. The use of the previous lexical items in the Chaoui dialect is motivated by the speakers' desire to distinguish between types and sizes of snakes. Another example of over-differentiation can be found with the use of /ʔaʕəθru:s/ and /tɣɑ:ʈ/ to refer to "goat". The Chaoui dialect speakers, in a similar fashion with Algerian Arabic, lexicalise the male and female difference in a way that is not observed in the original list.

The nonconcatenative morphological system of Chaoui allows for the embedding of grammatical gender in morphological units. The observation of the list shows that the male and female difference is not always lexicalised in the way observed with /ʔaʕəθru:s/ "goat (male) and /tɣɑ:ʈ/ "goat (female)". The words /hu:fri:çө/ "ewe" and /ʔu:fri:ç/ "ram", /tafu:na:st/ "cow" and /ʔa:fu:na:s/ "bull/ox", /haxəntu:ʃө/ "sow" and /ʔaxəntu:ʃ/ "boar", /ta:wөəmө/ "female animal" and /ʔa:wөəm/ "male animal", /tga:ʑi:ʈ/ "chicken" and /gɑ:ʑi:ðˤ/ "rooster" realise the biological difference by means of morphological rather than lexical units.

4.3.4 The Body

The semantic field of body contains not only nouns that describe body parts but also verbs that are associated with bodily acts such as sneeze, cough, die and give birth. The body semantic field is ultimately universal in that it is not environmentally variant. The analysis of the translated list shows that many of the items of have retained their Berber origins and are not influenced by other languages. Examples of these items can be found in the words skin, flesh and hair which translate to /ʔa:gli:m/, /ʔa:çsu:m/ and /ʔi:za:wən/ respectively. One of the reasons to assume that these words have retained their Tamzight origins is the cross-dialectal comparison with other

Berber varieties. For example, the word /ʔaːgliːm/ "skin" in the Chaoui dialect is represented in the Kabyle dialect as /ʔajuliːm/. The two representations have a seeming phonological resemblance with a difference noted only at the level of the sounds /j/ and /g/. It should be noted that the gliding of the voiced velar stop is a very prevalent phonological process that can be found in many Berber dialects. Many Kabyle speakers pronounce the word as /ʔagulim/ while many Chaoui speakers have an alternative /ʔaːjliːm/ phonological realisation for it.

Similar observations can be made with the words /ʔaːçsuːm/ "meat" and /ʔiːzaːwən/ "hair" in the Chaoui dialect which have Tamzight equivalents in the Kabyle and Mzabi dialects. The word /ʔaːçsuːm/ has an exactly identical phonological form in the Kabyle dialect. Moreover, the Mzabi dialect has a similar word with a palatal glide /ʔajsuːm/. Finally, the word /ʔiːzaːwən/ "hair" has a similar representation in the Mzabi dialect /zɑːw/. It should be noted that the Chaoui dialect variant is found in plural whereas the Mzabi is in singular. The Kabyle dialect has a different representation for the word hair, /ʔaʃebuːv/.

The second category that is found in the body semantic field includes words that have clear Arabic influence.

Table 4.13. Body Words with Arabic Influence

Chaoui	Arabic	English
/bðen/	/badan/	body
/ħwaːʒəb/	/ħawaːʒɪb/	eyebrow
/şɑːg/	/saːq/	leg
/miːʕda/	/maʕɪda/	stomach
/ʔiʕaṭṭəʃ/	/jaʕṭɪʃ/	to sneeze

The table above highlight words from the Chaoui dialect that are borrowed from Arabic without noticeable morphological or phonological changes. The word leg, for instance, has retained an identical phonological representation from Arabic. In the Mzabi and Kabyle dialects of Tamazigth, however, the word has a Berber representation as the word has the phonological representations /dɑːr/ and /ʔaqeʒaːr/ respectively. What is noteworthy at this juncture is that, in many cases, the present

study overlooks the typological difference between Algerian Arabic and Standard Arabic and uses the term Arabic to refer to both. This happens when the difference in the phonological representation of a word is near identical in the two varieties. In other cases, however, when the difference is observable, the terms Algerian Arabic and Standard Arabic are used to refer to two distinct varieties of Arabic. To illustrate, the word "leg" is represented as /sa:q/ in Standard Arabic and /ʂɑ:g/ in many Algerian dialects. The difference here is subtle inasmuch as it is phonemic or allophonic, and the distinction does not serve any explanatory function. However, the word /ʔi:məsla:n/ "spine" is influenced not by Standard Arabic but rather by Algerian Arabic.

The examination of the words influenced by Arabic shows that the borrowing process is not always direct. That is, the mapping of sound unto meaning in the Chaoui borrowed does not necessarily reflect the mapping from the donor language. For example, the word /ḅaʕʂo:ʂ/ "tail" is, at first encounter, seems as not being influenced by Arabic. This assumption is motivated by the fact that Standard Arabic has /ðajl/ whereas Algerian Arabic has /ta:baʕ/ for the word "tail". However, the closer examination of the structure of the word shows that it shares the features of the Standard Arabic word /ḅaʕʂo:ʂ/ which literally means "tailbone". The word is not directly borrowed to the Chaoui dialect. Rather, one of the related meanings in the donor language are imported to fill a lexical gap in the recipient language. It should be noted that other Berber varieties, viz Mzabi and Kabyle, have different representations for the word that are uninfluenced by Arabic /ʔaʒeħni:ðˤ/ and /taħəʃwa:t/, respectively.

Other examples of this process can be found in the word /ʔa:xənfu:f/ "nose". The word has two different representations in Algerian and Standard Arabic /ni:f/ and /ʔanf/, respectively. However, the verb /xanɪf(a)/ in Standard Arabic means "raising one's nose in pride". In the Algerian culture, the nose is associated with pride and dignity. It is conceivable to assume that the verb /xanɪf(a)/ is transformed to an adjectival noun meaning "one who takes pride". Even the Standard Arabic word

/ʔanf/ has a verbal and nominal equivalents /ʔanɪf(a)/ and /ʔanafa/ which are associated with pride.

The word /ʔiːttəllaɣ/ "lick" is evaluated in the present study as being borrowed from Arabic. The direct equivalent in Arabic is /jalħas/ or /jalʕaq/, but the word can also be translated to /jalɪɣ/ which literally means "touch or drink with the tip of the tongue". The latter meaning is more applied with acts performed by animals and is more strongly associated with drinking rather than licking. However, one of the possible meanings of the word are borrowed into the Chaoui dialect with morphological and phonological restructuring.

These observations highlight one of the limitations of the translation-based account of linguistic contact (change, borrowing, shift, etc.). The purely formal analysis of lexical items on the basis of the morphological and phonological features of the word in the recipient and donor language without any reference to the functional and cultural aspects of language use can yield misinformed conclusions. The task of determining crosslinguistic relations requires the researcher to know not only the language under study but also the cultural profile of the speech communities of these languages.

The French influence on body meaning items is not as frequent. Of the 180 words, three words display French origins: /buːnja/ "fist", /kuːtbiː/ "kick" and /ʔafənjaːn/ "lazy". The words in Standard Arabic are /qabɖa/, /rakla/ and /kasuːl/ whereas in French they are "poing", "coup de pied" and "fainéant". The Algerian dialect has many possible variants for the words, including /gabɖa/, /buːnja/ or /dəbza/ for "fist", /rəkla/ and /kuːtbi/ for "kick", and /fənjaːn/ for "lazy". Clearly, there is a French influence on both Chaoui and Algerian Arabic, but it is not clear what influence path occurred first, whether Algerian Arabic borrowed the term from French and then loaned it to Chaoui or vice versa.

Another word that is marked with non-Berber phonological features is /ʔagərʒuːm/ "throat". The word in is /ħalq/ Standard Arabic and /gərʒuːma/ in Algerian Arabic. At first encounter, the word seems to be derived from the French word "gorge" "throat". However, in his book, Supplement to Arab Dictionaries, Dozy

(1877, p.218) mentions the entry (118761) /qarʒu:ma/ under the meaning of throat. Other non-academic sources attribute the word to Latin. Determining the etymological background of items is not central to the scope of the present study. Whether the word is of Latin or French descent is not necessarily problematic inasmuch as french, along with Western Romance languages are descendent of Latin and Indo-European proto-language.

The universality of a meaning item does not necessarily denote lexicalisation. Some of the items in the body semantic field are universal but are not given lexical representations in the Chaoui dialect. That is, these meanings are present in the community but are not give lexical representations. Rather, they are expressed in a phrasal manner. For example, the word /zɑ:w lləbðən/ translates literally to "hair of the body". Like English, Algerian and Standard Arabic use similar strategies to express the meaning. However, some items that are lexicalised in English, Standard Arabic and Algerian Arabic fail to lexicalise in the Chaoui dialect. Examples of this include the word "gums", which is /laθθa/ in Standard Arabic, /lha/ in Algerian Arabic and "gencives" in French, is /ʔa:ksu:m ən ti:ɣma:s/ which literally translates to "meat of tooth". Moreover, the word "elbow" is lexicalised in Standard Arabic, French and Algerian Arabic /mirfaq/, "coude" and /marfag/ respectively) but is expressed in phrasal form in Chaoui. The phrase /ʔi:xf ʔu:ɣi:l/ literally means "head of arm" and is used to refer to elbow. Surprisingly, the word "knee" is fully lexicalised as it is pronounced /fu:ð/ in Chaoui.

The concept of death is universal and is, therefore, expected to be lexicalised in all languages. The verb "to die" has the Chaoui equivalent /jəsra:g rro:ħ/ which literally translates to "steal soul". The two items of the phrase are borrowed from Arabic. Moreover, the word "calf" is /ʔa:ksu:m n ʂʂɑ:g/ which translates to "meat of leg". Another phrase is /bu:na:dəm/ which means "human". The word in algerian Arabic is /bna:dəm/, /baʃar/ /ʕabd/ or /ʔɪnsaan/, and it is /ʔɪnsaan/ and /baʃar/ in Standard Arabic. Etymologically, the word is derived from the Standard Arabic phrase /ʔɪbn ʔadam/, which literally means "son of Adam".

The list includes a number of words that are shared between Algerian Arabic and Chaoui. In many cases, the etymology of the word is not clear as Berber and Algerian dialects have a shared history that is marked with a reciprocal social, cultural and, thus, linguistic reciprocation. The word /rrhədʒ/ "poison" is pronounced /rahdʒ/ in Algerian Arabic which literally means "poisonous dust" in Standard Arabic. Moreover, the word /fərtˤɑːʂ/ "bald" is believed by some to be of Berber origins referring to scalp infection (Dozy, 1877, p.). The word has another alternative /ʔagərʕiːt/ which is derived from the Arabic word /ʔagraʕ/. One equal footing, the words /tiːsənsənt/ "dandruff" /ʔʌmˤəɫmˤəzˤ/ "sprain" are found in both Algerian Arabic and Chaoui. Other examples include the words /ʔiːməslaːn/ "spine" /taməlɣiːɣt/ "skull", /ʔaməʂiːðˤ/ "thigh" and /ləçrɑːbi/ "waist".

The following table illustrates the distribution of items across the body semantic field on the basis of the discussion above:

Table 4.14. Body Words Summary

	Number	**Percentage**
Arabic	37	20.6%
Algerian Arabic	09	5%
Berber	104	57.7%
Two+ variants	05	2.8%
French	05	2.8%
Phrasal	09	05%
Not translated	11	6.1%
Total	180	100%

The table above shows that more than a quarter of the items in the body semantic field are either from Arabic, either Algerian or Standard Arabic. Moreover, the findings illustrated in the table show that many items have more than one variant; five of which have variants from two linguistic varieties: (1) "intestines" which has two Berber variants /liːwiː/ and /ʔiːçsiː/ and one Arabic variant /ʔaːməsrɑːn/, (2) "kick" which has one Arabic variant /ʔaːrkiːl/ and one French variant /kuːtbiː/, (3) "wound" which has one Arabic variant /ləʒraħ/ and one Berber variant /ʔadəddiːʃ/, (4) "sprain" which has one Algerian Arabic variant /ʔʌməɫməzˤ/ and one Tamzight

variant /ʔaːʕnuːnni/ and (5) "vomit" which has one Arabic variant /ʔiːrrəd/ and one onomatopoeic variant /ʔiːʕuqqəd/.

The table also shows the percentage of only lexicalised items. That is, items that are expressed in lexical rather than phrasal forms. The findings show that 65% of the lexicalised items retained their Berber origins. Moreover, the findings illustrate din the table above show that the Arabic influence on the Chaoui dialect with regard to the body semantic field is considerable more prominent than that of French (28.7% and 3.1% respectively).

The analysis of the translated list shows that there are some meaning items that are not differentiated in Chaoui in the same fashion that they are in English. The sociolinguistic theory postulates that conceptual differentiation is embedded in the lexical inventory of a language when called for by the community's need to realise such differentiation. Examples of these instances of under-differentiation are observed with the use of /tiːɣməst/ to refer to both tooth and molar tooth. This difference is not exactly lexicalised in English, but Arabic dialects make a clear lexical distinction between /naːb/ "fang", /ɖɪrʂ/ "molar tooth" and /sɪn/ "front tooth or teeth in general". Moreover, the word /ʔaʕəbbuːʃ/ is used to refer to both "udder" and "breast" whereas the word /nnəfʂəl/ is used to refer to "ankle" and "joint". Finally, the word /ʔaːʕəguːn/, which is derived from the Algeria Arabic word meaning "mute", is used to mean both "mute" and "deaf". This semantic extension is motivated by expressive economy. It is commonly observed that deaf people do not possess the articulatory ability of language use; Chaoui dialect speakers, hence, lump them up under one encompassing borrowed term.

4.3.5 Food and Drink

The examination of the food and drink semantic field shows a variety of words from different etymological descents. This semantic field contains 103 items, nineteen of which are verbs, five are adjective and 79 are nouns. This means that 76.7% of the items are nouns, 18.5% are verbs and 4.8% are adjectives. The analysis reveals that fifty items are exclusively non-loanwords. That is, almost half of the items (48.5%) are represented in forms that show little or no evidence of being

borrowed from French or Arabic. Examples of these words include the verbs /ʔi:jsəss/ "to drink", /jallo:z/ "to be hungry", /jəfu:ð/ "to be thirsty" and /ʔi:tət/ "to eat" and the nouns /ʔaɣru:m/ "bread", /ʔa:reçθi:/ "dough", /ʔa:ren/ "flour", /ta:si:rθ/ "mill", /ha:məħħa:ṭ/ "mortar", /ʔa:zdu:ð/ "pestle" and /ʔa:ksu:m/ "meat". What is observed is that all adjectival items are non-loanwords: /ju:mma/ "cooked", /ʔu:ðjummi:ʃ/ "raw", /ju:mma/ "ripe", /ʔu:ðjummi:ʃ/ "unripe" and /ʔu:ði:ħli:ʃ/ "rotten". Moreover, it is observed that fifteen verbal items belong to this category. Put otherwise, a percentage of 100% of adjectives, 79% of verbs and 38% of nouns are non-loanwords. That is, nominal items are disproportionately more susceptible to borrowing.

The second category in the analysis involves items that have lost their proto-form and acquired an exclusively Arabic form. This category includes 31 items, one of which is verbal. That is, a percentage of approximately 30% of the items in the list are represented in Arabic loanwords. The verbs /ʔi:tmmo:ssʌ/ "to suck" and /ʔi:sbelʕi:θ/ "to swallow" and twenty eight nouns constitute this category as exemplified in the following table:

Table 4.15. Arabic Food and Drink Loanwords

English	Chaoui	Arabic
Famine	/maʒa:ʕa/	/maʒa:ʕa/
Pepper	/ʔi:fəlfəl/	/fəlfəl/
Butter	/dha:n/	/dha:n/
Oil	/zzi:θ/	/zi:t/
Fruits	/fakja/	/fakja/
Tongs	/ha:mənqa:ʃθ/	/mɪnqa:ʃ/

The analysis of the list also shows that a number of items are borrowed from French. In fact, eight items are clearly borrowed from French, all of which are nouns. The words /həga:mi:lθ/ "kettle", /ṭa:s/ "jug/pitcher", /ha:ferʃi:t/ "fork", /ferma:ʒ/ "cheese", /tabiri:θ/ "beer", /ʃi:flo:r/ "cauliflower" and /bi:ṭra:f/ "beetroot" are respectively borrowed from the French words "gamelle", "tasse", "fourchette", "fromage", "bière", "chou-fleur" and "betterave". Finally, the word "wine" is represented in /rru:ʒ/ and /ddɪfa:n/ which correspond to the French words "rouge" and

"des vins", with some phonological integration. This means that 7.7% of the items in the food and drink semantic field are represented only in items that are French loanwords.

Another category in the analysis includes items that are found in Algerian Arabic and Chaoui but are not borrowed from Arabic nor French. This category includes five items: /ʈʌwa/ "pan", /ʔaʈəbsi:/ "plate", /qa:za:n/ "basin for washing", /fərma:s/ "dried apricots" and /sənna:rij'a/ "carrots". The first three items are found in Algerian Arabic and are reportedly borrowed from Turkish. The path of borrowing is not clear given the documented data available, but it is conceivable to assume that Chaoui borrowed it from Algerian Arabic. The word /sənna:rija/ is reported in a number of internet forums as being of a Spanish etymology while the word /fərma:s/ is found as /hərma:s/ in many Algerian dialects but the data available to the researcher's disposal does not amount to any conclusions regarding the donor language of this item.

The observation of the translated list shows that three items exist in phrasal rather than lexical form. The word "yolk" corresponds to the Chaoui word /awra:ɣ n tməlla:lt/ which literally means "egg yellow" whereas the word "egg white" correspond to /ʔaməllal n tmella:lt/. The word "chili pepper" is represented in an Arabic phrase /ʔi:felfel ʔi:ħɑ:rrən/ which literally means "hot pepper". It is worthwhile noting that Arabic has a similar fashion in woring these items and that Chaoui has a matching lexical representation that in the same and syntactic order of Arabic.

A number of words in the list are found to have more than one lexical representation that represent lexical variation rather than synonymy. In fact, four items have more than one lexical form that includes at least one non-loanword and one non-loanword lexicons. The words and the donor languages are illustrated in the following table:

Table 4.16. Items with more than One Lexical Representation

English	Non-loanword form	Loanword form	Source form
to choke	/jeʃleq/	/jəxnəq/	/jəxnəq/ (Arabic)
to roast or fry	/jəssu:maj/	/ʔi:jqella/ /ʔi:jʃewwa/	/jəqli:/ (Arabic) /jəʃwi:/ (Arabic)
oven	/ʔi:lməs/	/ri:ʃu:/ /ṭʌbu:na/ /lfu:r/	richaud (french) /ṭʌbu:n/ (Arabic) Four (French)
knife (1)	/ʔa:ʒommi:/ /hu:zza:lθ/	/ʔa:xuðmi/	/ʔa:xuðmi/ (Algerian Arabic)

The final category includes items that have no equivalent in Chaoui by means of being irrelevant to the speaker. This category includes three items "meal", "supper" and "manioc bread". This means that only 2.9% of the entire items have no lexical correspondence in Chaoui. The final two items are also irrelevant to Algerian dialect speakers and have no lexical correspondence in Algerian Arabic.

4.3.6 Clothing and Grooming

The semantic field of clothing and grooming includes 59 items; of which, 05 are verbs and 54 are nouns. That is, a percentage of 08.5% of the elements are verbs and 91.5% are nouns. The nouns include articles of clothing and ornament. The translation of the list reveals that three of the verbs are non-loanwords: /ʔiṭrɑ:ðˤ/ "to put on", /jẓəṭ/ "to spin" and /ʔi:gənni/ "to sew" while two are Arabic loanwords: /ʔi:tqarda:ʃ/ "to weave" and /ʔi:səbbaɣ/ "to dye". The former is derived from Algerian Arabic word /jqardaʃ/ whereas the second can be used in Standard and Algerian Arabic /jasbɪɣ/ or /jəsbaɣ/ respectively.

The analysis of the nouns shows that sixteen items are non-loanwords. That is, the non-loanwords that have no alternative loanwords in use constitute a percentage of 29.6% from the total of nouns and 27.1% from the total items. The Arabic influence is, however, more noticeable as 23 Chaoui items show clear resemblance in form and meaning to their Arabic counterparts. These findings translate to a percentage of 40% of the total items and 42.6% of the total nouns are of Arabic origins. Examples of nominal Arabic loanwords are illustrated in the following table:

Table 4.17. Arabic Clothing and Grooming Loanwords

English	Chaoui	Arabic
Trousers	/ʔasərwa:l/	/sərwa:l/
hat or cap	/hʃa:ʃʃi:ɵ/	/ʃa:ʃʃijja/
Belt	/taħəzza:mt/	/ħəzza:ma/
Veil	/ximɑ:r/ /ti:məħrəmt/	/ximɑ:r/ /məhərəma/
(woman's) dress	/taʒbi:bɵ/	/ʒəbba/
Cloak	/taʕba:jt/ /taʒəlla:bi:t/	/ʕba:ja/ /ʒəlla:ba/
Ring	/txa:ɵmɵ/	/xa:təm/

In addition to the examples in the table, a number of other words are judged as Arabic loanwords despite the resemblance to other words. For example, the word /ʂʂʌbo:n/ has the French representation "savon", but it is judged as an Arabic loanword due to the fact that it has the exact same phonological form as Arabic. Other words, however, are judged not as Arabic loanwords but rather as Algerian Arabic loanwords. The distinction is made due to the fact that these words have been lexicalised in Algerian Arabic not from Standard Arabic but rather from other language, and they have a different representation in Stadnard Arabic. Two words fall within this category: /titəqʃiri:n/ "socks", which is /tqa:ʃi:r/ in Algerian Arabic, and /ʃʃi:ta/ "brush".

The French influence is relatively more observable in this semantic field as there are ten items that have French origins. This means that the items that are represented exclusively by French loanwords constitute 16.6% of the total items and 18.5% of the total nouns in this semantic field. The French loanwords are illustrated in the following table:

Table 4.18. French Clothing and Grooming Loanwords

English	Chaoui	French
Coat	/lfi:sta/	Veste
Shirt	/tri:ku/	Tricot
Collar	/fiko:l/	Col/Collier
Skirt	/ʒippɒŋ/	Jupe
Boot	/bɒtijɒŋ/	Botte
Glove	/liga:t/	Les gants
Pin	/lappi:na:z/	punaise
Ornament	/mʌkijɑ:ʒ/	Maquillage

Four of the words in the list include two representations that are from two linguistic backgrounds. The word "tailor" has two representations, /ʔaxijjɑ:ʈ/ which is an Arabic loanword and /ʔagənnei/ which is a non-loanword. Moreover, the word "silk" has the equivalent /ləħri:r/ from Arabic and /ɬʌʂw̯ʌ/ which is a non-loanword. In addition, the word "leather" is represented as /ʔagli:m/ as a non-loanword and /kwi:r/ which is from French. Finally, the word "razor" has three representations: /ʔu:zza:l/ which is a non-loanword, /ʔaxəðmi/ which an Arabic loanword meaning "knife" and /rrʌzwɑ:r/ which is a French loanword. It is noted that the words "grass-skirt", "snowshoe" and "felt" have no lexical equivalence in Chaoui and are essentially irrelevant to the speakers.

4.3.7 The House

The LWT meaning list includes 47 items that describe verbs and nouns commonly used around household. The house semantic field is predominantly nominal in that only two verbs are found. This means that 95.7% of the items are nouns. In light of that, the analysis reveals that the two verbs /jti:li/ "to live" and /ti:bbərkənt/"to tan" show no marks of phonological resemblance to either French or Arabic. It is, thus, concluded that both are non-loanwords. Of course, this claim that these two items are not loanwords of other languages at one point in the prehistoric development of the language; the scope of such enquiry is beyond the immediate context of the present study, nor is it feasible given the set of data at the researcher's disposal.

With regard to nouns, the findings show that they fall within one of the following categories:

a. Items that are non-loanwords (38.3%)

b. Items that are exclusively Arabic loanwords (29.8%)

c. Items that are shared with Algerian Arabic. (2.1%)

d. Items that are exclusively French loanwords (12.7%)

e. Items that have two representations from two linguistic backgrounds (8.5%)

f. Items that have no lexicalised equivalent and are expressed in phrasal form (8.5%)

The first category includes words that show no phonological form and semantic content resemblance to either French or Arabic and are accordingly judged as exclusive non-loanwords. This category include sixteen items in addition to the two verbs, constituting a total of 38.3% of the meaning items. Examples of words in this category include /ʔaxxaːm/ "house", /ʔannaːr/ "meeting house", /ʔasəqqɑːðˤ/ "latch or door-bolt", /hiːmbaːbət/ "window" and /taːmuːrə/ "floor".

The second category includes nouns that are represented only in Arabic loanwords. There are fourteen items in this category, constituting more than the quarter of the list 29.8%. The words in Chaoui along with their Arabic origins are illustrated in the following table:

Table 4.19. Arabic House Loanwords

English	Chaoui	Arabic
hut	/guːrbi/	/guːrbi/
door or gate	/lbaːb/	/baːb/
doorstep	/lʕətbəə/	/ʕətba/
key	/nnəfəaːħ/	/məftaːħ/
wall	/ʔʌfʂiːl/	/faːʂɪl/
ladder	/slaːləm/	/slaːləm/
candle	/taʃəmmaːʕə/	/ʃəmʕa/
shelf	/hiːsfifiːn/ /taːsfiːft/	/sfuf/
roof	/ssaqf/	/saqf/
thatch	/ʔaqərmuːð/ /ʔaʕʃuːʃ/	/qarmuːd/ /ʕʃuːʃ/

board	/talwi:ħt/	/lu:ħa/
arch	/lqu:s/	/qaws/
blanket	/zzɑ:wrʌ/	/zzɑ:wrʌ/
tent	/ʔaqqiðˤo:n/	/gi:ʈo:n/

In addition to the items displayed in the table above, some items can be used in both Algerian Arabic and Chaoui. For example, the word /zokrəm/ "lock" is shared with Algerian Arabic; the source of which is not identifiable to the researcher. The forth category includes words that are exclusively French. This category contains six items, constituting a total of 12.7% of the list. First, the word /takuzi:nt/ "kitchen" in Chaoui is derived from the French word "cuisine". Second, the word /lbʌnk/ "chair" is a phonologically reduced form of the word "banquette" whereas the word /ʈʌbla/ "table" is a grammatically feminine loanword. Finally, four construction-related items are borrowed from French; the words /mʌʂʂɔ̃n/ "mason", /lbri:k/ "brick" and /ssi:ma/ "cement" are derived from the respective French words "maçon", "brique" and "cement".

The fifth category includes meaning items that can be found in Chaoui in two forms from two linguistic systems. Of course, many items have more than one representation, but not all are from two or more linguistic backgrounds. For example, the word "trough" can be found in choaui as /ʔa:nu:/ or /ta:la/, both of which are judged as non-loanwords. However, this case does not represent a case of variation. Rather, it represents a case of semantic relation such as hyponymy or synonymy, which is beyond the scope of the present study. However, the word "yard or court" is found in chaoui either as /ħu:ʃ/, which is an arabic loanword, or /ʔa:fra:g/, which is judged as a non-loanword. Moreover, the word "room" has two loanword representations; one is from Arabic /tadda:rə/, and the other is from French /hʃɑ:mbərə/. The word "chimney" can be found as a French loanword /ʃʃmi:ni/ or a non-loanword /tɑnno:zərt/. Finally, the word "torch" has a French loanword equivalent /ka:nki:/ and a non-loanword one /ɣa:nʒu/. These findings show that instances of interlinguistic variation constitute 8.5% of the total items.

The final category include items that have no equivalent in the Chaoui. Here, we can find four items "camp", "man's house", "garden-house" and "beam". When

asked to offer the alternative, the informants requested an explanation of what is meant by these words; they eventually literally translated the researcher's explanation into Chaoui rather than offering their equivalent in Chaoui. It was concluded that such meaning items are irrelevant to the speakers contrarily to other phrasal expressions in other semantic field which, despite not being lexicalised, are, still, of relevance to the speakers by virtue of have a considered meaning in the speakers' environment.

4.3.8 Agriculture and Vegetation

One of the main sections in the list is the semantic field that describes agriculture and vegetation. The significance of this semantic field arises from the fact that it is heavily environment-dependent, and languages vary considerably in terms of what referents are lexicalised. Even within the same speech community, such as the Algerian, different herbs, trees, and equipment items have different lexical representations, and some are not even lexicalised within parts of the community. The list developed for the present study includes 132 items that include eight verbs and 124 nouns.

The analysis of the translated list shows that a number of items have no lexical equivalent in Chaoui. In fact, almost one tenth of words (9.09%) are not lexicalised. This category includes the words yamstick, oats, beech, birch, banyan, cassava, sugar cane, fish poison, larch, needle, ulmus and asparagus. Although the final item, asparagus, is lexicalised in many regions in Algeria, it transpires as irrelevant to the speakers of Chaoui by dint of being not part of their environmental context. Furthermore, the analysis shows that four items are expressed in phrasal rather than lexical form. The words "barley field", "olive oil" and "dried fig" do not have a one-word form. Instead, they are represented as phrases that correspond to the literal translation of each corresponding English item. Second, the word "turmeric" has the Chaoui form /dwa wrɑːɣ/ which literally translates to "yellow medicine". It is noteworthy that the word /dwa/ in Algerian Arabic, which originally meant "medicine", has acquired a semantic content of "spice". /dwa wrɑːɣ/, thus, corresponds to "yellow spice". These findings means that 116 out of 132 items of the

list are lexicalised. In other words, a total of 87.9% of the original list has a correspondence in Chaoui.

The examination of the corresponding Chaoui words shows that 62 items are represented in exclusive non-loanword forms. That is, out of the 116 items with lexical form, a percentage of 53.44% are represented in forms that show no influence from Arabic or French. This percentage corresponds to 46.9% from the total 132 items. Six out of the eight verbs are included in this category: /ʔiṯṯazwa/, which corresponds to three items "to sow", "to plant" and "to cultivate", /ʔiçərrəz/ "to plough", /ʔijməʒʒer/ "to mow", /jəssərwa:ɵ/ "to thresh". Other items in this category include some agricultural equipment such as /ti:zert/ "pitchfork", /ʔafrɑ:ðˤ/ "rake", /ʔamʒer/ "scythe" and /tagəlzi:mɵ/ "digging stick", grains such as /ti:ẓnni:n/ "grain", /ʔi:rðən/ "wheat", /ti:mẓi:n/ "barley", /hazzo:ɵ/ "rye", /məsṭo:ri:/ "corn" and /ʔi:gər/ "rice".

The second category includes words that are represented in Arabic loanwords in an exclusive fashion. The analysis shows that 39 items are Arabic loanwords. That is, a percentage of 29.5% of the total items and 33.6% of the total lexicalised items are Arabic loanwords. This category includes the two verbs /ʔi:jnəqqaʃ/ "to dig" which has the Arabic form /janquʃ/ "to sculpt" and /ʔitkija:f/ "to smoke" which is used in Algerian Arabic in the same fashion but has another meaning of "to enjoy". This word in Standard Arabic translates literally to "to adapt". This category also includes the nouns /ʔafella:ħ/ "farmer", /zzʌʕtar "thyme"/ /lħelba/ "fenugreek" and /lʕdes/ "lentils".

The third category includes French loanwords. This semantic field includes five items that are represented in French loanwords. This means that 3.8% of the total items and 4.3% of the lexicalised items are French loanwords. This category includes the following words: /ba:la/ which corresponds to two items "shovel" and "spade", /bana:n/ "bananas", /ṣṣorgo/ "sorghum" and /fu:li/ "thread". The words have the French equivalents "pelle", "banane" "sorgho" and "fil". What is noteworthy, however, is that while the first four items are clearly borrowed, the final is not.

The fourth category includes items that are shared between Algerian Arabic and Chaoui in such a way as it was not clear to the researcher what the etymological backgrounds of the items are. This category includes seven items, which corresponds to 5.3% of the total items and 6.06% of the total lexicalised items. The seven items are: /ʂʂaːbbəө/ "how", /leqsiːl/ "grass", /ʔaːsebsiː/ "pipe", /tkaːbuːbə/ "pumpkin", /hazzuːmbajə/ "cone", /ʔaziːr/ "rosemary" and /tʃiːna/ "orange". The scope of the present study does not call for the etymological account for all words. However, a gloss of the probable donor languages of these items are provided in **Appendix A**.

The final category includes items that have representations from two linguistic backgrounds. This category includes four items, which means that 3% of the total items and 3.5% of the entire lexicalised items are represented in two or more forms with different etymological descent. First the word "fig" includes over-differentiated items in Chaoui as it corresponds to /ʔamtʃiː/ and /tazaːrt/ which are non-loanwords and /baːkoːr/ which is an Arabic loanword referring to male fig fruits used for enhancing reproduction. Second, the word "pine" corresponds to a word from Algerian Arabic with non-identifiable origin /tazuːnbiːө/ and a non-loanword /tanəmmaːjə/. Third, the word "ditch" has a non-loanword equivalent /taːrga/ and an Arabic loanword /ʔaːxreb/ which is derived from the Arabic word /xurb/ "whole". Finally, the word "fence" has two Arabic loanword forms /ʔaːʂɒwən/ and /ʔaːẓarrəb/ and a non-loanword form /ʔaːsərkəl/.

4.3.9 Basic Actions and Technology

The semantic field *basic action and technology* share some semantic properties with the modern world semantic field in that both describe some tools that are used and invented by humans. This semantic field, however, is distinct in that it describes basic crafts and tools rather than modern ones. The list includes 78 items of nominal and verbal nature. The verbs constitute 48.7% of the list with a total of 38 while nouns are 51.3% with 40 items. This means that the items are almost equally distributed across the verb and noun categories.

The analysis of the translated verbs shows that 23 out of the 38 verbs are non-loanwords. In other words, of all the verbal items, 60.5% have exclusively proto-

forms that are not influenced by Arabic or French. On the other hand, it is observed that seventeen nouns are not influenced by Arabic or French. That is, 42.5% of the nominal items are non-loanwords. These findings amount to the hypothesis that nouns are more susceptible to lexical borrowing. Regardless of the grammatical category, the non-loanwords in this semantic field constitute a total of forty items, corresponding to a percentage of 51.2%. This means that more than half of the items are expressed in Chaoui dialect with exclusive Berber words.

With regard to the influence of Arabic, the analysis of the translated list shows that fourteen verbs marked with Arabic phonology and share the same semantic content whereas it is a whopping nineteen items in the case of nouns. This means that 36.8% of the verbs and 47.5% of the nouns are influenced by Arabic. With a total of 33 items, the Arabic loanwords are found to expert replacive change on 42.3% of the words in this semantic field. Examples of the borrowed nouns and verbs are illustrated in the following table:

Table 4.20. Nominal and Verbal Basic Action and Technology Arabic Loanwords

Nouns			Verbs		
broom	/ti:məʃɫʌħt/	/məʂʂəɫħa/	to make	/ʔijxaddəm/	/jəxdəm/
axe	/hʃa:qo:rɵ/	/ʃa:qo:r/	to tear	/ʔi:tməzza:q/	/jməzzaq/
carpenter	/ʔanədʒa:r/	/nədʒa:r/	to wipe	/ʔi:jməssaħ/	/jəmsaħ/
nail	/ʔəməʂma:r/	/məʂma:r/	to pull	/ʔi:jʒəbði:ɵ/	/jəʒbəd/
glue	/lləsqəɵ/	/ləsqa/	to squeeze	/ʔi:ʕəʂri:ɵ/	/jəʕʂur/
lead	/ʔərrʂa:ʂ/	/rʂa:ʂ/	to pour	/jətfərra:ɣ/	/jfərraɣ/
tin	/ʔaqəzdi:r/	/qəzdi:r/	to mold	/ʔitfʌʂʂa:l/	/jfʌʂʂa:l/
glass	/ʈʒɑ:ʒ/ /ləqza:z/	/zʒɑ:ʒ/ /qza:z/	to cut down	/ʔaqla:ʕ/	/jəglaʕ/

The lexical items in the table illustrated the phonological resemblance between Chaoui words and their Arabic counterparts. The phonetic form provided for the Arabic words conforms to the pronunciation of dialectal Arabic rather than the Standard. The phonotactics differences between standard and non-standard pronunciation is overlooked at this juncture as it does not centrally feed into the interpretation of the findings. What is noteworthy, however, is that some items are

not particularly in use. For example, the verb /jməzzaq/ is recognisable are interpretable to the speakers of Algerian Arabic, but it is not in use. Rather, the verb /jgaʈʈaʕ/ is alternatively used. Another point to consider is the fact that the word /məʂʂəłħa/ "broom" can be found as /məkkənsa/ in many Algerian dialect. Other dialects, however, use the euphemistic alternative /məʂʂəłħa/ (literally "fixer") or even /zəjja:na/ (literally "beautifier").

French phonology is detectable at the level of two nouns and one verb. The nouns /ʔasuda:r/ "blacksmith" and /bantu:ra/ "paint" correspond to the French words "soudeur" and "peinture" respectively whereas the verb /jbəntər/ "to paint" corresponds to the French verb "peindre". It is worthwhile noting that Algerian dialects also make use of these French words in a similar fashion. To conclude, the French influence on Chaoui words represents 3.8% of the entire items in this semantic field and 8.3% of the total loanwords.

The final element of discussion is the existence of two variants in tandem, formally referred to as additive change. The examination of the list shows that two items are represented in two forms from two linguistic backgrounds, both of which have an Arabic loanword and a non-loanword. First, the word "knife" has the Arabic loanword representation /ʔaxəðmi/ and two non-loanword representations /ʔʌʒɒmmi/ and /tu:zza:lt/. Second, the word "rug" has the Arabic loanword for /tazərbi:ɵ/ which has the Arabic equivalent /zarbijja/ and the word /ʔaʒərɵi:l/ which, despite the resemblance to the Arabic loanword, does not provide enough evidence to mark it as borrowed from Arabic.

4.3.10 Motion

As the name suggests, the motion semantic field includes words that describe changes in the physical world with regard to place. It is conceivable that this semantic field be verb-dominant. In fact, the meaning items describing motion constitute a total of 82 words, 62 of which are verbs. This means that 75.6% of the items are verbal. The remaining twenty items are nominal, and no items are adjectival, adverbial or functional.

The analysis of the list shows that 36 items are non-loanwords. This means that 43.9% of the words have remained uninfluenced by French or Arabic. What is observed is that 31 out of the 36 non-loanwords are verbs. It transpires, thus, that 86.1% of the non-loanwords are verbal. This is interesting given the fact that the verb-to-noun ration is higher in the non-loanwords than in the global list. Moreover, it follows that only five nouns out of the twenty nouns are non-loanwords. Put otherwise, half of the verbal items in the list are not influenced by French or Arabic whereas only a quarter of the nouns are. These findings imply that nominal categories are more susceptible to change than the verbal. Examples of the non-loanword verbs include /ʔi:ssənʕa:ə/ or /ʔi:ssugaraj/ "to lead", /ʔi:t̪t̪əẓẓʌ/ or /ʔi:t̪t̪ərrʌ/ "to drive", /ju:li:/ "to ride" /ʔi:zəlgəd/ "to roll", /ʔiṣṣa:jðˤo/ "to drop" /ʔi:zəlga:s/ "to twist" and /ʔi:jbəddəd/ "to rise". On the other hand, the five non-loanword nouns are /ʔabri:ð/, which refers to both "path" and "road", /qʌza:n/ "sledge", /ʔaməxðˤɑ:f/ "anchor" and /ʔaṣɣɑ:r/ mast.

The Arabic influence is noticed in 31 items which corresponds to 37.8% of the total. Twenty four of the thirty items are verbal. This means that 77.4% of the Arabic loanwords are verbal whereas seven (22.5%) are nominal. This noun-to-verb ratio is more proportional with that found in the global list of this semantic field. Examples of the verbal loanwords can be offered by the words in the following table:

Table 4.21. Arabic Motion Verbal and Nominal Loanwords

English	Chaoui	Arabic	English	Chaoui	Arabic
to wrap	/ʔi:jɣalləf/	/jɣalləf/	cart or wagon	/takərju:lt/	/kərwi:la/
to throw	/ʔi:jt̪ajjəʃ/	/jt̪ajjəʃ/	Yoke	/ ʔaʃəʕbi:/	/ʃəʕbi:/
to flow	/ʔijətʃʌrʃʌr/	/jʃʌrʃʌr/	Ship	/bʌbo:r/	/bʌbo:r/
to swim	/jətʕu:mma/	/jʕu:m/	boat/	/taflu:kt/	/flu:ka/
to crawl	/ʔi:ħəbbu:/	/jəħbbu:/	Canoe	/taflu:kt/	/flu:ka/
to kneel	/ʔi:rkaʕ/	/jərkaʕ/	Outrigger	/taflu:kt/	/flu:ka/

The table above raises a number of points. First, it is noticed that the Chaoui dialect does not represent lexical distinction between different types of ships. All are represented in the word /taflu:kt/ which has the Algerian Arabic equivalent /flu:ka/. The word is belived to be derived from the Stadnard Arabic word /fulk/ "ships".

Second, the words /takərju:lt/, /ʔaʃəʕbi:/ and /bʌbo:r/ are evaluated as being Arabic loanwords despite the fact that these words are not etymologically Arabic. It is, however, observed that these words are used in Algerian Arabic dialects and are suggested to have been borrowed into Chaoui. It is worthwhile mentioning that lexical borrowing research does not have the preoccupation of determining the prehistoric etymological background of every lexical items. Rather, it sketches contexts of prospective borrowing on the basis of structural and use resemblance.

The examination of the translated list shows that five items are judged as irrelevant to the speakers of Chaoui by virtue of having no lexical correspondence. Asking a number of native speakers of Chaoui to offer a translation to the words "raft", "oar", "paddle", "to row" and "rudder". It, thus, follows that 06% of the total words have no lexical equivalence in Chaoui. Moreover, it is found that six items are represented in phrasal rather than lexical form. First, the word "to sail" has the Chaoui equivalent /jəbbi:d lebħʌr/ which literally translates to "cut/cross the sea". Second, different forms of carrying (in hand, on shoulder, etc.) are expressed by literal phrase. The expressions: /ʔi:rfəð ðəg fu:s nnəs/ "to carry in hand", /ʔi:rfəð fa ṭṭʌbəq nnəs/ "to carry on shoulder", /ʔi:rfəð zənnəg ən i:xf nnəs/ "to carry on head" and /ʔi:rfəð səddu: n ʔaɣi:l nnəs/ "to carry under arm" are word for word translations of the English counterparts. Furthermore, the word "axle" is /ʔamma:s ən rro:ðˤəθ/ in Chaoui, which literally translates to "centre of a wheel". Finally, it is also noticed that two words are represented in two variants, one from Arabic and another non-loanword. The words "to turn" has an Arabic loanword form /ʔi:zəlləg/ and another non-loanword /ʔi:tməðˤrɑ:n/ while the word "bridge" can be found as /qandərə/, which is a version of the Arabic word /qanṭra/, and /ti:ṣɒɣɑ:rə/, which is a non-loanword.

The French influence is observed in two items. The first is /rro:ðˤəθ/ "wheel", which is a loanword of the French equivalent "roue". This word is used in many Algerian dialects as /rro:ðˤa/ or /ʒarra:ra/ which is a non-loanword. The other French loanword is "port" which has the Chaoui representation /ləppo:r/ which is a morphological integrated version of the French word "le port". These observations amount to the conclusion that French loanwords constitute 2.4% of the total items,

2.6% of the items with equivalence, 2.8% of the total lexicalised items and 6% of the total loanwords whereas Arabic constitutes 37.8% of the total items, 40.2% of the items with equivalence, 43.6% of the lexicalised items and 94% of the total loanwords.

4.3.11 Possession

The possession semantic field includes 46 six meaning items that describe different aspects of possession, such as verbs of ownership, money and trade, etc. This semantic field is semantically dense as it includes 29 verbs, 12 nouns and 05 adjectives. No function words are part of this list. The primary analysis of the list shows that most of the verbs have remained uninfluenced by Arabic and French. This is evident in the fact that eighteen items are considered as non-loanwords by dint of displaying no marks of phonological resemblance to Arabic or French. Examples of non-loanword verbs /juːʃaːs/ "to pay", /jaxrəʂ/ "to hire", /jəwwiːd/ "to earn", /ʔissaːɣ/ "to buy", /ʔiːznuːza/ "to sell", /ʔiːruzziː/ "to look for" and /juːfɑ/ "to find".

The remaining eleven verbs are influenced by Arabic as the phonological form and semantic content resemblance is observable. The verbs in Chaoui along with their English translation and source form are displayed in the following table:

Table 4.22. Arabic Possession Loanwords

Verbs			Nouns		
English	**Chaoui**	**Arabic**	**English**	**Chaoui**	**Arabic**
to grasp	/jəṭṭəf/	/jəqṭəf/	money	/soːrði/	/soːrdi/
to hold	/jəlmuːm/	/jləmm/	coin	/ʂwaːrəð/	/ʂwaːrəd/
to keep	/ʔiːṭṭəf/ /ʔitħafaːðˤ/	/jəqṭəf/ /jħafəðˤ/	beggar	/ʔadərwiːʃ/ /ʔaṭəɬaːb/	/dərwiːʃ/ /ṭəɬaːb/
to rescue	/ʔifuːkkəd/	/jfukk/	bill	/hfɑːtoːrə/	/faːtuːra/
to destroy	/ʔitxantaːʃ/	/jxantaːʃ/	tax	/ləɣrɑːməə/	/ɣarɑːma/
to injure	/ʔiʒərħiːə/	/jəʒraħ/	wages	/slaːç/	/slaːk/
to damage	/ʔifəsðiːə/	/jfəssad/	market	/suːq/	/suːq/
to lose	/ʔijrɒħaːʂ/	/jrɔːħ/	shop/store	/ħaːnuːt/	/ħaːnuːt/
to owe	/ʔitsalaːs/	/jsaːl/	price	/ssuːməə/	/suːma/
to trade	/ʔitbərraːz/	/jbərrəz/			
to weigh	/jəttaːzən/	/juːzən/			

The table above shows that the verbs have been morphologically integrated in the dialect as the tense affixation is different in the two varieties. Moreover, it is noticed that some phonological features of the root verbs are changed. For example, the /d/ in the verb /jfəssəd / is changed into /ð/, and the consonant cluster /qt̪/ is transformed into a geminate structure in /jət̪t̪əf/. It should be noted that the verb /jxanta:ʃ/ is borrowed from Algerian Arabic. It has the meaning of destroying something or not doing something properly.

With regard to the nouns, the analysis shows that only two out of twelve have retained an exclusively non-loanword form. The word "thing" is represented in Chaoui as /ɣa:wsa/ which, to the best of the researcher's knowledge, is not influenced by Arabic or French. With regard to the word "debt", it is noticed that Chaoui dialect makes a distinction between debt that the speaker owes and one that others owe the speaker. The former is /ʔarðˤɑ:l/ and the latter is /ʔamərwa:s/. The Arabic influence on nouns can be observed in nine instances as shown in the following table:

The table above also shows that the phonological resemblance is evident between Chaoui words and their Arabic counterparts. It should be noted that some words are not necessarily Arabic, e.g., /fa:tu:ra/, which is claimed to be of Italian origin; however, a clear distinction has to be made between research that aims to investigate lexical etymology and one that aims to highlight borrowing in the context of language contact. The scope of the present study is to highlight how Standard Arabic, Algerian Arabic and French exerted lexical influence on Chaoui without clear attention to the etymological consideration in prehistoric contexts. Finally, the remaining noun "merchant" has two variant in Chaoui, /ʔaħwa:nti/ which is a clear instance of lexical borrowing from Arabic as it has the equivalent /ħwa:nti/, and /ga:wa:w/ which is judged as a non-loanword. These findings amount to the conclusion that 16.66% of the nouns in this semantic field are non-loanwords, 75% are Arabic loanwords and 8.33% have an Arabic loanword and a non-loanword representation.

The final element of analysis is the adjectives. It is observed that four adjectives are borrowed from Arabic: /ʔi:ɣla/ "expensive", /jərxʌʂ/ "cheap",

ʔ/iːməɵrəffaħ/ "rich" and /ʔaʃħiːħ/ "stingy". The words have the following respective Arabic equivalents /ɣaliː/, /rxiːʂ/, /mətrəffah/ or /mraffah/   and /ʃəħħiːħ/. The remaining adjective "poor" has two variants; the first, /ʔaʃumaːr/, is from the French word "chaumeur" and the second, /ʔʌziwaːli/, is arguably from Algerian Arabic and has some roots in Standard Arabic. This means that 80% of the adjectives in this semantic field are from Arabic and 20% have two representations, none of which is a non-loanword.

4.3.12 Spatial Relations

The identification of space through language is a common feature across world languages. This is achieved using function words that map referents in space relative to other referent and lexical words that describe actions that affect space. The list adopted for the present study includes 75 items that include the meaning features that are believed to be universal across world languages.

The translation of the list to Chaoui shows that 29 items are not influenced by French or Arabic. The consideration of a lexical item as a non-loanword arrives with a number of considerations. A word can be consequential to borrowing at earlier stages of development in such a way that is not visible to researchers given the available data. This piece of trivia is acknowledged by a number of researchers. Most evidently, Haspelmath (2009, p. 12) reports that researchers in the field of lexical borrowing are "asked to indicate whether, ***to the best of their knowledge*** [emphasis added], the word was a loanword". The use of the expression "to the best of their knowledge" highlights the fact that a judgement of borrowability is not carried out with 100% representative fidelity. In fact, Haspelmath (2009, p.13) himself acknowledges that various levels of certainty are reported with (level-0) corresponding to "no evidence of borrowing" and (level-4) corresponding to "clearly borrowed" level of certainty. What is noticed is that the collaborators in that research project never use the expression "clearly not borrowed" for the reason that they acknowledge that a given word may well be borrowed at some point in the prehistoric development of that language, a thing which cannot be investigated by the current state of knowledge regarding contact-situations and linguistic genealogy.

The items that are considered as non-loanword constitute 37.6% of the total items in this semantic field. Many items within this category are prepositional in nature: /Ɂu:rna:s/ "behind", /ði:/ "in" /ði:/, /ɣəll/ or /ɣər/ "at", /zza:ө/ "beside" /ɣərwadda/ "down" and /zza:ө/ "before". Others are verbal such as: /jbədd/ "to stand", /jəssərs/ "to put", /jətʃo:r/ "to pile up", /jbəṭṭʌ/ "to divide", /jərẓəm/ "to open" and /jəqqən/ "to shut". Adjectival non-loanwords can be exemplified by /ðazəgra:r/ "tall", /ðagəzla:n/ "short", /jərrɑ:w/ "wide", /ju:zi:r/ "thick" and /ðaza:ð/ "thin". What is observed is that only two nouns are considered as non-loanwords /baju:ө/ "remains" and /ө:nəgga:ru:ө/ "end". The words /ɣəlwa:dda/ "bottom" and /ðaʃla:gu:/ "left" are considered as nouns in the analysis despite their adjectival nature in English. This is motivated by the fact that the items can be considered as both. This does not pose any problematic outcomes inasmuch as it is acknowledged by Haspelmath (2009, p. 07) that "some meanings may well have counterparts in different languages that belong to different parts of speech". For example, "to be hungry" has an adjective counterpart in English "hungry", a verb counterpart in Gawwada (puffí 'be hungry'), and a noun counterpart in Swahili (njaa 'hunger')" (Haspelmath, 2009, p. 11). In view of that, it is noted that the distribution of the non-loanwords is as follows: 13.8% nouns, 27.6% verbs, 31.03% prepositions and 27.6% adjectives.

The analysis of the list shows that the Arabic influence can be observed in 42 items. That is, 56% of the translated items has a citation form that is exclusively Arabic. This category includes seventeen nominal items that can be exemplified with /Ɂamka:n/ "place", /jʕa:la:/ "top", /lħaʃjəө/ "edge", /ʃʃu:kiəө/ "corner" and /ө:adəwwi:rө/ "circle" in addition to the compass directions /ʃʃarq/ "east", /lɣarb/ "west", /ʃʃama:l/ "north" and /lʒanu:b/ "south". It follows that nominal borrowing from Arabic constitutes 40.5% of the entire Arabic loanwords. The items that are exclusively Arabic loanwords include ten verbs, which corresponds to a percentage of 23.8%, as shown in the following table:

Table 4.23. Verbal Arabic Spatial Relations Loanwords

English	Chaoui	Arabic

sit	/jəqqi:m/	/juqi:m/
lie down	/jəttəkka/	/jəttəkka/
remain	/jqqi:m/	/juqi:m/
gather	/jətlu:mma/	/jətləm/
pick up	/jərfəð/	/jərfəd/
join	/ʔa:ðjəħʃʌr̩/	/jəħʃar/
separate	/jəfraq/	/jəfraq/
cover	/jɣəʈʈʌ/	/jɣaʈʈi/
measure	/jətqijjɜ:s/	/jqi:s/
change	/jbəddəl/	/jbəddəl/

The table above shows that a number of Chaoui words are borrowed from Algerian or Standard Arabic. The verb /jəqqi:m/ "sit" was first evaluated as a non-loanword as the Arabic equivalent is /jaʒlɪs/ or /jaqʕud/, disregarding the subtle semantic difference in Standard Arabic, which is phonologically distinct from that of Chaoui. The closer examination of other verbs shows that the verb in Chaoui is homonymous with the verb "remain" or "stay". It is also observed that Algerian Arabic uses the term /jaqʕud/ to refer to "remain". It was concluded that Algerian Arabic uses the Standard Arabic form /jaqʕud/ for both "sit down" and "remain" whereas Chaoui uses /juqi:m/ for both.

The adjectival loanwords constitute a total of twelve items (28.6%). Examples of these adjectival loanwords can be found in the words: /ʔi:ʕa:la:/ "high", which is borrowed from the Arabic word /ʕa:li/, /jəhwa/ "low", which has the Arabic equivalent /ha:wi/, /jəqrab/ "near", which is /qri:b/ in Arabic, and /jəbʕəð/ "far" which is /bʕi:d/ in Algerian Arabic and /baʕi:d/ in Standard Arabic. Finally, three prepositions are borrowed from Arabic /mbaʕd/ "after", /ðða:xəl/ "inside" and /bʌrrʌ/ or /ði:bʌrʌ/ "outside".

The French influence is minimal in this semantic field as only two items are represented in french loanwords in an exclusive fashion. The word "square" has the Chaoui equivalent /ðəlkʌrija:ɵ/ which is a morphonological integrated version of the French word "caré". On the other hand, the word "ball" is represented in Chaoui as /ðəlbɑ:lu/, which is a loanword of the French word "ballon". This means that the French loanwords constitute a total of 2.66% of the entire items and 4.5% of the entire loawords.

It is noted that all of the items in this semantic field have lexical equivalents. That is, unlike other semantic fields, none of the spatial relations items in the LWT meaning list are represented in phrasal form, nor is any item irrelevant to the speaker, thus, having no equivalent. However, it is observed that two items are represented in lexical items from two linguistic backgrounds. First, the word "in front of" is represented in Chaoui with the word /zza:ɵ/, which judged as a non-loanword, and /jqa:bəl/ which is an Arabic loanword that has a Standard Arabic equivalent /qabla/ and an Algerian Arabic equivalent /qbal/. Second, the word "long" is represented in Chaoui as /ðazəgra:r/ which is a non-loanword and two Arabic loanwords /jəʈʈəwɑ:l/ or /jʈʌwwəl/ which has the equivalent /ʈawi:l/ in Standard Arabic and /ʈwi:l/ or /ʈawwa:li/ in Algerian Arabic, with the latter being sociolinguistically very limited in use.

4.3.13 Quantity

The perception of the external world is achieved using the five senses, which has representative semantic field in the list, and the perceptual quantification. The latter is reflected in the human's use of different lexical categories that embed the perceptual quantitative distinction into lexicons. The LWT meaning list was developed in such a way as to accommodate the universal capacity of language to express quantity. After all, it is hardly conceivable to assume that a given linguistic system in use operates free of quantifying expressions. Therefore, it is an axiomatic belief that all languages of the word, at one stage of their diachronic developments, included proto-forms of quantity. The list adopted for the present study includes 39 items which are adopted without any modifications. What is noticed is that the work of Haspelmath (2009, p.07) reports 38 items, but examining the actual list in the appendix (pp. 22-34) shows that the quantity semantic field actually includes 39 items.

The analysis of the list shows that eleven out of the 39 items have a phonological form that does not show any traces of phonological influence from Arabic or French. This means that 28.2% of the words are judged as non-loanwords. The words include /ðein/ "enough", /qi:tʃaħ/ "some", /jətʃo:ɾ/ "full", /ti:ləmɵ/

"empty", /ʔa:zgən/ "half", /ʔaməzwa:ru:/ "first", /ʔanəgga:ru:/ "last" and /sən/ "pair". With regard to the word "few", it has the phonological form /qi:tʃaħ/. The form has a resembling phrasal equivalent in Algerian Arabic which is "just being skimpy". It can be argued that the word /qi:tʃaħ/ is a grammaticalised phrase, but the evidence is inadequate. Therefore, the word is considered as a non-loanword.

The Arabic influence is noticeable as 24 (61.5%) of the analysed words have been completely substituted by Arabic loanwords. The numbers, excepting zero, one and two, are observed to be all pronounced in Arabic form without any changes to the phonological form. Moreover, the verb "to count" has the exact form to that of Algerian Arabic /jħassəb/. Likewise, the words /ɣi:r/ and /ʔu:kkəl/, which have the Standard Arabic equivalent /ɣajr/ and /kull/, are used in the same way as other Algerian dialects of Arabic. Some of the Arabic loanwords are noticed to have undergone a change in phonological form. Examples of this include the words /waħðəs/ "alone", which has the Algerian Arabic equivalent /waħdu/. The word "many" has a Chaoui representation /xi:rəłłʌ/ which literaly translates to "grace of Allah". In other Algerian dialects of Arabic the expression can be /xira:t rabbi/ "graces of God". What is observed from the analysis of the list is that ordinal numbers are also influenced by Arabic. While the word "first" is a non-loanword in the same fashion as its ordinal counterpart, the word "second" is borrowed from Arabic /θθa:ni/ albeit its cardinal counterpart is a non-loanword.

The phrase "three times" is represented in phrasal form that is completely influenced by Arabic /tlaθa nlmərrɑ:θ/ which means that the Arabic influence is even higher than 61.5%. However, to remain consistent in the analysis, phrasal representations are not integrated in the statistics of lexical borrowing notwithstanding the striking evidence of lexical resemblance. The rationale for this decision is the fact that the words constituting the phrase, i.e., "three" and "times", are counted as loanwords elsewhere. It would, thus, be ill-informatively redundant to recount them as a borrowed phrase that is purely consequential to the generative capacities of language. That is, the generative grammar of language warrant the

formation of countless phrases out of these borrowed words, which means that counting phrases in borrowing is essentially irrelevant to lexical borrowing research.

The phrasal representation can be observed in two instances /sənn lmərrɑ:ɵ/ "twice" and /tlaɵa nlmərrɑ:ɵ/ "three times". The first word, however, has a form that is borrowed and morphologically unintegrated, /mʌrɵijjən/. This means that the influence of Arabic on the quantity semantic field is more noticeable. On the other hand, the French influence is found in one word /ẓi:ṛɒ/ "zero" which, still, is used with another Arabic loanword /ṣifr/. Finally, the words "part" and "piece" are under-differentiated in the Chaoui dialect as they both have the form /qi:tʃaħ/ as a non-loanword and the forms /rri:ħɵ/ and /qli:/ as Arabic loanwords.

4.3.14 Time

One of the design features of human language according to Charles Hockett is displacement. This feature include language's feature that allows the speakers to talk beyond the immediate temporal context. Speakers both syntactically and lexically refer to past and future tenses, either by the use of morphological inflections of verbs or by using adverbials and nominals that entail different time layouts. The analysis of lexical change, therefore, necessitates the analysis of how this universal feature of language changes lexeme-wise. In the present study, the semantic field *time* includes 57 items that describe days, seasons and deictic terms (today, tomorrow, etc) in addition to some vebs that are marked with specific point in time. What is noticed is that months are not included in the list for no apparent reason.

The analysis of the translated list shows that twenty words are judged as non-loanwords. This means that 35% of the selected items are not influenced by French or Arabic. These words include nouns, adjectives and adverbs. Examples of non-loanword nouns include /ʔasuggɑ:s/ "year", /ʔi:ðˤ/ and /ɵallɑ:s/ "night", /ɵaməddi:ɵ/, /ɵazwərɵ/ "beginning", "evening" and /ʔamu:r/ "season". Examples of adjectival non-loanwords include /ðˤʌməzɑ:n/ "young", /ʔi:ẓɑ:j/ "slow", /warzi:ç/ "late" and /zi:k/ "early". Finally, adverbials that are non-loanwords can be exemplified by /ʃwa:həm/ "for a long time", /ʔa:lətʃa/ "tomorrow", /ʔi:ðˤəlli/ and /ʔʌṣṣənɑ:ṭ/

"yesterday". What is noticed is that the verbal items in this lexical field are all substituted by loanwords.

The Arabic influence is very observable as thirty words have an apparent phonological structure and a near-identical semantic content. This means that 50.9% of the words are Arabic loanwords. The six verbal items in the list are all influenced by Arabic as illustrated in the following table:

Table 4.24. Arabic Loanword Verbs in the Time Semantic Field

Verb	Chaoui	Arabic		Verb	Chaoui	Arabic
to hurry	/jəzreb/	/jəzreb/		to finish	/ʔijxalləʂ/	/jxalləs/
to be late	/jʈʌwwel/	/jʈʌwwel/		to cease	/ʔi:sħabsi:ɵ/	/jħabbas/
to begin	/jəbðu:/	/jəbda/		to last	/ʔitðu:m/	/jadu:m/

The table above shows that the verbs on the left side of the table have retained their exact form as borrowed Algerian Arabic. The verbs on the right side, however, have been morphologically integrated in the dialect. Moreover, the nouns that are obtained from Arabic include thirteen nouns: /lwaqɵ/ "time", /ləʕmar/ "age", /ʔa:ʂəbbɑ:ħ/ and /lfaʒr/ "dawn", /ɵaʕəʃwi:ɵ/ "afternoon", /ssa:ʕəɵ/ "hour", /ssa:ʕəɵ/ "clock" and the seven days of the week. This means that more than 44.8% of the loanwords are nominal in nature.

Another morpho-lexical category in the loanwords is the adjectives. The analysis of the list shows that four adjectives are borrowed from Arabic. First, the word /ðaʒði:ð/ "new" has the Arabic equivalent /ʒdi:d/. Second, the word /ʔijzərreb/ "fast" is an edjectivised word of the Algerian Arabic verb /jəzərreb/ "to hurry". Third, the adjective/ju:ʒəð/ "ready" is an adjectival equivalent of the Algerian Arabic verb /ju:ʒəð/ "to be ready". Finally, the word /ðʕamuqrɑ:n/ "old" does not show enough evidence of being borrowed. However, the discussion with some native speakers of the dialect who are invested in Berber research reveals that the words has a nominal counterpart word /ʔamuqrɑ:n/ which means "old" and "chieftain". The word, according to the interviewees, is a semantically restructure version of the Arabic word which means "a ram with horns", which is a sign of dignity and nobility.

The final element in the analysis of Arabic loanwords is adverbials. The analysis reveals that six element are borrowed from Arabic: /ʕɒmri/ "never", /ʈoːl/ and /diːma/ "always", /saʕaːθ/ "often", /saʕaːθ/ and /lxatraθ/ "sometimes", /jəqrab/ "soon" and /ʔassa/ "today". What is observed is that often and sometimes are under-differentiated in Chaoui in that both can be expressed by /saʕaːθ/. Moreover, the word "today" /ʔassa/ is considered as a loanword even though the Arabic equivalent is /ljuːm/. The conclusion is motivated by the fact that many eastern dialects of Algerian Arabic use the word /ʔassa/, /ʔassaʕ/ and /ssaʕ/ to refer to "now". This is also observed in many Levantine Arabic dialect as the equivalent is /hassaʕ/ and /hassa/ which is a phonologically assimilated version of the phrase /had ssaːʕa/ "this hour". These findings amount to the conclusion that the number of borrowed adverbs is equal to that of verbs, each constituting 20.7% of the total loanwords.

The French influence is observed in one word /ʔiːsəmmaːðən/ or /θasmaːnθ/ "week". The word is borrowed from the French word "semaine" and is used in Algerian Arabic also. In addition, the analysis reveals that two items are represented with two variants from two linguistic backgrounds. The word "now" has two possible variant: /ʔiːmiːra/ which is judged as a non-loanword given the lack of evidence for borrowing and /luːqqa/ which is judged as an Arabic loanword after the word /lwaqt/. The reason for considering it as a loanword is that the word "now" is used in many Algerian varieties of Arabic with the grammaticalised phrase /had lawaqt/ which is phonologically reduced to /duq/, /duk/, /duqqa/ or /dukka/ among other possible phonologically altered variants.

4.3.15 Sense Perception

One of the universal features of language is that it expresses the needs of the society where it is spoken. Universal needs, therefore, correspond to universal lexical inventories. In view of that, it is conceivable that all languages of the world have lexical categories that describe how the world is perceived through the five sense. The meaning list adopted for the present study includes 49 items that describe basic colours, temperature degrees, scents and textures. This semantic field is essential verbal and adjectival in the sense that it outlines what humans perform with their

sense and the qualities assigned to the world through this performance. The nominal items are, thus, very minimal as there are no more than three items.

The analysis of the list shows that 23 items are expressed in non-loanwords only. That is, 46.9% of the words in the sense perception semantic field have retained their form uninfluenced by language contact. The primary analysis shows that the way with which items have been influenced does not have any morpho-semantic implications. That is, the words that have resisted change do not fall within one morpho-lexical category (nouns, verb, adjective, etc.) nor are they explainable in terms of semantic subfield (basic sense verbs, colours, opinion, etc.). It is noticed that no nominal items fall within this category, but, knowing that there are only three items, the data is not diverse enough to warrant the generalisation.

The researcher, however, does not make the claim that change is haphazard. On the contrary, the main contention throughout this study is that change, or the lack thereof, is highly systematic. However, it cannot be accounted for by means of inherent linguistic features only. That is, change affecting different words is explainable by means of both the inherent morpho-semantic features of the word and the domain-general language-external features.

Examples of the non-loanword items can be found in the verbs: /jəṃṭi/ "to taste", /jəzzɑːṛ/ "to see", /jəzzɑːṛ/ "to look" and /jəssənθaːʕ/ "to show" and the adjectives /jẓiːṭ/ "sweet", /ðaməssaːst/ "brackish", /jəqqoːr/ "dry" and /ʔuːlirəbbiːʃa/ "blunt". The adjective /jəsməṭ/ "cold" can be argued to be a loanword of the Arabic word /saːməṭ/ "not sweet" or from the word /ssəmm/, but the evidence for borrowing is minimal. Therefore, the word is judged as a non-loanword pending more evidence in further research.

The loanwords from Arabic are almost quantitatively similar to non-loanwords in that 22 items are influenced by Arabic words. This means that 44.9% of the meaning items are replaced by Arabic words. The use of the term "replace" is motivated by the theoretical contention that proto-languages all had these terms at one stage in their lifetime. Two of the three nouns in this semantic field are Arabic loanwords. First, the noun /ðˤʕʌw/ has the same equivalent in Arabic meaning "light".

Second, the Chaoui noun /llu:n/ "colour" has the Standard Arabic form /lawn/ and Algerian Arabic form /llu:n/. On the other hand, the verbs in the list that are influenced by Arabic can be exemplified by /jətʃumma:/ "to smell", /jəssɣa:ða/ "to listen" /θəbrirri:q/ "to shine" and /jətħu:ssa/ "to feel". Finally, many adjectives in this semantic field are Arabic loanwords, including /talla:s/ "dark", /ʔaħʃi:ʃi:/ "green", /jərṭɒb/ "soft" and /jəxmədʒ/ "dirty". The first adjective, /talla:s/, has an exact equivalent in Algerian Arabic meaning "lost sight in darkness". The second, /ʔaħʃi:ʃi:/, is an adjective formed by the affixation of the noun /ħʃi:ʃ/ which means grass in Arabic. The third, /jərṭɒb/, has the Arabic equivalent /rṭɒb/. What is noteworthy here is that the adjectives "smooth" and "soft" are under-differentiated in Chaoui. Finally, the word /jəxmədʒ/ has the Arabic equivalent /xamədʒ/ which means "rotten".

The French influence is non-existence in this semantic field inasmuch as no items are evaluated as having French-like phonological representations. Moreover, no items in the list are reported as having no equivalent, i.e., irrelevant to the speakers. The final element of analysis is words with multiple variants. In view of that, the analysis of the list shows that only one word has multiple representations from two languages. The word "quiet" has three equivalents in Chaoui: /jətʃaxʃ/ and /jəssu:səm/ which are evaluated as non-loanwords and /ðəlʕaqəl/ which is a loanword of the Arabic adjective /ʕaqəl/ "quiet". It should be noted, however, that this does not represent a case of complete synonymy. Rather, the words have a subtle difference in meaning. The loanword is reported as being associated with the animate quality of being calm (human, dog, bird) whereas the non-loand are associated with inanimate objects (sea, weather, etc.).

4.3.16 Emotions and Values

The emotion and values semantic field includes 54 items that describe feelings such as love, hate, jealousy and grief along with adjectives that describe various emotional states and personality traits such as happy, angry, greedy and clever. The list is not exhaustive but it is universal in that all the items that are found have lexical representations in Chaoui.

The analysis shows that thirteen items are judged as non-loanwords due to the lack of evidence of phonological or semantic resemblance. These words are /ʔaːsiːrəm/ "hope", /ʔuːðiːsərçuːʃ/ "true", /jəssərçuːs/ "to lie", /jəssaːrʒːm/ or /ssaːraməɣ/ "to hope", /jaxs/   "to want", /ʔaːxərʃuːm/ "brave", /hjəwði:/ "fear", /ʔiːħməz/ or/laħməz/ "envy or jealousy", /jərwaː/ "to hate", /ʔiːɣanni/ "pity",/ʔiːjðˤəʂ/ "to laugh", /ʔiːməʈʈʌwən/ "tear" and /jəttiraːr/ "to play". It is noticed that the non-loanwords include verbs, nouns and adjectives and that some are expressed with more than one Berber form. This means that less than one quarter (24.07%) of the words in this semantic field are not replaced by words from other languages.

The comparison of these words with the findings from the study of Mzabi and Kabyle (Ibrir, 2017) shows that the items that are present in the Swadesh List and the LWT meaning list follow an almost identical pattern with regard to being affected by borrowing. That is, the words that are shared between the lists and are not borrowed in Chaoui are equally not borrowed in Mzabi and Kabyle, excepting the Kabyle equivalent of "lie" which is an Arabic loanword, as shown in the following table:

Table 4.25. Cross-Dialectal Comparison of Emotions and Values

	Chaoui	**Mzabi**	**Kabyle**
lie	/jəssərçuːs/	/jʃərtuːs/	/jesçədev/
fear	/hjəwði:/	/jətugud/	/ʔagaːɵ/
play	/jəttiraːr/	/jetraːr/	/ʔelʕev/
laugh	/ʔiːjðˤəʂ/	/jəssuː/	/ʔoːdˤs/

The influence of Arabic, however, is more observable as there are 25 items that have lost their proto-form and have been completely replaced by Arabic loanwords. Examples of these words include nouns such as /ʔəssəm/ "pain", /jəħzen/ "grief", /jəqlaq/ "anxiety" and /lʕaːr/ "shame" which are loanwords of the Arabic words /sam/ "poison", /ħuzn/ "grief", , /qalaq/ "anxiety" and /ʕaːr/ "shame". What is noted here is that the Chaoui dialect does not display lexical distinction between "anger" and "anxiety". Moreover, the word "spirit" is /ʔiːmaːn/ in Chaoui, which is a loanword of the Arabic word literally meaning "faith".

Lexical borrowing is also noticed at the level of verbs as many verbs in Chaoui have an Arabic-like form. Examples of these verbs include: /ʔi:θəbəsa:m/ "to smile", /ʔitsəlla:m/ "to kiss", /ʔitxəjja:r/ "to choose" /ʔala:wəm/ "to blame" and /ʔijtməʒa:d/ "to praise" which correspond to the respective Arabic words /jabsɪm/, /jusallɪm/, which literally means "greet", /jaxta:r/, /jalu:m/ and /jumadʒɪd/. What is noticed is that the verbs "to hate" and "to be full" have a homophonous semantic relationship as they both have the form /jərwa/. In the analysis, the verb "to hate" is judged as a non-loan word whereas "to be full" is considered as a loanword from the Algerian Arabic word /jarwa/ which means "to quench thirst". Unlike Arabic, Chaoui does not distinguish being full of food and drink as both are embedded in the term /jərwa:/. Arabic dialects, however, use the form /jaʃbaʕ/ for food fullness.

Finally, the Arabic borrowing is also noticed at the level of adjective. The words /jaħla:/ "sweet", /jəzha/ "happy", /jəttəfta:xər/ "proud", /jəbha/ "beautiful" and /jəbʃaʕ/ "ugly", for instance, are morpho-syntactically restricted words that are borrowed from the verbs "to be sweet", "to be happy", "to be proud", "to be beautiful" and "to be ugly". Other adjectival loanwords are /ṭəmma:ʕ/ "greedy" and /ðəṣṣʌħ/ "right" which correspond to the Arabic words /ṭamma:ʕ/ and /ṣʌħi:ħ/ respectively. It is worthwhile noting that the antonyms good and bad are formed in Chaoui are formed by morphological rather than lexical strategies. That is, transforming the adjective "good" to "bad" is achieved by the inflection of the adjective /jaħla:/ "good" into /ʔu:ði:jħli:ʃ/ "bad".

The French influence in this semantic field is observed in two words /do:nʒi:/ "danger" and /ddifo:/ "fault". This means that 3.7% of the words are of French origins and that French contributes to the process of borrowing by 7.4% and Arabic by 92.6%. The list includes one onomatopoeic word /ʔaləɣla:ɣ/ which has two meanings "talkative" and "whiney". The Chaoui dialect under-differentiates these concepts and lumps them up under one lexical representation.

Another element in the discussion is the phrasal expressions of the meaning list items. The analysis shows that six items are expressed not by means of lexical forms but rather by phrasal compositions. The expression "good luck!" has the

Chaoui equivalent /rəbba ʃiːʕawən/ which literally means "may Allah help you". Although this expression is phrasal in nature, it is counted in the lexical borrowing section due to the fact that this is a fixed idiomatic expression that is borrowed directly from Arabic. Another reason for counting as a lexicalised item is the fact that the word "luck" in Chaou is expressed via the loanword /zhar/ which in Algerian Arabic is equivalent to the Standard Arabic word /ħʌðˤðˤ/ "luck". This means that only five items (9.25%) are judged as being non-lexicalised. Moreover, the expression "bad luck" is expressed by the form /ʔuːlaːʃ ən zhʌr/ which literally means "no luck". In addition, the adjective "sad" is expressed in two forms lexical and phrasal. The word /za3lagh/ literally means "sad" and the idiomatic phrase /jətʃoːr wuːl nəs/ literally means "his heart is filled".

While some elements in the list are expressed in one form that pertains to one donor language, some have two equivalents from two. The findings of the study amount to the existence of variation in the use of five items. These items are expressed on non-loanword form and another Arabic loanword as shown in the following table:

Table 4.26. Items with Two Variants

English	Non-loanword	Loanword	Arabic
astonished	/jərrebza/	/jħɜːr/	/ħaːjər/
to love	/jaxs/	/jətħiːbba/	/juħibb/
to regret	/hgarẓaːṣ/	/ʔiːndəm/	/jandam/
to cry	/jiːl/	/jətʕajaːðˤ/	/jʕajaːṭ/
to forgive	/jəssuːrfiɵ/	/jəssamħaːs/	/jusamɪħ /

The table above shows a sociolinguistic phenomenon that is central to the inquiry of functional linguistics. Variationist linguistics has the goal of identifying the factors underpinning language change. As researchers are limited in terms of the temporal windows of their inquiry, investigating cross-generational use of language may give insight into how apparent time processes reflect real time ones. Instances of variation, here, come as an exploratory tool where researchers survey what social groups are embracing what linguistic variables. The mapping of linguistic variables unto social ones helps draw the general picture of how language change happens and what social and linguistic factors propagate it. In the subsequent chapter, items that

are represented in two variants from two linguistic backgrounds are used as piloting variables that show how prospective languages of influence are affecting Chaoui and what social groups are most operative in that influence.

4.3.17 Cognition

The mental or cognitive processes such as thinking, remembering, understanding along with the adjectives associated with it are an inseparable segment of human language. Languages universally have a range of lexical items that describe these processes. Therefore, it is conceivable to assume that all language at one stage had a proto-form that describes them. The investigation of language change and borrowing can make use of this inherent lexical feature of Language and have insight into the phenomenon by the formal analysis of the now used lexical items in this semantic field.

The LWT meaning list includes 57 items in this semantic field, including nouns, verbs, adjectives and even conjunctions. What is not very clearly explained by Haspelmath (2009) is the integration of items such as "and", "yes", "no" and "when" in this semantic field rather than in the miscellaneous function words semantic field. After all, both coordination, interrogation and spatio-temporal positioning are the outcome of mental process. Regardless of this piece of trivia, the present study analyses the items with regard to the formal and functional resemblance to their equivalents in prospective donor languages, Algerian Arabic, Standard Arabic and French.

The analysis of the list shows that the structural resemblance does not always give clear-cut judgments of borrowing. In many cases, evidence is insufficient, and the researchers have to make a learned intuitive guess as to whether or not the lexical item is consequential to borrowing. Examples of these uncertainties arise from the words /allən/ "mind", /jətba:na:s/ "to think" and /matta:/ "what". The first word has the Arabic equivalent /ʕaql/ and can be argued to be a loanword from /ʔala/ "tool/device". Knowing that the mind is the device/tool of reasoning, the resemblance in the semantic content of the two words is not equivocal, and the phonological form is observable. However, the evidence is not sufficient and the judgment is not

conclusive. This is further substantiated by the example /jətba:na:s/ which is reminiscent of the French word "penser". It is observed that many Algerian Arabic words that are borrowed from French undergo phonological restructuring, such the voicing of the bilabial stop /p/ into /b/. It can be argued that the verb in Chaoui is a loanword from French, but, again, the evidence is unsatisfactory, and it is only based on the researcher's guess. Finally, the word /matta:/ has a Standard Arabic equivalence /ma:ða:/ "what" and has a crosslinguistic homophone meaning "when". However, the resemblance can be coincidental, particularly knowing that other question words (when, where, which and why) are not influence by borrowing. The data available along with the linguistic knowledge at the researcher's disposal do not warrant any conclusive outcomes, and the words are, thus, determined as being non-loanword pending further investigations.

Having alluded to the cases of indeterminacy, the analysis of the list shows that 23 items, including the three items discussed above, have retained their Berber form. This means that 40.3% of the words are non-loanwords. The non-loan words include verbs, nouns, function words and one adjective as shown in the following table:

Table 4.27. Non-loanword Cognition Items

Verb	/ʔi:jtəttu/ /jsənn/ /jəssəmʒa:r/	to forget to know to imitate
Noun	/ʔaqədda:ʃ/ /tɣa:wsa/ /ʔabri:ð/	pupil need manner
Adjectives	/ɣi:r/	certain
Function Words	/ʔəð/ /mɑ:/ /nni:ɣ/	and if or

The analysis shows that word that are represented exclusively in Arabic loanword form constitute 47.3% of the entire list. This means that 27 items have lost their Berber proto-form and are replaced by Arabic loanwords. The verbs, inter alia, /jətxammam/ "to think", /jəfham/ "to understand", /jəʕalla:m/ "to learn" and /ʔi:qərrɑ:/ "to study" are loand words of the respective Arabic verbs: /jəxammɑm/,

/jətʕallam/, /jəfham/ and /jəqrrɑ:/. Moreover, the nouns: /ləfkərə/ "idea", /lħi:kməθ/ "wisdom", /ʔi:muʕalləm/ "teacher" and /ʔəssərr/ "secret" have the following Arabic equivalents /fɪkra/, /ħɪkma/ "wisdom", /muʕɪllɪm/ "teacher" and /sɪrr/. With regard to the adjectives, the following words: /jəshəl/ "easy", /jəwʕɒr/ "difficult" and /jəqleq/ "mad" are borrowed after the Arabic words /sahl/, /wa:ʕər/ and /qalɪq/. Finally, a number of function words have an Arabic form. For example, the words /çəm/ or /gədda:h/ "how much/how many", /ʔi:h/ "yes" and /ʕla xa:ʈər/ "because" have the exact form and meaning in Algerian Arabic. It is worthwhile mentioning that the distinction "how much/how many" is non-existent in Chaoui as the grammar does not distinguish countable and uncountable nouns. The word /çəm/ has the Standard Arabic form /kam/, but it is not used in Algerian dialects. Instead, the words /gədda:h/, /gədda:ʃ/ and /ʃħa:l/ are used with a number of socio-phonetic considerations that govern the variation of these variants.

The French influence is very minimal as only two Chaoui words have completely lost their original form and are replaced by French words. The nouns /ni:mru/ "number" and /ko:ntiti/ "quantity" correspond to the French words "numéraux" and "quantité" respectively. In addition, two Algerian Arabic words are found in Chaoui. /ʔa:bu:ʒa:ði:/ "stupid" and /jəɣu:bbəʃ/ "obsecure". The first word is reported as being a lexicalised proper noun of the French party "Poujadism" whereas the second word is used as a verb when someone's vision is obscured. The word has an equivalent in Standard Arabic /ʔaɣbaʃ/ which means dark or obscure. The word is, therefore, judged as an Arabic loanword whereas the second is considered as a French loanword. This means that 49.1% of the words are of Arabic origins whereas 5.2% are of French. Finally, The word "school" has two possible variants in Chaoui /lku:liʒ/ and /hi:məðˤrəst/ which are loanwords of the French word "college" and the Arabic word /madrasa/. The use of these items is hypothesises to have sociolinguistic implications that will be discussed in the subsequent chapter.

4.3.18 Speech and Language

The semantic field speech and language includes items that describe the different articulatory productions that are produced by humans along with some

musical instruments. The list includes 41 items in nominal and verbal forms. The analysis of the translated list shows that a number of items have retained their Berber origins. In fact, one third of the items (34.1%) are marked with Berber form. Examples of these items include: /ʔinna:s/ "to tell", /hu:ɵlajɵ/ "speech", /ʔi:ssusəm/ "to be silent", /ʔawa:l/ "word" and /ʔuðixasʃ/ "to refuse". The impact of Arabic on items in this semantic field is considerable as more than half of the words (53.6%) have Arabic origins. the list of Arabic words along with the proto-forms are illustrated in the following table:

Table 4.28. Arabic Loanwords in Speech and Language

Meaning List	Chaoui	Arabic		Meaning List	Chaoui	Arabic
to sing	/ʔi:tɣanna/	/juɣanni/		to deny	/ʔinçər/	/ʔankar/
to shout	/ʔi:tʕajjɑ:ðˤ/	/jʕajjɑ:t/		to promise	/lu:ʕət/	/waʕad/
to mumble	/ʔi:twətwat/	/jwətwat/		to call (1)	/ʔi:laɣəs/	/jalɣa/
to whistle	/ʔi:tʂəffɑ:r/	/jʂaffar/		to call (2)	/ʔi:səmma/	/jsəmmi/
to shriek	/jətʕajjɑ:ðˤ/	/jʕajjat�̩/		to threaten	/ʔithədda:d/	/jhəddəd/
to stutter	/ʔi:sʕu:ggi:n/	/jetʕaggan/		to boast	/ʔi:tfu:x/	/jfu:x/
Name	/ʔism/	/ʔism/		to write	/ʔiçttəb/	/jaktub/
to admit	/ʔiqi:rrəd/	/ʔiqərr/		to read	/ʔiqərrʌ/	/jaqraʔ/
Drum	/ʔabəndi:r/	/bəndi:r/		Paper	/tawərqi:ɵ/	/waraqa/
Horn	/ta:qʂəbt/	/qaʂba/		Flute	/taʒuwwa:qt/	/ʒu:q /
to ask	/jəssəqsa:j/	/jseqsi/				

The table above highlights the words that are evaluated as being of Arabic origins. What is noteworthy here is that the use of the term Arabic encompasses standard Arabic and Algerian Arabic words that are not borrowed from other languages. Although such use may go against the grain of what most scholarly documents include, the explanatory economy at this juncture does not call for the typological distinction between standard and non-standard Arabic words that have a shared structure. Many Arabic words seem to have no phonological resemblance to their Standard Arabic counterpart, but the closer examination shows that the word is used with slightly different phonological reduction. For example, the word /jseqsi/ "ask" is /jasʔal/ in Standard Arabic which gives the impression that the word is not

from Arabic orgins. However, the word can be argued to be a syncopic version of the word /jastaqsˤi/ "investigate" from Standard Arabic.

The French influence is very minimal in this semantic field. The words "pencil" and "pen" in Chaoui is referred to as /ləkriju/ or /sstilu/ respectively which are borrowed from the French words "crayon" and "stylo". In addition, one word in the list is expressed in onomatopoeic form. The word /ʔasqəʃqəʃ/ is a verbal reflection of the rattle sound. Finally, two items in the list are expressed in phrasal rather than lexical form. The words "whisper" and "scold" have the respective phrasal equivalents /jqaraːs ðəg məʒʒi/ and /ʔikraːs səlħa/.

4.3.19 Social and Political Relations

The investigation of language change entails the analysis of social constructs and how they are influenced by linguistic and sociocultural contact situations. The meaning list adopted for the present study includes a semantic field that is dedicated to the social and political terms used in the investigated speech community. However, given the importance of this semantic field to the core of sociolinguistic analysis, the list is considerably under-developed and does not correspond to the centrality of the investigated element. The LWT meaning list includes only 36 items that describe different social roles and political entities in a more global frame of reference. This observation licenses the integration of more lexical items. However, the researcher undertook the responsibility of being limited to the current list so as not to sway the findings more to one conclusion than another.

The analysis of the translated list shows that thirteen items have retained their Berber form. This means that 36% of the items in the list are lexicallised and are not influenced by other languages. Examples of these words include: /ʔuhidʒiːʃ/ "to prevent", /sbaːjər/ "custom", /ʔinuɣaːn/"quarrel", /ʔaniʒʒiːw/ "guest", /ʔilaɣaːd/ "to invite" and /ʔamduːkəl/ "friend". On the other hand, the Arabic influence is more noticeable as eighteen items are marked with Arabic-like form and meaning. This means that 50% of the items in this semantic field are expressed by means of lexically borrowed words. What is noted is that semantic relevance does not necessarily explain borrowing. That is, instances of borrowing are not always accounted for by

discussing the importance of the concept. For example, the concepts of "friend" and "enemy" are arguably of an equal semantic importance to societies in general. However, the word "friend" is not borrowed in Chaoui whereas the word "enemy" is. The following table highlights the instances of Chaoui borrowing from Arabic:

Table 4.29. Arabic Loanwords in the Social and Political Relation Semantic Field

English	Chaoui	Dialectal Arabic	English	Chaoui	Arabic
to meet	/ʔimla:qqa/	/jula:qi/	to help	/ʔitʕawʒ:n/	/ʕawʒ:n/
Host	/ba:b n ðˤi:fə/	/ðˤi:f/	Stranger	/ʔabərra:ni/	/bərra:ni/
neighbour	/lʒa:r/	/ʒa:r/	enemy	/ʔaɣri:m/	/ɣari:m/
to permit	/ʔidʒa:z/	/judʒi:z/	freeman	/ʔaħro:r/	/ħurr/
to obey	/ʔitta:ɣ rra:j/	/juʈi:ʕ/	Servant	/ʔaxði:m/	/xdi:m/
to liberate	/ʔissərħəd/	/jsərəħ/	Citizen	/ʔa:ʃaʕbi/	/ʃaʕbi/
Noble	/ʔi:mra:bðˤən/	/mra:bʈi:n/	Country	/dduwələ/	/dawla/
Clan	/ʕʌrʃ/	/ʕʌrʃ/	Village	/ʔaduwɑ:r/	/duwwɑ:r/
native country	/dduwələ/	/dawla/	walking stick	/taʕukka:zt/	/ʕukka:z/

The table above shows that some borrowed words in Chaoui have retained the phonological form and semantic content of the donor language, viz Arabic, whereas others have changed at either levels. The words /ʒa:r/, /ʕʌrʃ/ and /duwwɑ:r/ have relatively retained their original forms in Standard or Algerian Arabic while the words /ʔidʒa:z/, /ʔimla:qqa/ and /ʔaħro:r/ have be subjected to the phonotactics of Berber. On the other end of the spectrum, words such as /ʔi:mra:bðˤən/ have undergone a considerable semantic restructuring. The Standard Arabic plural word /mura:biʈi:n/ is used to refer to " stationary Islamic combatants " but the term now is used in many Algerians to refer to individuals who are innocent and holy. The meaning is now extended to refer to nobility, but it can be argued that the Algerian Arabic use is preserved inasmuch as nobility in many Muslim communities is not linked to bloodline but rather to spirituality and righteousness.

The French influence is very minimal inasmuch as only one word is judged as being borrowed from Chaoui. The word /ʔafila:ʒ/ is shown in the translation as

corresponding to "town", but it is used by Chaoui speakers to refer to "village". With regard to the phrasal composition, the analysis shows that two items are expressed in terms of phrasal rather than lexical units. The first is /ʔittaːɣ rrɑːj/ which is borrowed from the Algerian expression /jtiːʕ/ja:xud rrɑːj/; this expression is reported in the table above as being an Arabic loanword albeit it is structurally phrasal. This is motivated by the fact that the phrase is an idiomatic expression which literally means "to obey advice". The equivalent in Algerian Arabic is "take advice".

Two final observation to be reported. First, it is noticed that Chaoui, like Standard Arabic and many Algerian dialects, uses morphological rather than lexical strategies to distinguish many items such as "king" and "queen" which correspond to /ʔagəlliːð/ and /tagəlliːðt/ respectively. Second, it is mentioned earlier in the chapter that some items in the list constitute stringent social taboos that cannot be tackled in most social settings. This piece of trivia, along with the researcher's belief that the exclusion of such items would not take away from the reliability of the findings, lead to not making research efforts to obtain translation of such a small portion of lexical items.

4.3.20 Warfare and Hunting

Another very important aspect of the lexical inventory of a given language is the description of acts associated with primitive life. The LWT meaning list includes forty lexical items that describe warfare and hunting. Of these words, thirteen have retained their Berber origins. The words are: /ʔitnuːɣ/ "to fight", /ʔamnaːjən/ "soldier", /ʔagəlziːm/ "battle-axe", /ɬʌʒwɛ̃/ "sling", /ʔiːldi/ "bow", /ɣaniːm/ "spear", /ʔagəstuːr/ "sword", /ʔaməndaːf/ "ambush", /buːjsəlmən/ "fisherman". This means that less than one third of the words, 32.5%, are represented in Berber form. On the other hand, the Arabic influence is more observable as sixteen words, 40%, are influenced by Arabic words as shown in the table below:

Table 4.30. Arabic Loanwords in the Warfare and Hunting Semantic Field

English	Chaoui	Arabic		English	Chaoui	Arabic
peace	/rrʌħmaθ/	/rʌħma/		to defend	/ʔitðafaʕ/	/daːfaʕ/
army	/lʕʌşkar/	/lʕʌskar/		to retreat	/ʔiːwəllaːd/	/wallaː/

weapons	/tiːʕəmdaθiːn/	/ʕumda/		Captive	/ʔaməħbuːs/	/maħbuːs/
fortress	/taqliːʕt/	/qalʕa/		Guard	/ʔaʕəssaːs/	/ʕassaːs/
victory	/ʔaɣlaːb/	/ɣalaba/		Booty	/ṣaːbbəθ/	/ṣaːba/
defeat	/ləxṣaːrəθ/	/xasɑːra/		fishhook	/taṣənnaːrt/	/ṣɪnnaːra/
attack	/ʔaːhʒɜːm/	/huʒuːm/		fishing line	/sbiːb/	/sabiːb/
to hunt	/ʔitṣijaːðˤ/	/jaṣiːd/		Fishnet	/tiːʃbəçə/	/ʃabakθ/
fish Trap	/taqəllaːbt/	/gallaːba/				

The table shows that there is a clear phonological resemblance between the Arabic and Chaoui words. Indeed, the phonological resemblance does not necessarily entail borrowing unless the semantic content is analysed. The word /sbiːb/, for instance, is used in Chaoui to refer to the "fishing line". In Standard Arabic and some Algerian Arabic, the word is used to refer to fine threads or long hairs. The semantic and phonological resemblance is visible which indicates that the word is more likely borrowed from Arabic. This observation, in fact, highlights one of the limitations of this field of inquiry. Determining whether a word is borrowed or not is not always decisive. In many case, it is the researcher's intuitive judgement along with their knowledge of the donor language that warrant sketching the borrowing paradigm. This claim is substantiated by the researcher's use of expressions like "clearly borrowed", "no evidence of borrowing", "perhaps borrowed", "probably borrowed", "very little evidence for borrowing". For instance, Tosco (2009, p. 132) and Bertal (2009, p. 316) uses these expressions in their studies of borrowing in Gwwada and Lower Sorbian respectively.

The French influence in this semantic field can be observed in six instance which means that 15% of the words have been borrowed from French. First, the word /lgirra/ "war or battle" is derived from the French word "guerre" which is pronounced /gɛʁ/ or [gɛr]. The word is used in many Algerian dialects to refer to "war" or, metaphorically, "cold weather". Second, the word /likiːp/ "club" has retained its French phonological form as the word "l'équipe" is pronounced /ekip/. Third, the words /ɫʌfɫɛʃ/ "arrow", /lkɒmbʌ/ "armour" and "helmet" /lkʌʃk/ have the French equivalent "la fleche", "combat" and "casque" respectively. Finally, the word /tgɑːriːt/ "tower" is used in Algerian Arabic as /gaːriːta/ and is derived from the

French word "garrett". Finally, it is found that three lexical items in Chaoui are expressed in phrasal form. The verb "to trap" is expressed by the phrasal equivalent "to set a trap" /ʔitsa:wa ʔamənda:f/ whereas the verb "to surrender" is /ʔi:rfəð ʔifa:ssən nən/.

4.3.21 Law

The semantic field discussing law-related terms in the general scope contains twenty seven items. The analysis of the translated list shows that the Chaoui dialect lacks many of these terms. In fact, only five items have Berber origins: /tʒa:lli:t/ "oath", /ʔaṭa:f/ "rape", /ʔitta:çər/ "to steal", /ʔi:ṭfɑ:ṣ/ "to condemn", /ʔi:dʒu:l/ "to swear". In fact, most of these words are borrowed from Arabic. Nine words have clear Arabic traits as shown in the following table:

Table 4.31. Arabic Loanwords in the Law Semantic Field

English	Chaoui	Arabic
witness	/ʔi:ʃhəð/	/ʃaahɪð/
law	/lqa:nu:n/	/qa:nu:n/
court	/ti:məħkəmt/	/məħkama/
judgment	/lħukm/	/ħukm/
fine	/ləɣrɑ:məɵ/	/ɣarɑ:ma/
murder	/lʒariməɵ/	/ʒari:ma/
perjury	/zo:r/	/zo:r/
thief	/maça:r/	/makka:r/
penalty	/lʕuqu:bə/	/ʕuqu:ba/

The table above shows that the words in Chaoui are almost identical in form and meaning to the Arabic ones. The words can be categorised into three categories; the first is lexical items that have retained their Arabic morphological and phonological structures /lħukm/, /zo:r/ and /lqa:nu:n/; the second includes words that have undergone morphological and phonological integration: /ʔi:ʃhəð/, /ləɣrɑ:məɵ/, /lʒariməɵ/, /ti:məħkəmt/, /lʕuqu:bə/ whereas the third /maça:r/ includes one item which has retained its phonological form but lost its meaning. The word /makka:r/ in Arabic means deceiver which may involve a meaning of theft. The meaning in Chaoui is used to mean "steal" which is one of the connotations of the borrowed word.

The French influence can be observed in a number of words. The words /ʒuːʒ/ "judge" is equivalent to the French word "juge". Moreover, the word /tasiːluːnt/ "cell" is borrowed from Algerian Arabic /siːluːn/ which is, in turn, borrowed from the French word "cellule". Finally, the word /ʔiːfra/ "adjudicate" is used in Algerian Arabic /jefrɪ/ with multiple meanings including "to make a deal" the word is borrowed from the French word "affaire" and is used as a verb.

The meaning items are not all lexicalised in Chaoui. In fact, seven of the twenty seven items are expressed in phrasal rather than lexical form. The following table highlights the phrasal items in the Law semantic field:

Table 4.32. Phrasal Law Items

English	Chaoui
Plaintiff	/ʔiːrfəð fəllaːs/
To accuse	/jəttuːʕaː ða:gəs/
To convict	/ʔiːtˤtˤəf fəllaːs/
Guilty	/nta tiːsawaːn/
Innocent	/ʃaːla ʔiːsawaːɵ/
Arson	/hətwaːsərɣ bəlʕaːni/

It has been mentioned earlier in the chapter than phrasal compositions are used to fill lexical gaps in the variety. However, this strategy is used when the concept has some relevance in the society. When the concept is irrelevant to the speakers, the gap is not conceived and, hence, not filled. The word "acquit" does not have a direct equivalent in the Chaoui dialect despite being closely relevant to most modern life individuals. One of the reasons for this lexical gap is that the concept is expressed in a sentential form "to be found innocent in the same fashion that is used with the adjective "innocent" illustrated in the table above.

4.3.22 Religion and Belief

Religion is an integral part in the cultural aspect of societies. The list includes twenty six items that describe the religious profile of society. What is noted, however, is that many terms are not universal inasmuch as they are applicable only to

Abrahamic or monotheistic religions. It is, therefore, recommended that this semantic field be reconsidered so as to warrant more universality of application.

The analysis of the list shows that no items are borrowed from French, not are there any items that are expressed in phrasal rather than lexical units. Moreover, the analysis shows that the items "altar", "temple" and "church" have no equivalents in Choaui. If needs be, the final two terms are expressed in Arabic /maʕbad/ and /kani:sa/ while the first is not even conceivable to the speakers. As expected, the influence of Arabic is very salient in that nineteen out of twenty three lexicalised items are borrowed from it. This means that 82.6% of the words in this semantic field are the outcome of borrowing. Such findings are not surprising given that Chaoui speakers' religious profile is Islamic, which is expressed in Arabic terms. In fact, many studies report high borrowing percentages in this semantic field as illustrated in the following table:

Table 4.33. Religion and Belief Loanword Percentages in World Languages

Language	Percentage of loanwords	Author
Swahili	55.7%	Schadeberg
Bezhta	88.6%	Comrie and Khalilov
Gawwada	78.9%	Tosco
Hausa	46.6%	Awagana and Wolff, with Löhr
Kanuri	68.18%	Löhr and Wolff, with Awagana
Tarifiyt	96.1%	Kossmann
Romanian	59.1%	Schulte
Selice Romani	63.5%	Elšík
Lower Sorbian	52.1%	Bartels
Dutch	40.7%	Van der Sijs
Japanese	65.8%	Schmidt
Mandarin Chinese	7.3%	Wiebusch and Tadmor

As shown in the table above, many languages in the world borrow lexical gaps in the semantic field of religion from other languages (culture-specific). This is conceivable knowing that religion-terminology is community-specific, and many religious practices are not necessarily known at a universal level. When a given community embrace a religion, it embrace with it the linguistic side within which this religion is embedded.

The influence of Arabic can also be observed in the word "sacrifice" which has three possible equivalents /taɣərrɑːst/ as a non-loandword and /nnəʃrəə/ or /ðbiːħa/ as Arabic loanwords. Moreover, the word "fairy or elf" translates to the Chaoui words /fiħuʒaːj/ which is not a loanword and /ʔaʕəfriːθ/ which is an Arabic loanword. The word /ʔazɣuːɣ/ "ghost" is used in many Algerian Arabic dialect, but the source is not clear. It is noted that a mountain in the city of Annaba is called Mount Zghough. Finally, the word "idol", meaning a worshiped statue, has a non-loanword equivalent /ʔɑːzroː/. These findings further highlight the influence of Arabic on this semantic field as more than 91.3% of the items have Arabic equivalents either in an exclusive fashion 82.6% or along with a non-loanword variant 8.7%.

4.3.23 Modern World

The advent of new technologies requires language to devise new ways to accommodate to the emerging needs of its speakers. New technologies that appear in the global scope are nowadays readily transferrable to the entire world. Along with these inventions comes a need for lexical representation. Language speakers, here, look for equivalents in their mother tongue. Otherwise, they would either restructure the semantics of an old lexical item and expand its content or borrow the term from another language. An example of the former can be found with the word /sajjaːra/ in Arabic which originally meant "caravan" and now is used to refer to "car". It is, thus, conceivable that the semantic field that is most dense with borrowed items would be modern world. In fact, this is substantiated by empirical evidence inasmuch as numerous studies contrasting loanwords across different semantic fields show that modern world semantic field is inherently more susceptible to linguistic borrowing. The following table summarises the findings obtained from a review of a number of studies:

Table 4.34. Modern World Loanword Percentages in World Languages

Language	Loanword Percentage	Author
Swahili	**73.6%**	Thilo C. Schadeberg
Iraqw	**94.3%**	Mous and Qorro
Gawwada	**67%**	Tosco
Hausa	**64.5%**	Awagana and Wolff, with Löhr

Kanuri	**63.9%**	Awagana and Wolff, with Awagana
Tarifiyt	**93.1%**	Kossmann
Romanian	**70.5%**	Schulte
Selice Romani	**92.3%**	Elšík
Lower Sorbian	**65%**	Bartels
Dutch	**58.6%**	van der Sijs
Oroqen	**69.4%**	Li and Whaley
Japanese	**61.8%**	Schmidt
Mandarin Chinese	**5.1%**	Wiebusch and Tadmor

Table 4.34. Continued

Vietnamese	**61.7%**	Suthiwan and Tadmor
Ceq Wong	**73.3%**	Alves
Indonesian	**66.4%**	Tadmor
Takia	**98.2%**	Ross
Gurindji	**70.6%**	McConvell
Yaqui	**83.8%**	Fernández

The table above shows that in the reviewed study amount to the same conclusion which is that modern world semantic field is more influenced by borrowing than any other field. In the context of the present study, the modern world semantic field include 57 items of which two have Berber forms /ʔabriːð/ "street" and /ɵisəgniːɵ/ "injection". The remaining 56 words are influenced by Arabic and French. This means that 96.4% of the lexical items in this category have been borrowed from French and Arabic. These findings are not surprising given that many languages in the world approximate 99% borrowing in this semantic field

The analysis of the translated list shows that 33 words in Chaoui are expressed using French loanwords. This means that more than half of the items (57.8%) are borrowed from French. The borrowed words vary with regard to whether or not the original form is retained. For example, the words /rrɑːdjɒ/ "radio", /tilifuːn/ "telephone", /viːlu/ "bicycle" and /tɜːlivizjɒŋ/ "television" have relatively retained their French phonological forms whereas words such as /jəfriːna/ "to brake", /ɵafərmliːɵ/ "nurse" and /sbiṭaːr/ "hospital". Another word that has been subject to phonological and morphological changes is /nnəqməɵ/ or /nnəqwəɵ/ which refers to "birth certificate". The word is used in many Algerian dialects, and it is believed to have come from the French phrase "nom quoi" meaning "the name is what" which has been used by the French governments issuing Algerian birth certificate during the period of colonisation.

On the other hand, the Arabic influence can be observed in eightteen words (31.57%). These words can be exemplified with: /ðaṭəjɑːrə/ "trade", /nwɑːðˤər/ "glasses", /lħukuːmə/ "government", /rrʌʔiːs/ "president", /lwaziːr/ "minister" and /lʔintixabaːə/ "elections". What is observed is that these words do not represent new inventions or new concepts. Therefore, it can be argued that the choice of the donor language, French or Arabic, is dependent on the novelty of the concepts/invention. Another line of argumentation can be offered. It is observed that Algerian Arabic speakers use the terms in a similar fashion to Chaoui. Therefore, it can be argued that Chaoui borrows from Algerian Arabic rather than French, and the words that are already borrowed by Algerian Arabic from French are, in turn, transferred to Chaoui. This means that the Chaoui borrowing of French words is second-hand. In fact, secondhand borrowing can be observed in the word /gɑːrruː/ "Cigarette". The word is borrowed from Algerian Arabic which, in turn, borrowed it from the Spanish word "cigarro".

The findings of the translation also reveal that some words are expressed in terms of two variants from two donor languages. This category includes three words. The firs is "pill" which translates to /əaħəbbuːə/ and /əabłɑːkə/; it can be observed that the first variant is borrowed from the Arabic word /ħabba/ whereas the second is from the French word /plak/ "plaque". The second word is "number", which has two variants /nnimiːrɒ/ and /rraqm/; the first is from the French word "numéro" whereas the second is from the Arabic word /raqam/. Finally, the word "stamp" is borrowed either from French, /ttaːmbər/, or Arabic, /ṭṭɑːbəʕ/, without noticeable changes to the original form from the donor language.

4.3.24 Miscellaneous Function Words

The LWT meaning list include a category that is composed only of functional items. The list consists of fourteen items including prepositions, adverbials and pronominals. What is noted here is that this semantic field is underdeveloped and requires more elaboration to warrant more generalisable findings and a more exhaustive account. However, as reported earlier in the chapter, the researcher in the

present study limited the analysis to the pre-established list so as to avoid bias in collecting data.

The analysis of the translated list shows that French has no influence whatsoever on the use of function words in Chaoui. The borrowing of function words from Arabic can be observed in two instances: /ʔaði:wəlla/ "to become" and /bla:/ "without". The word /ʔaði:wəlla/ is arguably a morphologically integrated version of the Arabic word /walla/ which literally means "turn". The word is used in Algerian Arabic to mean "come back" and "become". The second word /bla:/ is used in algerian Arabic to mean "without" and has a non-syncopic pronunciation in Standard Arabic /bɪla:/. Moreover, two words, /ki:fki:f/ "the same" and /wa:lu/ "nothing", are used in Algerian Arabic and Chaoui similarly, but the source of the lexical items is not clear. Finally, the remaining ten items have retained their Berber form as shown in the following table:

Table 4.35. Non-loanword Function Words

English	to be	with	through	Not	this	that	here	there	other	next
Chaoui	/jəlla/	/ʔi:ð/	/ss/	/mu:ħ/	/weɪ/	/wi:n/	/ða:/	/ðu:rən/	/wi:n/	/zza:ɵ/

The findings displayed in the table above highlight a very important point pertinent to the methodological complications associated with the philological analysis of language and crosslinguistic typology. Genealogical relations between languages and instances of borrowing are determined on the basis of lexical relation that are consequential to the detection of phonological resemblance. However, similarity in phonetic form can lead researchers to make subjective judgements about how items in the analysed language relate to the prospective donor language. This means that researchers can go to great lengths to prove borrowing. For example, the word /wi:n/ in Chaoui has a crosslinguistically homophonous word in Algerian Arabic which means "where". Researchers can argue that the Chaoui word is borrowed from Arabic on the basis that both are function words and can generate examples where the meanings intersect. However, in reality confirming the instance of borrowing is the outcome of the researcher's intuitive judgement rather than structured inference. It is, therefore, of a great essence to acknowledge that many of

the conclusions made in the present study require meta-analyses by other formalists so as to give the research more psychometric acceptability. It is noted, however, that the researcher exhausted all possibilities to approach the task with maximum fidelity by consulting with Chaoui linguists and fellow researchers.

4.4   Conclusion

The discussion of lexical language change is, by and large, a discussion of lexical borrowing which often causes forms and functions of language to be restructured. This chapter introduces the findings obtained from the translation of 1500 words across 24 semantic fields. The findings in this chapter show that a significant portion of the lexical items in the present list have acquired phonological form from French and Arabic, with Arabic being the dominant donor language. The chapter also shows that the extent to which items are prone to change is dependable on both the semantic field and the lexical category of the word. Semantic fields that are related to modern life and technology are inherently susceptible to change. Loanwords are found to be more prevalent across nominal lexical categories than across the verbal.

Chapter Five

CHAPTER FIVE

Language Proficiency, Language Use, Attitude and Language Change

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5.7 Conclusion

5.1 Introduction

The formal semantic analysis of the translated lists in the previous chapter gives direct insight into the linguistic interplay at the lexical level in contact situation. The analysis showed that French and Arabic provide lexical materials as donor languages for the Chaoui dialect, with Arabic being the main donor language. However, the analysis of lexical items in isolation does not warrant the accurate depiction of the linguistic behaviour of speakers from different social backgrounds, nor does it inform about the factors that shape the sociolinguistic profile of the speech community under investigation.

Given the functional scope of the present study in particular and sociolinguistic analyses in general, the formal analysis provided in the previous chapter needs to be supplemented with an investigation of how the different linguistic forms are used in different social configurations. It is, therefore, of substantial expediency to examine how language is used by Chaoui speakers and what factors underpin such use. In order to achieve that, the present study makes use of a questionnaire that elicits data about the speakers' social background, attitudes, ethnic orientation, social networks and linguistic identity. In addition, the study prompts linguistic behaviour among the sample with the use of a sociolinguistic interview. The present chapter offers a discussion of the main findings obtained from the analysis of the questionnaire and tests the data collected from the interview against the questionnaire findings in quest to screen for correlational patterns.

5.2 Language Proficiency

Language proficiency is used in the present study as a metric that gives insight into multilingualism in the Chaoui community. It is commonly recognised that multilingual speakers have a central role in the shaping of the linguistic behaviour of their speech community. In fact, Braunmuller et al. (2014, pp. 15-16) make clear that contact-induced language change has "the multilingual speaker as the locus of contact" with "the individual speaker as the ultimate starting point for language variation and change". One of the major limitations of this metric is that it is assessed

via individual speakers self-report. While informants' judgment about their proficiency is not accurately representative of the actual state of affairs, the present study entertains the prospect of this metric being indicative of how comfortable an individual is with the use of a given language.

Linguistic proficiency as a variable of analysis encompasses the informants' self-report with regard to Standard Arabic, Algerian Arabic, Chaoui, Kabyle —or other varieties of Berber— and French. The choice of these linguistic varieties is motivated by a number of reasons. First, Standard and Algerian Arabic varieties are found in the formal analysis of the translated lists as predominant languages of influence. It is, therefore, expected that the mastery of these languages may have an influence on the speakers' linguistic behaviour. Second, it is noticed from the initial observation and pilot interviews with Chaoui speakers, prior to conducting the study, that not all individuals are equally competent in the Chaoui dialect, nor are they all native speakers thereof. It is, thus, justifiable to assume that social subgroups can demonstrate different linguistic behaviours with reference to their mastery of the Chaoui dialect. Third, a segment of the analysis in the previous chapter relied on a review of literature and showed that there can be some discrepancies between Chaoui, Mzabi and Kabyle with regard to the patterns with which formal features are changed/stable. That is, one lexical feature that is judged as changed in Chaoui can be found as non-changed in Kabyle or Mzabi. It is, therefore, necessary to examine whether speakers of Chaoui have the capacity to fill lexical gaps with forms from other varieties of Berber in lieu of resorting to Arabic/French loanwords. Finally, the integration of French in the metric of proficiency is motivated by the researcher's observation, in multiple speech communities, that while a term can be found in the lexical inventory of a given variety as non-changed, the actual linguistic behaviour of speakers can be quite distinct. It is, therefore, possible that terms from French can be used despite having a non-changed equivalent in Chaoui.

5.2.1 Participants' Mother Tongue

Prior to the investigation of linguistic competence in the aforementioned varieties, the researcher elected to offer an exhaustive account of the participants'

mother tongues with reference to the social variables of gender, age, education and residence. In view of that, the analysis of the data obtained from the questionnaire shows that 46 participants (15.9%) reported Algerian Arabic as their native tongues whereas 101 (34.8%) reported Chaoui as their native tongue. Interestingly, the greater share of the participants, 143 (49.3%), reported both Algerian Arabic and Chaoui as their mother tongue. It should be noted that although the options French and Other are provided in the questionnaire, none of the participants reported them as native tongue.

Table 5.36. Social Groups' Mother Tongues

	Chaoui	**Algerian Arabic**	**Both**		**Chaoui**	**Algerian Arabic**	**Both**
Males	42	14	81	**Young**	13	37	62
Females	59	32	62	**Middle-Aged**	36	09	60
Uneducated	40	00	00	**Old**	52	00	21
Prim./Mid.	44	00	15	**Urban**	25	38	95
Secondary	14	15	66	**Semi.**	38	08	45
Tertiary	03	31	62	**Rural**	38	00	03

The table above shows that the number of participants who reported Chaoui as their mother tongue is proportionate across the two genders as 30.6% of the males and 38.5% of the females reported it as their sole mother tongue. The difference, however, is mainly observable in Algerian Arabic as only 10.2% of the males and 20.9% of the females reported it as their mother tongue. This means that females, irrespective of their age, education and residence, are overall more affiliated with Algerian Arabic as their mother tongue. Moreover, it is noticed that the males, despite being fewer in number with regard to Chaoui as a native tongue, demonstrate a higher percentage than females with reference to having two native tongues (59.1% of the males and 40.5% of the females). The sum of these findings show that 89.7% of the male and 79% of the female participants are native speakers of Chaoui. These findings show that not all members of the Chaoui community are native speakers of the Chaoui dialect despite being reportedly all of Chaoui descent.

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The mother tongue is subsequently analysed against the variable of age to screen for any patterns. The analysis shows that the variable of age has a more explanatory capacity of the mother tongue distribution. The table above shows that the choice of Chaoui as the sole mother tongue is more observed among older participants as 11.6% of the young and 34.2% of the middle-aged and 71.2% of the old participants reported having one mother tongue which is Chaoui. Moreover, the table above shows that none of the old participants speak Algerian Arabic as their only mother tongue whereas 8.5% of the middle-aged and 33% of the young participants speak Algerian Arabic as their only mother tongue and are, hence, not native speakers of Chaoui. Finally, having the two varieties as a mother tongue is not very common among older participants as 28.7% of them reported having Algerian Arabic and Chaoui as mother tongues. On the other hand, middle-aged and young participants are almost equal in this metric (57.1% and 55.3% respectively). The sum of these findings read as follows: *one third of the young participants are not even native speakers of the Chaoui dialect whereas all older participants are; middle-aged participants are predominantly native speakers of both varieties*.

The variable of education is analysed against the metric "mother tongue" to help draw a more exhaustive account of the linguistic profile of the Chaoui community. The analysis of the data obtained from the questionnaire show that there seems to be an inverse correlation between the choice of Chaoui as the mother tongue and the educational level. That is, less educated individuals are more likely to have Chaoui as the only mother tongue. This is conceivable knowing that education plays a vital role in familiarising individuals with other varieties such as Algerian Arabic. Moreover, these findings are understandable knowing that education is associated with other variables such as social network, mobility and socioeconomic status which are also contributing factors in the shaping of individuals' linguistic identity.

Table 5.36 also shows that all of the uneducated and three quarters of the participants with primary/middle education (74.5%) participants reported Chaoui as their only mother tongue. On the other hand, a small portion of the participants with secondary or tertiary education reported similar answers (14.7% and 03.1%

respectively). Furthermore, Algerian Arabic is reported by none of the uneducated participants or those with primary/middle education as the sole mother tongue. This means that all of the uneducated participants in the selected sample speak Chaoui as their mother tongue. Conversely, almost one third of the participants with tertiary education (32.3%) do not speak Chaoui as a mother tongue and, instead, have Algerian Arabic as their mother tongue. It is noted from the findings above that education is strongly correlated with the participants linguistic profile as more educated participants have two languages as their mother tongue. For yet to be investigated reasons, participants with secondary education reported a higher percentage than those with tertiary education with regard to having two mother tongues; the discrepancy is, however, subtle and does not provide statistical significance at this juncture of the study.

The final variable that helps account for the mother tongue metric is that of residence. It is noted above that education has a significant explanatory capacity of the mother tongue metric. It is also reported in chapter three that educated participants are found more in urban centres. It is, therefore, expected that the residence variable play a vital role in this metric.

The table 5.36 above also shows that the participants from the rural areas reported Chaoui as their sole mother tongue (92.7%) where none of them speak Algerian Arabic as their sole mother tongue. This means that all participants from the rural areas speak Chaoui as a mother tongue with 7.3% of them having Algerian Arabic as a second mother tongue. The urban areas, however, reported different findings as the majority of the participants within this group (60.1%) reported having both Chaoui and Algerian Arabic as their mother tongue. Moreover, it is reported that almost one quarter of the urban participants (24%) do not speak Chaoui as a mother tongue. Most of the semi-urban participants speak Chaoui as a mother tongue as 41.7% of them speak it as their only mother tongue, and 49.4% of them speak it with Algerian Arabic as two mother tongues. The remaining 08.8%, however, are not native speakers of Chaoui.

The findings obtained from the tables above can be overlapped to provide a more exhaustive account of this metric. The cross-tabulation of the findings above shows that Algerian Arabic as a sole mother tongue is more prevalent among young urban educated individuals as eight out of eighteen young male urban and eleven out of seventeen young female urban participants with tertiary education do not speak Chaoui as a mother tongue, which correspond to 44% of the males and 64.7% of the females within these strata. Moreover, the male-female discrepancy is more prominent among middle-aged participants. The cross-tabulation shows that 41.6% of the middle-aged female participants from the urban area with tertiary education have Algerian Arabic as their sole mother tongue as opposed to their male counterparts who reported no cases whatsoever. The percentages are also significant among semi-urban individuals with tertiary education as young males and middle-aged females are equally reported as not having Chaoui as their mother tongue with a percentage of 25% whereas young females are at a percentage of 30%. These findings can be summarised as follows: *not all members of the Chaoui community have Chaoui as their mother tongue. Almost 16% of the participants have Algerian Arabic as their only mother tongue. The urban young educated members, irrespective of their gender, and urban middle-aged educated females represent the social groups most reflective of these conclusions.*

On the other end of the spectrum, having Chaoui as the only mother tongue is reported by more than one third of the participants. The cross-tabulation of the findings allows to explore what social subgroups contribute to this percentage. The analysis shows that a number of social subgroups reported a percentage of 100% with regard to having Chaoui as their only mother tongue.

In order to have more insight into the linguistic profile of the participants with reference to the social variables in overlap, a Pearson Correlation Coefficient is calculated. Prior to the calculation, the variables which are inherently categorical are transformed into numerical continuous variables where the configurations within each variable are indexed as follows: gender (male = 01, female = 02), education (uneducated = 01, primary/middle = 02, secondary = 03, tertiary = 04), age (young =

01, middle-aged = 02, old = 03), geographical background (urban = 01, semi-urban = 02, rural = 03) and mother tongue (Chaoui = 02, Chaoui and Algerian Arabic = 04). The correlation analysis gives the following values:

Table 5.37. Social Correlates of the Mother Tongue Metric

		Gender	Age	Education	Geographical Background
Mother Tongue	**Pearson Correlation**	-,148*	-,426**	,726**	-,510**
	Sig. (2-tailed)	,020	,000	,000	,000
	N	244	244	244	244

The table above shows that the four variables show statistically significant level of correlation with the mother tongue metric. The variable of gender is inversely correlated with the mother tongue which means that the females, which are indexed higher, are more likely to have Chaoui as the only mother tongue, which is indexed lower. Moreover, the age variable is also inversely correlated with mother tongue, which implies that young generation are more likely to have both Chaoui and Algerian arabic as their mother tongues. The geographical background is also inversely correlated with the mother tongue which means that more rural areas, which are the highest in index, are more likely to have Chaoui alone as mother tongue. Finally, the table shows that there is a highly significant level of positive correlation between education and the likelihood of having both Algerian Arabic and Chaoui as mother tongues. The comparison of the values shows that education is the most determining factor by means of having the highest absolute coefficient value, followed by geographical background, age and finally gender. These findings amount to the conclusion that highly educated, male, urban young participants are the leading subgroup with regard to having both Algerian Arabic and Chaoui as mother tongues.

5.2.2 Participants' Parents' Mother Tongues

The examination of the linguistic profile extends beyond the immediate context of the participants. The present study seeks to offer a more elaborate discussion by providing an account of the participants' parents' mother tongues. Although this does not necessarily feed directly into explaining the linguistic behaviour of each individual, the integration of this metric has two practical

advantages. First, by describing the participants' parents' mother tongues, the researcher has the ability to compensate for the lack of middle-aged and old participants as the young participants' parents are either middle-aged or old. Second, by collecting data from the old participants, the researcher manages to have an idea about the linguistic profile of the fourth generation and sketch a picture for language change in apparent time settings.

The analysis shows that most of the participants' parents are native speakers of Chaoui only. The table below shows that around three quarters of the fathers and mothers (76.6% and 74.1% respectively) have only Chaoui as a mother tongue. These findings can be contrasted to the ones obtained directly from the participants to show that only one third of the participants reported similar answers. These findings are conceivable knowing that the participants' parents belong to the older generation; age has been shown as being strongly correlated with such answers.

Table 5.38. Parents' Mother Tongue

	Mother's Language		Father's Language	
	Frequency	Percentage	Frequency	Percentage
Algerian Arabic	17	5.9%	2	0.7%
Chaoui	222	76.6%	215	74.1%
Chaoui and Algerian Arabic	37	12.8%	73	25.2%
Other	14	4.8%	00	00%

The table above also shows that almost none of the participants's fathers have Algerian Arabic as their only mother tongue whereas less than 6% of their mothers do. These values are very minimal to the participants' scores where 14 males and 32 females reported similar findings. This means that 10.2% of the male participants are native speakers of only Algerian Arabic whereas the males in the second generation are at 0.7%. Likewise, 20.9% of the female participants reported similar answers whereas the females in the second generation add up to a percentage of 5.9%. The greatest level of discrepancies is observed among the fathers' and mothers' having Chaoui and Algerian Arabic as mother tongue. While 12.8% of the females have two mother tongues, almost double the percentage is found among males. In comparison to the participants' scores, these percentages are low as 59.1% of the males and 40.5%

of the females reported similar answers. Finally, it is observed that fourteen female participants reported having other mother tongues, namely Kabyle. *These findings read as follows: younger generations are observed to have Algerian Arabic and Chaoui at higher percentages than the older generation.*

To further illustrate this conclusion, an examination of the same results are conducted among the middle-aged and old participants.

Table 5.39. Cross-generational Analysis of Parents' Mother Tongue

	Mother's Language			Father's Language		
	Young	**Mid.**	**Old**	**Young**	**Mid.**	**Old**
Algerian Arabic	12.5%	2.8%	00%	17.8%	00%	00%
Chaoui	49.1%	89.5%	100%	42%	90.5%	100%
Both	28.5%	4.7%	00%	56.2%	9.5%	00%
Other	9.8%	2.8%	00%	00%	00%	00%

The table above further illustrates the cross-generational differences with regard to the linguistic identity. It is observed that all of the old participants' parents– the fourth generation of Chaoui members– irrespective of their gender, are native speakers of only Chaoui. The young participants' parents, which are likely middle-aged, speak both Algerian Arabic and Chaoui to a considerable extent. These findings demonstrate the direction of change with regard to linguistic identity: the younger participants are more likely to have either Algerian Arabic or both Algerian Arabic and Chaoui as mother tongue.

5.2.3 Participants' Linguistic Proficiency

After determining the mother tongue of the participants and their parents, the present study sheds light on the participants' self-reported linguistic proficiency in the languages that have the prospect of making up the linguistic profile of the Chaoui community. One of the main limitations at this juncture is that self-reported findings are not highly reliable as participants' judgement of how proficient they are in a given language may be inaccurate. Other reason is that participants can voluntarily misreport their competence for a variety of reasons. The second reason, however, is dismissed as this may discredit social surveys as a data collection technique knowing

that any given survey can be misreported by the participants. The first reason is overcome by drawing more heavily on the patterns across the participants' subgroups, assuming that if all prospective variables are accounted for, the subgroups are congruent.

The analysis of the data obtained with regard to the participants' proficiency in Chaoui shows some interesting findings. First, the different levels of proficiency are indexed as follows: none = 0, weak = 01, average = 02, good = 03 and excellent = 04. By so doing, the proficiency is given both a continuous and categorical configuration. The continuous configuration denotes that the levels of proficiency are given in terms of numerical values, which allows that qualitative analyses of means and standard deviations across the various groups. On the other hand, the categorical configuration allows for the description of frequencies and the rounding of means so as to be explained in terms of the aforementioned levels of proficiency.

The descriptive statistics highlights a number of considerable findings. First, it is noticed that the lowest value obtained is 01, which corresponds to the level "weak". This means that none of the participants reported a complete lack of proficiency in the Chaoui dialect. Second, the mean value obtained is **$\mu = 3.78$**, which means that a number of participants reported a level of proficiency that is lower than "excellent". Overall, the mean value is closer to the value corresponding to "excellent" which denotes that the participants have a very high level of proficiency. The standard deviation values indicate the extent to which the participants' answers differ from the mean value. That is, higher values are indicative of high level of variance across the participants. The table above illustrates a standard deviation value of $\sigma = 0.584$, which is relatively low. This means that generally, the participants' answers are generally clustered around the mean value.

Table 5.40. Descriptive Statistics of Chaoui Proficiency

	Weak	Average	Good	Excellent	Total
Frequency	02	18	23	247	290
Percentage	0.7%	6.2%	7.9%	85.2%	100%

The mean values help explain the proficiency of the group as a whole but does not allow to examine what individual participants reported. To overcome this limitation, the table above illustrates the frequency and percentage of each proficiency level. The analysis shows that the majority of the participants reported an excellent mastery of Chaoui. A cumulative percentage of 6.9% reported levels of proficiency that are average or weak. The examination of individual questionnaires shows that the two participants who reported a weak knowledge of Chaoui are both Algerian Arabic native speaking young females with tertiary education; one is urban and the other is semi-urban. Interestingly, the mother tongue of the urban participants' mother is Chaoui and father is Chaoui and Algerian Arabic. The urban participants' mother is, however, not a native speaker of Chaoui. These instance, however rare, illustrate the fact that there can be cases where the parents do not transfer their knowledge to their offspring.

With regard to the participants who reported average proficiency in Chaoui, the analysis shows that three young urban male participants with tertiary education. What is interesting is that the males' fathers are all native speakers of Chaoui and Algerian Arabic whereas one of the participants' mothers is a native speaker of Chaoui only, another of Algerian Arabic only and the third of both. What is noteworthy is that two middle-aged urban female participants reported having an average level of proficiency in Chaoui. Both of the participants are native speakers of Algerian Arabic only and are with tertiary educational level. Interestingly, the two participants' parents are native speakers of only Chaoui. This means that the parents who are not native speakers of Algerian Arabic, still, used it with their children, particularly in urban centres. Finally, thirteen young females reported having an average level in Chaoui. These females can be categorised as follows:

➢ Five urban with secondary and one with tertiary education whose both parents have Chaoui as the only mother tongue

➢ Three urban with tertiary education whose mothers are native speakers of Chaoui only and fathers of Chaoui and Algerian Arabic

➢ One semi-urban with secondary and one with tertiary education whose mothers are native speakers of Chaoui and Algerian Arabic and fathers of Chaoui only

> ➢ One urban with tertiary education whose parents are native speakers of both Algerian Arabic and Chaoui

> ➢ One urban with tertiary education whose father is a native speaker of both Algerian Arabic and Chaoui and mother of Kabyle

These findings show that a number of participants' parents are native speakers of Chaoui only. However, they have Algerian Arabic as their only mother tongue, which means that not all parents in urban cities transfer their mother tongues to their offspring. Instead, they use Algerian Arabic with them as a language that is used in many daily life settings.

The second variety that is subject to the analysis of proficiency is French. It should be noted that there seems to be a consensus that French is part of the Algerian linguistic profile, and it is strongly linked with other social variables such as gender, education, economic status, prestige and geographical background. The fact that it is cited as being related to status, education and prestige further accentuates the self-reporting data collection method as members of the sample can misreport their proficiency such that they meet the socially set expectations of linguistic proficiency in French. However, it should be noted that the main focus of the present study is not linguistic proficiency itself. Rather, it is used as a metric that helps account for other sociolinguistic phenomena. Moreover, even if the metric is misreported, by so doing, the participants communicate an aspect of attitude towards a linguistic system. Attitude towards a linguistic variety is, arguably, more central to the issue of language variation and change than the proficiency in that variety.

With this complication cleared out, the present study analyses proficiency with respect to the mean values as reported by the participants. The findings are illustrated in the following table:

Table 5.41. Descriptive Statistics of French Proficiency

	N	Min.	Max.	Mean	Std. Dev.
French Proficiency	290	0	4	2.07	1.618

The table above demonstrates the mean value of the participants' proficiency in French where they scored an average of $\mu = 2.07$. The value is very close to the indexation of the level "average = 02", which means that the over-all level of proficiency in French is average. However, it is observed from the table above that the standard deviation value is very high: $\sigma = 1.618$. This means that there is a high level of variance across the participants' groups with regard to their self-reported proficiency. It should be noted that the lowest probable σ value is zero, which translates to all participants having answered the same whereas the highest probable value is four, which means that part of the participants answered "none" and part answered "excellent" with no answers in-between. In the case reported above, the value $\sigma = 1.618$ means that there is almost a two level variance between the participants.

To interpret the standard deviation values, a cross-categorical analysis is required where the mean values of each subgroup are calculated. In addition to that, a detailed statistical description of each proficiency level is conducted; such an analysis shows that the highest frequency values are spread across the two ends of the spectrum. That is, the majority of the participants –a cumulative percentage of 58.6%– either speak French excellently, or they do not speak it at all. This is conceivable given the high standard deviation value.

The analysis of correlation shows that there is no statistically significant level of correlation between French proficiency and gender. This means that male and females, all other things being equal, generally have similar proficiency with females being marginally favoured. Moreover, the Pearson Coefficient shows that there is a statistically very significant level of positive correlation between education and French proficiency. This means that educated individuals, being indexed higher, have higher proficiency in French. It is noticed that the correlation coefficient is $\rho = 0.811$, which is very close to 01. It is noteworthy that the values of this coefficient are expressed in terms of the following formula $-1 \leq \rho \leq +1$, with $\rho = -1$ meaning that there is a perfectly linear level of inverse correlation and $\rho = +1$ meaning that there is a perfectly linear level of positive correlation and $\rho = 0$ meaning that there is no

correlation whatsoever between the variables. Therefore, the coefficient value indicated in the table above can be interpreted as follows: the educational level is almost linearly correlated with the proficiency in French and that an educated individual is almost always more proficient in French than their less educated counterpart, with all other things being equal.

On a similar vein, there is a relatively significant level of inverse correlation between French proficiency and geographical background. Knowing that rural areas are indexed higher than semi-urban and urban, the values implies that urban participants are generally more proficient than the semi-urban who, in turn, are more proficient than their rural counterparts. Finally, the statistical significance of inverse correlation between age and French proficiency is relatively low which means that younger participants are generally more proficient in French than the older. However, it should be noted that these correlation values can be consequential to the fact that the urban young participants are inherently more educated that their older/rural counterparts. This is further substantiated that the two genders are equally educated and that is why gender did not show statistical significance with regard to correlation. In other words, it has been established that the different age groups and different residence groups are not equally educated; it is, thus, understandable that any correlation that is attributed to education will consequentially be reflected in residence and age but not in gender.

The proficiency in other Berber varieties is also integrated in the present study so as to account for the possibility of individuals filling lexical gaps in the Chaoui dialect by loanwords from other Berber varieties. The analysis shows that most of the participants do not have any level of proficiency in any other Berber proficiency. The results are illustrated in the following table:

Table 5.42. Proficiency in Other Berber Varieties

	None	**Weak**	**Average**	**Good**	**Excellent**	**Total**
Frequency	271	03	07	08	01	290
Percentage	93.4%	01%	02.4%	02.8%	0.3%	100%

The table above shows that only nineteen participants have a level of proficiency in Kabyle, with no other varieties being reported. This corresponds to a cumulative percentage of 6.6%. Only one participant, a middle-aged urban female with tertiary education, reported having an excellent level of proficiency in Kabyle. This participants' mother is a native speaker of only Kabyle. The two female participants reported "weak" and "good" levels of proficiency respectively. They are both young and urban with tertiary education whose mothers are native speakers of Kabyle and fathers are of Algerian Arabic and Chaoui. Moreover, another young male urban participant whose mother is a native speaker of only Algerian Arabic reported having a weak proficiency in Kabyle despite having none of the parents proficient in this variety. What is noteworthy at this juncture is that the majority of participants that have a certain level of proficiency in Kabyle are males, and all of them are with secondary or tertiary education, and none of them are old or rural. These findings that a number of young male urban educated members are interested in learning other varieties of Berber, namely Kabyle, in contexts that are beyond their immediate family network settings.

The following variety that is analysed for proficiency is Algerian Arabic. It has been reported earlier that almost two thirds of the participants (65.2%) speak Algerian Arabic as a mother tongue, which means that at least two thirds of the participants are expected to report "excellent" proficiency in it. It was initially hypothesised that a number of native speakers of only Chaoui, still, have decent levels of proficiency in Algerian Arabic as it is needed for numerous daily encounters. The descriptive statistical analysis shows that the mean value of proficiency is $\mu = 3.43$, which can be rounded to the value corresponding to "good", indexed 03. This means that the overall proficiency of the participants in Algerian Arabic is between "good" and "excellent". The mean value of proficiency is very comparable to that obtained from the proficiency in Chaoui (table 5.40). However, the table highlights two significant pieces of trivia. First, the standard deviation value is not low, indicating that there is a level of variance in the participants' proficiency such that it requires further exploring. Second, the table shows that the minimum value is zero; this means

that there are participants –at least one– who reported not having any level of proficiency in Algerian Arabic.

To address these two concerns, the descriptive statistics must be supplemented with an analysis of frequency and percentage and an inferential statistics of correlation. The following table illustrates the frequency of each level of proficiency and the percentage thereof.

Table 5.43. Descriptive Statistics of Algerian Arabic Proficiency

	None	**Weak**	**Average**	**Good**	**Excellent**	**Total**
Frequency	05	19	30	28	208	290
Percentage	1.7%	6.6%	10.3%	9.7%	71.7%	100%

The table above shows that 208 participants have an excellent proficiency in Algerian Arabic. These findings are interesting inasmuch as there is a significant level of discrepancy between the number of participants who have reported having Algerian Arabic as mother tongue and those who have an excellent proficiency in it. In view of that, nineteen participants have an excellent level of proficiency in Algerian Arabic despite not having learnt it as a mother tongue. Moreover, a considerable number of 28 participants have a "good" level of proficiency. This means that a total of 236 participants have decent levels of proficiency in Algerian Arabic. Furthermore, the table above shows that a total of 47 participants (16.2%) reported "good" or "excellent" proficiency despite not reporting it as a mother tongue. These findings amount to the conclusion that not Algerian Arabic plays a very central role in the Chaoui community, and individuals learn it despite not being the language of domicile.

On the other end of the spectrum, five participants reported not having any level of proficiency in Algerian Arabic while nineteen reported having a "weak" level. This means that a cumulative percentage of 8.3% of the participants have low proficiency levels and, arguably, do not communicate with Algerian Arabic. The five participants with no proficiency in Algerian Arabic are all old females who are uneducated: four of whom are from the rural area and one is from the semi-urban

area. Interestingly, only two males reported having a "weak" level of proficiency in Algerian Arabic; both of whom are old, uneducated and rural. The remaining seventeen are all females uneducated or with primary educated. Two of these females are urban; six semi-urban, and nine are rural. Interestingly, three participants are young; eight are middle-aged, and six are old.

In order to further understand the role of social factors in the level of proficiency in Algerian Arabic, an inferential analysis is carried out where the Pearson Correlation Coefficient is calculated between proficiency and gender, age, education and geographical background. It is found that there is a statistically significant level of correlation between proficiency and all of the other variables. However, it is shown that gender has the lowest value of inverse correlation. This means that females, indexed higher, are generally less proficient than males in Algerian Arabic. This conclusion is substantiated by the fact that of all the participants who reported "none" or "weak", only two are males. Moreover, the age variable shows an inverse correlation, which means than younger participants are generally more proficient than their older counterparts.

Likewise, geographical background is correlated with Algerian Arabic proficiency such that rural participants, being indexed lower, are generally less proficient than their semi-urban and, in turn, urban counterparts. Finally, the variable of education seems to be the most prominent factor in signalling participants' proficiency as it has an almost ideal level of positive correlation. Knowing that all other variables are inversely correlated with education, it is hypothesised that the significant values of correlation are consequential to the value of education and are not inherent.

To test the hypothesis above, the mean value of proficiency is calculated among each group as shown in the following table:

Table 5.44. Algerian Arabic Proficiency across Different Social Groups

Groups	Means	Std. Dev.		Groups	Means	Std. Dev.
Young	3.81	0.608		Males	3.69	0.661
Mid.	3.48	0.952		Females	3.20	1.227
Old	2.78	1.304		uneducated	1.72	1.037
Urban	3.83	0.555		Prim./mid.	2.78	1.018
Semi.	3.36	1.028		Secondary	3.98	0.144
Rural	2.05	1.203		Tertiary	4.00	0.00

The table above shows that the difference in the mean value of the two genders is statistically insignificant which explains the low correlation coefficient value. Moreover, the highest level of discrepancy can be observed in the mean values obtained by groups from different educational level. The findings illustrated in the table show that the discrepancy across the age groups means is relatively higher, but the standard deviation values are also statistically significant. This means that even within the same age group, there can be discrepancies in the mean values that are attributable to other variables. Moreover, the observation of the mean values obtained from participants with different geographical background shows that urban participants– irrespective of their age, gender or education– are, by and large, more proficient in Algerian Arabic. This is further substantiated by the relatively low standard deviation value, indicating a high level of congruence across the urban participants with reference to this metric. Semi-urban and rural areas show high values of standard deviation, which means that there is a level of discrepancy that is attributable to another variable.

The table shows that all of the participants with tertiary education and almost all participants with secondary education have an excellent master of Algerian Arabic regardless of their age, gender and residence. The extremely low standard deviation values are indicative of high levels of congruence, which means that education is the key factor in the signalling of values. These findings support the hypothesis

enunciated above where the claim is that levels of correlation in other variables are essentially consequential to correlation with the education level.

Modern Standard Arabic is taught mainly in formal environments as individuals learn how to read and write in MSA at school. However, it should be noted that Coranic schooling also plays a vital role in enabling individuals to learn Standard Arabic. In fact, it can be argued that Coranic schools help individuals develop proficiency levels in Arabic in a way that is not permissible by formal schooling only (Addad & Zaghouda, 2020; Abda & Taibi, 2021). Moreover, the media platforms also play a role in acquainting the individuals with Chaoui dialect as exposure to language, even without explicit instruction, can enhance individuals' proficiency. Accordingly, it was hypothesised that the participants' proficiency would extend beyond the immediate context of education.

The examination of the data shows that the mean value of proficiency is $\mu = 2.82$, which is close to the value indexed to "good". This means that the participants' proficiency is generally a little under good. However, two main observations are made. First, there are instances of participants reporting having no proficiency in MSA as the minimum value is zero. Second, the standard deviation value is considerable. These two observations call for further descriptive and inferential statistics. It should be noted that proficiency in MSA can be compared to that of French inasmuch as the two are directly associated with education. In view of that, it should be noted that mean value of proficiency in MSA is significantly higher than that of French: 2.07<2.82, and the standard deviation is considerably lower: 1.618>1.284. This means that while the participants are generally more proficient in MSA than in French, there seems to be a lesser degree of variance among participants in their proficiency in MSA than that in French.

In light of these observations, the following table shows the frequency of occurrence and the percentage of each proficiency level:

Table 5.45. Proficiency in MSA

	None	**Weak**	**Average**	**Good**	**Excellent**	**Total**
Frequency	21	35	38	77	119	290
Percentage	7.2%	12.1%	13.1%	26.6%	41%	100%

The table above shows that only 21 participants reported not having any level of proficiency in MSA. This frequency is considerable than that reported in French proficiency where 90 participants answered "none". The participants with no level of proficiency are almost equally distributed between the two genders as there are ten males and eleven females all of which are old and uneducated, excepting one with primary educational level. Interestingly, one of the male participants has a secondary level of education and reported having "excellent" level in French proficiency. This piece of trivia can be attributable to an answering typo knowing that Algerian Arabic and Choaui are his mother tongues. Seven of these participants are urban, four semi-urban and ten rural. This means that the geographical background and gender of participants are of less relevance. Instead, age and education are arguably of more central relevance.

With regard to the participants who reported having a "weak" level in MSA, it is noticed that the number is significantly higher than that of French where only 19, compared to 35, reported having a weak level in French. Moreover, the analysis of frequency shows that the two genders are almost equally represented in this category as there are twenty males and fifteen females. The three age groups can be found in this category as there are eight young, thirteen middle-aged and fourteen old participants. With regard to education, the cross-tabulation of frequency shows that there are seventeen uneducated and eighteen primary/middle schooled participants, with the other educational levels not being represented in this category. It is noted that most of the participants are either rural or semi-urban as there are five urban, thirteen semi-urban and seventeen rural participants.

In order to have a better understanding of the factors that shape the proficiency in MSA, a correlational analysis is carried out as illustrated in the following table:

Table 5.46. Social Correlates of MSA Proficiency

	Gender	Age	Education	Geographical Background	French Proficiency
MSA proficiency	-0.019	-0.468**	0.840**	-0.479**	0.730**

The table above shows that there is an almost ideal linear relationship between the educational level and the proficiency in MSA. This is expected knowing that formal schooling is directly linked to the linguistic proficiency in French and Standard Arabic. Moreover, the gender variable is shown as being irrelevant in the MSA proficiency metric whereas age and geographical backgrounds are inversely correlated with it. It is shown in the table above that French and MSA proficiency are positively correlated which, as argued above, means that education is the primary factor whereas other factors just mirror the correlation by dint of being inherently linked to education rather than proficiency due to the sampling paradigm.

The hypothesis indicated above that "*the participants' proficiency in MSA would extend beyond the immediate context of education*" is tested via the analysis of mean value of proficiency among uneducated and primary/middle schooled participants. The analysis is displayed in the following table:

Table 5.47. Uneducated Participants' MSA and French Proficiency

	N	Minimum	Maximum	Mean	Std. Deviation
MSA	99	00	03	1.35	0.929
French	99	00	02	0.11	0.375

The table above shows that there are observable statistically significant differences in the participants' proficiency in French and MSA. The mean value shows that the uneducated participants' proficiency in French is almost equally non-existent whereas it is above "weak" in MSA. Moreover, the highest value in MSA is 03, corresponding to "good" whereas it is "average" in French. This means that there are participants who are good in MSA despite having low or no educational training. To further explore the level of MSA proficiency across uneducated participants, a frequency analysis is conducted on the questionnaires of the 99 uneducated participants.

Table 5.48. Uneducated Participants' Proficiency in MSA

Level of proficiency		None	Weak	Average	Good	Total
MSA	**Frequency**	20	35	33	11	99
	Percentage	20.2%	35.4%	33.3%	11.1%	100%
French	**Frequency**	90	07	02	00	99
	Percentage	90.9%	07.1%	02%	00%	100%

The table above provides further support for the hypothesis that MSA, unlike French, proficiency is less restricted to formal instruction. The table shows that eleven participants have good levels of proficiency in MSA. However, all of these participants received primary or middle education. The table also shows that most of the participants reported no proficiency in French whereas only 20.2% reported similar levels in MSA. These findings highlight the fact that MSA has a more central position in the Chaoui community as it is a language of religious practices and media outlets. Exposure to this language led many participants to have levels of proficiency that are not typified with their respective educational level.

5.3 Language Use

The description of the participants' self-reported linguistic proficiency can serve as an explanatory aid that helps account of individuals' choices of linguistic varieties. However, the functional analysis requires an account of the participants' actual linguistic behaviour. Therefore, the present study makes use of a second analytical metric: language use. Here, the participants were asked to identify the frequency with which they use Algerian Arabic, MSA, Chaoui and French. The frequency rates are given numerical values: never = 0, rarely = 01, sometimes = 02, often = 03 and always = 04. By so doing, the qualitative analysis of correlation, means, frequencies and standard deviations are possible across the various groups.

The participants are given different communicative settings that require specific communicative registers and possibly different code choices. It should be noted that the participants were asked to leave the cell blank if the offered context is not applicable to them. For example, old uneducated individuals are not expected to carry out any communicative acts in school settings or on social media.

5.3.1 The Use of MSA

It was initially hypothesised that the use of MSA would be the most restricted of all varieties. Except in the formal context, it is observed that MSA is rarely, if ever, used. The analysis of the use of MSA in different contexts shows some interesting observations. First, it is reported unanimously that MSA is not used in the following settings: family, friends and neighbours, with Berber speakers from non-Chaoui communities and with Arab speakers. The mean values obtained are $\mu = 0$ and the standard deviation is $\sigma = 0$. This means that none of the participants reported any frequency of use in these contexts.

On the other end of the spectrum, the use of MSA was reported very high in the context of social media. The participants reported that many of their online activities are in Standard Arabic. Examples of these activities include commenting, posting, reading and sharing. The quantitative analysis of the questionnaires shows that the mean value obtained is $\mu = 2.69$ with a standard deviation of $\sigma = 0.855$. The mean value is closer to the value corresponding to the value corresponding to the frequency "often" which means that the participants almost often use MSA in their social media interactions. However, it should be noted that a number of participants did not answer this question as it is not applicable to them by virtue of not having access to social media. Therefore, the descriptive analysis of each frequency level was conducted as shown in the following table:

Table 5.49. Frequency of MSA Use

Never	Rarely	Sometimes	Often	Always	Missing
01	10	23	75	125	56
0.3%	3.4%	7.9%	25.9%	43.1%	19.3%

The table above shows that almost one fifth of the participants have not reported any frequency rate. Prior to the administration of the questionnaire, the participants and the research assistants were instructed to leave questions that are not applicable to them empty. This means that a total of 234 participants have reported the use of MSA with one reporting never using it. The recalculation of the mean value

now reads at μ = 3.34 which means that the frequency of use is very high. The examination of the missing values shows that the participants' groups are distributed as follows: 29 males and 26 females; 13 middle-aged and 43 old; 34 uneducated and 22 with primary/middle schooling; 17 urban, 14 semi-urban and 25 rural.

In order to further understand the use of MSA in social media platforms, a correlational analysis is conducted. The results of Pearson Correlation Coefficient show that the level of correlation between the use of MSA in social media setting and gender/age is very low which means that the two genders and three age groups, all other things being equal, use MSA at comparable frequencies. The educational level, however, is shown to be positively correlated with the use of MSA, which means that more educated individuals use it more often. This is expected given the proficiency difference between the different educational levels as reported above. Moreover, it is shown that the geographical background is inversely correlated with MSA use in social media settings. This means that urban areas, which are indexed lower, use MSA more often.

The highest mean value reported is in the mosque where all male participants and 42 of the female participants (27.45%) reported "always" using MSA in the mosque. Two very important observations are to be made with regard to these findings. First, it is noted that not all females are frequent goers to the mosque which meant that 72.5% of the females perceived this context inapplicable to them. Second, having collected the data, it was made known to the researcher that most of the participants perceived MSA used in the mosque with reference to the sermons, teachings, etc., where the extent to which these participants actually used it as part of their linguistic behaviour is not known. This is one of the limitations of the measurement that could not be foreseen in the piloting phase.

The final communicative setting that is investigated is school or work. The analysis shows that the mean value of using MSA in work or school environment is μ = 1.75 with a standard deviation value of σ = 1.292. However, it should be noted that a number of participants perceived this inapplicable to them. In fact, 46 participants left the question unanswered. This means that the mean value of MSA

use among the valid answers is μ = 2.08. This value is very close to the frequency "sometime" which means that MSA is used half of the time in the work/school environments. It should be noted that such use in school and work environments includes lectures, correspondences, reports, etc., and is not restricted to actual production of verbal communicative acts, i.e., speaking.

The analysis of correlation shows that the use of MSA in school or work environments in correlated positively with gender and education and inversely with age and geographical background as shown in the following table:

Table 5.50. The Social Correlates of MSA Use at Work or School

	Gender	**Age**	**Education**	**Geographical Background**
Work or School	0.331**	-0.264**	0.620**	-0.388**

The findings displayed in the table allow for the conclusion that the participants who are females, young, educated and/or urban demonstrate higher frequencies of MSA use. Finally, it is noted that 46 participants did not report any frequency of use. These participants are all middle-aged or old females, uneducated or with primary/middle school levels. The distribution of the two age groups and educational levels is almost equal, which means that most females with little, if any, education, consider work/school environments irrelevant to them irrespective of their geographical background.

Given the mean value of all the communicative settings provided in the present study, it is concluded that MSA use is very restricted as it is used only in work/school, mosque or on social media. The mean value of all settings is μ = 1.34 which is close to the value corresponding to the frequency "rarely", a value that could have been lower (μ = 0.903) if the mosque findings had been disregarded.

5.3.2 The Use of French

The French language is undeniably part of the linguistic profile of the Algerian community. However, it has been shown in many studies that its use as a code is strictly confined by a number of social variables such as age, gender, economic status

and education. In the present study, the use of French is tested against two axes; the first is the social variables that are accredited to factor in the use of French, and the second is the situational configurations that licence its more frequent use. In view of that, it was initially hypothesised that more educated young females would demonstrate the highest mean values of frequency of use, and that the contexts of "work or school" and "social media" would be higher even among less frequent users of French. To test the hypotheses, the data collected from the questionnaire are analysed using descriptive statistics of means, standard deviations and frequencies as well as inferential statistics of correlation.

The analysis of mean values shows that French is reported as not being used in the mosque at all. What is noteworthy is that these findings are not reported by all participants as a number of females considered this communicative context as not applicable to them by means of not being frequent mosque goers. In view of that, all male and 42 female participants reported "never" using French in the mosque. These findings are congruent with the findings obtained from the analysis of MSA use in the same context. That is, it is more typical of religious practices to be carried out in MSA as it is the language of Quran, and sermons are delivered mostly in MSA. French, on the other hand, is strongly untypified with this context.

The use of French with members of the community that cannot communicate in Chaoui can be expected as it can be the lingua franca of many communicative events. Two instances can be perceived: with Arab speakers and with non-Chaoui Berber speakers. The analysis of the frequency of using French with Arab speakers gives a mean value of $\mu = 0.61$ with a standard deviation of $\sigma = 1.099$. The low mean value suggests that French is extremely rarely used as lingua franca with Arab speakers. However, the relatively high standard deviation value shows that there are significant variances among the participants with regard to this metric. Moreover, it is shown that a number of participants reported "always" using French with Arabic speakers. In fact, it is found that eleven participants reported "always" and seventeen "often" using French with Arab speakers. In view of that, the comparison of the mean

values across the participant groups showed very high levels of variance; the highest mean values are reported only among females with tertiary education as follows:

- **Young Urban (17):** $\mu = 1.94$ and $\sigma = 1.391$
- **Young Semi-Urban (10):** $\mu = 2.00$ semi-urban and $\sigma = 1.563$
- **Middle-Aged Urban (12):** $\mu = 2.25$ and $\sigma = 1.545$
- **Middle-Aged semi-urban (08):** $\mu = 1.75$ and $\sigma = 1.035$
- **Old Urban (03):** $\mu = 03$ and $\sigma = 0.00$

These findings illustrate two important findings. First, it appears that females with tertiary education use French are the social group that uses French with Arab speakers the most. Second, the high standard deviation values show that there are discrepancies even among these females. It is noted that the number of participants within these groups is not enough to warrant any generalisations. However, there is a pressing need to understand what factors or underlying variable licence the use of French with Arab speakers. To do that, a segmental analysis is carried out only on participants who reported a frequency level that is equal or above "sometime". This means that only 51 participants are included in this analysis.

The analysis shows that there are only ten males who all reported "sometimes" using French with Arab speakers. These males are all urban except one and have secondary or tertiary education. What is noteworthy is that 28 out of the 41 females reported using French "often" or "always" whereas only thirteen reported using it "sometimes". These female participants are most middle-aged urban with tertiary education.

The second possibility of French as a lingua franca is with Berber speaker from other Chaoui communities. The first observation of the questionnaire showed that many participants rated their frequency of French use with Arabs and with Berber speakers from other communities the same way. The analysis carried post hoc shows that the use of French in this context is very comparable to that with Arabs. The analysis of correlation between the use of French in these two contexts shows that there is an almost ideally linear relationship between the two. The value of Pearson Coefficient is $\rho = 0.968 \approx 01$. This means that wherever the value of one of the context is reported higher, the other is correlationally higher. However, the correlation

coefficient does not suggest that the two answers are identical inasmuch as this statistical test examines the covariance between the two variable regardless of the values proper. To further test the level of match, the mean values, standard deviations and frequencies of each rate are compared as shown in the following table:

Table 5.51. Descriptive Statistics of French as Lingua Franca

	Arab Speakers		Berber Speakers	
	Frequency	Percentage	Frequency	Percentage
Never	203	70%	201	69.3%
Rarely	36	12.4%	34	11.7%
Sometimes	23	7.9%	17	5.9%
Often	17	5.9%	21	7.2%
Always	11	3.8%	17	5.9%
Mean Value	0.61		0.69	
Std. Deviation	1.099		1.215	

The table above highlights the striking resemblance between the findings obtained from the analysis of the use of French with Arab and Berber speakers. The use of French with the latter group is insignificantly higher. On another frame of reference, the analysis of the use of French in the family context, whether immediate or extended, shows that the frequency of use is relatively very minimal. The mean value of the frequency of use is very low $\mu = 0.61$. This value is even lower than the frequency index of "rare", which means that the use of French in the family context is very low. However, two observations can be noted from the table above: first, the standard deviation value is very high relative to the mean value which means that there is a significant level of discrepancy among the participants' reports; second, the maximum value reported is 04 which means that a number of participants, at least one, reported always using French in the family context:

Table 5.52. Frequency of French use in family

Never	Rarely	Sometimes	Often	Always
203	36	23	17	11
70%	12.4%	7.9%	5.9%	3.8%

The table above shows that most participants reported never using French in the family context. This is concordant with the low mean value reported as it is lower

than the value corresponding to "rarely". However, it is noticed that a cumulative percentage of 9.7% reported very high frequency of use, and a total of 17.6% of the participants use it at considerable frequencies (sometimes, often or always). The examination of the 51 participants shows that they are all from there are ten males, all of which reported using it "sometimes". Interestingly, only two of these males are young and one is old; the remainder are all middle-aged. On the other hand, the remaining 41 participants are all females; three of which are old; 19 are middle-aged, and 19 are young. The educational level of the participants is all secondary or tertiary (13 and 38 repsectively), and lower educational levels are not represented in this category. Moreover, the all of the participants are from urban and semi-urban areas (37 and 14 respectively). This means that the use of French is linked to gender, education and residence more than it is with age. To further establish the correlational patterns of French use, a Pearson's correlation coefficient is calculated.

The findings show that there are statistically levels of inverse correlation between the frequency at which French is used in the family context and the following variables: age, geographical background and Chaoui proficiency ($\rho = -0.141^*$; $\rho = -0.272^{**}$ and $\rho = -0.223$ respectively). Given the indexation values for each variable, these findings read as follows: young, urban, and less Chaoui-proficient participants demonstrate higher frequency of French use in the family than their older, semi-urban/rural, and more Chaoui-proficiency counterparts. However, it should be noted that the correlation coefficient, although still statistically significant, are at the lower end of inverse correlation significance.

The analysis also shows that there are statistically significant levels of positive correlation between the use of French in the family context and the following variables: gender; education; and Algerian Arabic, MSA, and French proficiency ($\rho = 0.294^{**}$, $\rho = 0.455^{**}$, $\rho = 0.299^{**}$, $\rho = 0.406^{**}$ and $\rho = 0.581^{**}$ respectively). This means that the labels that are indexed higher in each variable represent social groups that use French in family contexts more frequently. In view of that, it is concluded that females, educated and/or linguistically proficient –excepting proficiency in Chaoui– individuals use French more frequently. However, it should

be noted that MSA proficiency has been linked to education, which implies that its correlation is consequential to that of education.

The highest values of positive correlation are reported with education and French proficiency. Nevertheless, it should be noted that the value of correlation is not extremely high, and the relationship is not ideally linear. This means that not all individuals that have high levels of proficiency use French very frequently. To explore what social groups refrain from using French despite having good levels of proficiency, a cross-tabulational analysis is carried out within the participants who reported having "good" or "excellent" levels in French (59 and 80 respectively). The mean value of French use in this group is $\mu = 1.23$ which is closer to the value corresponding to "rarely" whereas the mean value for proficiency is $\mu = 3.58$ which is closer to "excellent". The comparison of means within this group of participants is tabulated in the following table:

Table 5.52. Comparing Proficiency and Use among Proficiency Participants

		Gender		Education		Age			Residence	
		Mal.	Fem.	Sec.	Tert.	Young	Mid.	Old	Urban	Semi.
Profi-	μ	3.45	3.68	3.48	3.58	3.36	3.70	3.66	3.61	3.49
ciency	σ	0.502	0.471	0.504	0.480	0.486	0.463	0.496	0.490	0.506
Frequen	μ	0.55	1.78	0.84	1.55	1.43	1.44	0.45	1.30	1.05
cy of use	σ	0.761	1.411	1.148	1.292	1.363	1.292	0.985	1.322	1.297

The findings illustrated in the table above help explain the discrepancy between language proficiency and language use with regard to French in the context of family. The table above shows that the proficiency difference between the participants within each group is very minimal, and the standard deviation values are not of considerable statistical significance. This means that the age groups, educational levels, residence and genders are almost equally proficient within this segment of participants, which may give the impression that frequency of use would show parallel homogeneity– given the strong correlation between proficiency and frequency of use. However, the table above shows that there is some residual data from the correlational analysis. The findings in Table 5.52 show that there is a statistically significant level of discrepancy between the following groups: a- males

and females, b- secondary and tertiary, and c- young/middle-aged and old with regard to how frequently they use French in the family context. However, the difference is marginal between participants from urban and semi-urban areas. These findings read as follows*: participants who are have similar levels of proficiency in French use it at considerably different frequencies where middle-aged or young females with tertiary education demonstrate the highest frequency of use regardless of their residence*.

The context of social media was shown as having the highest frequency of MSA use. The analysis of language use in media platforms is very important in today's research as it constitutes a significant portion of modern life interaction. It can be argued that in many cases, individuals spend more time on social media platforms than on their face-to-face interactions. The analysis of the data calculated shows that the frequency of use is $\mu = 1.94$, which is very close to the value corresponding to the frequency "sometime". However, it should be noted that only 234 participants considered this communicate event applicable to them inasmuch as 56 participants are reportedly not familiar with social media use. This means that the actual valid mean value is to be calculate among the 234 participants. By so doing, the mean value reads at $\mu = 2.41$ with a standard deviation value of $\sigma = 1.627$. This means that the use of French among these participants is relatively high, but the variance among their answers is also significant given the high value of standard deviation. The descriptive statistics allow for a more elaborate description of the use of French in this context as shown in the following table:

Table 5.53. Frequency of French use on Social Media

Never	Rarely	Sometimes	Often	Always	Missing
52	27	24	34	97	56
19.7%	9.3%	8.3%	11.7%	33.4%	19.3%

The findings reported in the table above show some very interesting findings. First, whereas only one participant, among those who use social media, reported not using MSA, almost one fifth of the participants reported similar frequency with French. Moreover, MSA was used at a "rare" frequency only by ten participants while French is reported by 27 at this frequency. The two languages are almost equally

reported by the participants at the medial frequency level "sometime". In addition, the higher ends of frequency spectrum (often and always) are more occupied by MSA than French where a total of 62.4% use MSA frequently while 45.1% use French at similar frequencies. It should be noted, however, that the frequency of use is relatively high, meaning that French is a significant part of Chaoui speakers' online activities.

The examination of the social groups that are in use of French requires an account of the correlational patterns. To do that, a Pearson's Correlation Coefficient is calculated as shown in the following table:

Table 5.54. Correlates of French Use on Social Media

	Gender	Age	Education	Geographical Background	French proficiency
Social Media	0.147*	0.348**	0.628**	-0.437**	0.902**

The findings in table above show that there is a strong level of positive correlation between French use on social media and French proficiency. The value is very close to $\rho = 01$, which means that the correlation is almost ideally linear. Moreover, the correlation with the level of education is also statistically very significant, which means that educated individuals are generally more frequency users of French in this context. Interestingly age is positively correlated with the use of French which means that older individuals use French more. These findings may appear contradictory given that French proficiency is inversely correlated with age. However, it should be noted that most of the individuals that reported inapplicability are old. In fact, of all 56 participants not answering this question, 13 are middle-aged and 43 are old. This means that only thirty old participants (41%) are included in the list, most of which are highly proficiency in French. However, the age variable is still relevant between the young and middle-aged participants as 88% of the middle-aged participants reported using social media.

In view of that, it was initially hypothesised that young participants would report higher frequencies of French use, which makes the findings reported above surprising. To account for these differences, the comparative mean analysis is carried out between the age groups:

Table 5.55. French Use on Social Media across Different Social Groups

Education	Primary/Middle				Secondary				Tertiary			
Age	Young		Mid.		Young		Mid-aged		Young		Mid-aged	
Gender	Ma	Fe	Ma	Fe	Ma	Fe	Ma	Fe	Ma	Fe	Ma	Fe
Number	08	12	06	11	17	22	14	17	26	27	18	20
Means	00	0.08	0.00	0.00	1.29	2.45	2.71	3.53	1.35	3.70	3.83	4.00
Std. Dev.	0.00	0.289	0.00	0.00	0.985	1.057	1.383	0.717	1.018	0.465	0.383	0.00

The table above shows an exhaustive contrastive display of means. It should be noted that the table does not display the values of old and uneducated individuals as they constitute a small portion of the participants, and the representational economy called for the avoidance of unnecessary tabulation and superfluity of data. The findings shown above highlight a number of considerable pieces of trivia. First, gender differences are observed to be more operative in some social groups than others. Notably, the subgroups at both ends of the age and education spectra demonstrated the least amount of differences as middle-aged participants with tertiary education and young participants with primary/middle education showed almost no difference with regard to gender. Gender is, however, maximally operative among young participants with tertiary education where males use French almost "rarely" whereas females use it almost "always".

The age difference also shows some interesting observation as it appears more at play among young males with tertiary education and their middle-aged counterparts, but it is non-existent among uneducated participants. The difference among males with secondary education is relatively significant where the mean value difference is $d = 1.42$ in favour of the middle-aged. This means that the middle-aged partcipants with secondary education use French in social media contexts almost one and a half frequency rate higher than their young participants. Interestingly, the age difference between the females is considerably lower regardless of the educational level. These observations read as follows: *the age difference among males with regard to the use of French in social media increases in favour of middle-aged in tandem with education whereas age is irrelevant among females*.

Another important observation relates to the values of standard deviation. The table above shows that the value reported among females are considerably lower than those among males. This means that there is a much higher level of variance across the male participants' norms of language use and that the females are more unified with regard to the norms of language use than males.

The final context of analysis is the work or school setting. It is believed that many government sectors and formal instruction facilities use French in many of their activities. The use of French in this setting is, therefore, expected to have high values of frequency. However, it is noted that not all of the participants work in government sectors, nor are they all educated. The descriptive statistics shows that the mean value for French use is $\mu = 2.34$, which is a relatively high frequency of use. This means that, generally, individuals in the Chaoui community use French at work/school more than half of the time. However, it is noticed that the standard deviation value is very high, indicating a level of variance. Comparatively, the use of MSA was reported at a not very significantly lower rate with lower levels of variance ($\mu = 2.08$ and $\sigma = 1.292$). To understand what social groups report the highest frequencies, a cross-tabulation is carried out. The highest values are reported by the following groups:

Table 5.56. The Use of French at Work/School across the Social Groups

Gender	Age	Education	Residence	Number	Means	Std. deviation
Male	Young	Secondary	Urban	18	3.44	0.92
		Tertiary	Urban	5	2.5	1.09
	Middle-aged	Tertiary	Urban	11	3.55	0.52
		Tertiary	Semi-urban	7	3.29	0.48
	Old	Secondary	Urban	14	2.93	0.73
		Secondary	Semi-urban	2	3	0.00
		Tertiary	Urban	3	3	0.00
Female	Young	Tertiary	Urban	17	3.65	1.39
		Tertiary	Semi-Urban	10	3.30	0.48
	Middle-aged	Tertiary	Urban	12	3.75	0.45
		Tertiary	Semi-Urban	8	4.00	0.00
	Old	Tertiary	Urban	2	4.00	0.00

The table above shows that none of the participants groups from the rural areas reported high frequency of French use in the work/school environment. This does not exclude the fact that some individual member did, yet the totality of the subgroups' scores are low. It is noted above that all of the participant groups are with secondary and tertiary educational levels. This is expected given the correlational patterns established between French use and proficiency and education. What is also noteworthy is that gender does not seem to have a significant impact on the frequency of French use in the work/school environment as the two genders are almost equally represented in the table above. These findings reflect the fact that French is used very frequently in education, more particularly higher education, and work activities.

To conclude, the analysis of French use shows that it is very common among educated middle-aged individuals, predominantly at work/school and social media. The use of French can be observed in the linguistic behaviour of many participants regardless of their age, gender, education and residence. However, the present study investigated the use of French, in this part of the research, not in terms of loanwords but rather as a code where only proficient learners are able to demonstrate such behaviour.

5.3.3 The Use of Algerian Arabic and Chaoui

The analysis above shows that French and MSA are restricted to specific contexts and social groups. That is, these varieties are not generally used in daily communicative events. Algerian Arabic and Chaoui, however, are observed to be part of the Chaoui speakers' day-to-day linguistic behaviour. It is, therefore, of more expedience to present the data obtained with regard to these two varieties in a contrastive fashion. In view of that, it was initially hypothesised that Algerian Arabic would be strongly linked to social groups that are generally perceived as leaders of language change, that is, young females in urban centres with higher levels of education. Chaoui, on the other hand, was hypothesised to be linked to what traditional dialectologists refer to as NORMs: non-mobile old rural male participants (Chambers & Trudgill, 2004, p. 29). To test these hypotheses, the present study offers

a quantitative analysis of frequency of use where descriptive and inferential statistics are carried out.

The use of Algerian Arabic and Chaoui in the family setting shows some interesting findings. The mean values are contrastively represented in the following table:

Table 5.57. The Use of Algerian Arabic and Chaoui in Family

	N	Minimum	Maximum	Mean	Std. Deviation
Algerian Arabic	290	0	4	2.88	1.278
Chaoui	290	0	4	3.10	0.998

The table above shows that the minimum value is 0, which means that a number of a participants reported "never" using Algerian Arabic/Chaoui in the family context. The mean values for the frequency of use in the varieties is comparable with Chaoui being reportedly used at relatively higher frequencies. The values can be rounded to the frequency rate "often" which means that both varieties are very frequently used in the family context. However, it is observed that the Algerian Arabic standard deviation value is relatively higher, which means that there is more variance in the participants' answers of Algerian Arabic than of Chaoui. To investigate the nature and source of this variance, a descriptive analysis of each frequency rate is carried out as shown in the following table:

Table 5.58. Frequency of Algerian Arabic and Chaoui Use in Family

		Never	Rarely	Sometimes	Often	Always
Chaoui	**Number**	01	22	59	73	135
Algerian Arabic		23	17	66	49	135
Chaoui	**Percentage**	0.3%	7.6%	20.3%	25.2%	46.6%
Algerian Arabic		7.9%	5.9%	22.8%	16.9%	46.6%

The table above shows that the number of participants reporting "never" using a variety in the family context is higher in Algerian Arabic than Chaoui. In the latter, only one participants reported such frequency. The participant is a young urban female with tertiary education who reported having a weak proficiency in Chaoui and an excellent proficiency in French and MSA and whose mother is a native speaker of

only Algerian Arabic and father of both Algerian Arabic and Chaoui. On the other end of the spectrum, the table above shows that the number of participants who reported "always" using the two varieties is the same. It should be noted that "always" using one variety does not necessarily entail "never" using the other. In fact, a number of participants reported using both varieties "always", which means that these frequencies are understood with regard to the question "how often do you use x variety?" rather than "what percentage of your linguistic behaviour is x variety?". It is observed that the remainder of the frequency rates are reported almost equally between the two dialects.

These findings explain the mean and standard deviation value reported above. The majority of the frequency rates are almost equally reported across the two varieties, which explains the comparable mean values. On the other hand, the fact that Chaoui has fewer extremities explains the higher standard deviation value reported in Algerian Arabic use. To understand the interplay between the social variables and the use of Algerian Arabic and Chaoui in the family context, a correlational analysis is performed as illustrated in the following table:

Table 5.59. Social and Linguistic Correlated of Chaoui and Algerian Arabic Use

	Gender	**Age**	**Education**	**Residence**	**Chaoui proficiency**	**Algerian Arabic proficiency**
Chaoui	-0.141*	0.509**	-0.589**	0.458**	0.573**	-0.484**
Algerian Arabic	-0.065	-0.507**	0.773**	-0.574**	-0.309**	0.848**

The findings in the table above show that the use of Algerian Arabic is positively correlated with education and Algerian Arabic proficiency. The level of correlation is very high, indicating that more educated individuals, who have been proven to be more proficient in Algerian Arabic, use Algerian Arabic in the family more often. Moreover, the table shows that this metric is inversely correlated with age, geographical background and Chaoui proficiency. The level of correlation is statistically significant which means that older and/or rural participants use Algerian Arabic less often. Interesting, gender seems to have no bearing on this metric, which

amounts to the conclusion that young educated urban participants, regardless of their gender, are the leading group with the use of Algerian Arabic in the family context.

On the other hand, the use of Chaoui in the family has strong positive correlation with age, geographical background and Chaoui proficiency. This means that older participants from rural areas, who have been proven to have higher levels of Chaoui proficiency, demonstrate higher frequencies of Chaoui use in the family context. Similarly, Chaoui use is inversely correlated with education and Algerian Arabic proficiency. This means that less educated participants, who have been proven to be less proficient in Chaoui, use Chaoui less often. Gender, notably, is shown as having an inversely correlation with this metric. Although the level of inverse correlation is comparatively less significant, it entails that males, being indexed lower, use Chaoui less often.

The findings reported so far show that the variables that have a positive correlation with one variety have an inverse correlation with the other. It follows that there may be an inverse correlation between the use of Chaoui and Algerian Arabic in the family context. The Pearson's Correlation Coefficient analysis gives a value of $\rho = -0.612**$, which reflects a statistically significant level of inverse correlation between the two metrics. This means that one participant who reported high levels of Chaoui use in the family context is likely to have reported low levels of Algerian Arabic use and vice versa. To examine what social groups reported what values, a mean comparison analysis is performed, and the significant values are reported. In view of that, the highest and the lowest mean values are reported with reference to the respective social groups.

The comparison of means among the Chaoui participants was carried out as follows: $\mu \geq 3.75$ and $\mu \leq 02.5$. The examination shows that the following groups reported maximal use with a mean value of $\mu = 4.00$ with no covariance among the participants:

- Young semi-urban and rural with primary/middle education
- Middle-aged males with primary/middle education
- Middle-aged semi-urban and rural females uneducated or with primary/middle education

- Middle-aged semi-urban females with secondary education
- Old uneducated or with primary/middle education
- Old semi-urban females with secondary education

The lowest values obtained are by the following groups:

- Young urban participants with secondary or tertiary education
- Young male semi-urban participants with tertiary education
- Middle-aged and old urban females with tertiary education

It should be noted that the lowest value obtained pertains to the young urban females with tertiary education who reported a mean value of $\mu = 1.41$. On the other hand, the comparison of means among the participants with regard to the use of Algerian Arabic shows that the participant groups that reported the highest mean values of Algerian Arabic use in the family context are:

- All male participants with tertiary education
- Middle-aged urban with secondary education

Whereas the lowest values are scored by the following groups:

- All uneducated or with primary education semi-urban or rural participants
- Old urban females with tertiary

The lowest value among males is $\mu = 0.88$ among the old uneducated rural while the highest is among their urban counterparts with tertiary education $\mu = 4.00$. On the other hand, the highest value among females is $\mu = 4.00$ among young and middle-aged urban females with tertiary education whereas the lowest value is $\mu = 0.00$ among old uneducated semi-urban and rural females.

The use of Algerian Arabic and Chaoui in the work or school environments is relatively high as the mean value for Algerian Arabic use is $\mu = 3.22$ whereas it is $\mu = 2.51$ for Chaoui. This means that both dialects can be rounded to the value corresponding to the frequency "often". However, it is noticed that the use of Algerian Arabic is more frequent. This is expected knowing that the work and school environments involve speakers from different geographical backgrounds where Algerian Arabic is the main language of communication, especially in urban centres. The examination of the standard deviation values shows that there is more variance

in the use of Algerian Arabic than in Chaoui as the standard deviation values are σ = 1.211 and σ = 0.912 respectively.

The examination of each frequency level shows some interesting findings as shown in the following table:

Table 5.60. Frequency of Algerian Arabic and Chaoui Use at Work/School

		Never	Rarely	Sometimes	Often	Always
Chaoui	**Number**	02	24	142	68	54
Algerian Arabic		19	13	34	43	181
Chaoui	**Percentage**	0.7%	08.3%	49.0%	23.4%	18.6%
Algerian Arabic		6.6%	04.5%	11.7%	14.8%	62.4%

The data reported in the table above highlights that Algerian Arabic has more cases of participants refraining completely from using it in the work environment where as such cases as very limited in Chaoui use. These finding are conceivable given the fact that none of the participants reported having a non-existent level of proficiency in Chaoui, and only two reported having a weak level. Conversely, five participants reported not knowing Algerian Arabic at all and 19 reported having weak levels of proficiency. The table above also shows that the number of participants who reported "always" using Algerian Arabic is significantly higher than that of Chaoui. Most of the participants are clustered around the medial level of Chaoui proficiency and around the right periphery of Algerian Arabic proficiency.

Given the relatively contrasting mean values, the following participant groups the lowest values of Algerian Arabic with Arab speakers:

- Old uneducated semi-urban and rural males ($\mu = 1.25$)
- Old urban and semi-urban males with primary education ($\mu = 1.75$ and $\mu = 1.00$ respectively)
- Young rural females with primary education ($\mu = 1.50$)
- Middle-aged rural uneducated females ($\mu = 1.50$ respectively)
- Old uneducated semi-urban and rural females ($\mu = 0.33$ and $\mu = 0.00$)
- Old urban and semi-urban females with primary education ($\mu = 1.57$ and $\mu = 1.50$ respectively)

On the other hand, the following groups reported the highest values of Chaoui use with Berber speakers from other Berber communities:

- Young rural females with primary education (μ = 4.00)
- Middle-aged semi-urban participants and urban males with tertiary education (μ = 3.14 males and μ = 3.13 females)
- Middle-aged male participants with primary education (μ =3.83)
- Old urban participants with tertiary education (μ = 3.00 females and μ = 3.67 males)
- Old uneducated participants

The use of Algerian Arabic and Chaoui in the mosque is also examined so as to give insight into the nature of the Chaoui speakers' linguistic behaviour in different contexts. The analysis of the data obtained from the questionnaire shows that the mean values of the two varieties are very comparable as shown in the following table:

Table 5.61. Means of Algerian Arabic and Chaoui Use at Work/School

	N	Minimum	Maximum	Mean	Std. Deviation
Algerian Arabic	290	0	4	3.10	1.00
Chaoui	290	0	4	3.05	1.26

The table above shows that the two varieties are very comparable in terms of both the mean values and levels of variance expressed by the standard deviation value. It is also noticed that the values obtained are comparable to those obtained in the context of neighbours. In fact, the analysis of correlation shows that there is a strong level of positive correlation between the two settings. It is concluded from the comparison of means that the young educated participants in the urban centres and the middle-aged males in the urban and semi-urban areas are the main groups reporting the highest values of Algerian Arabic use in the context of mosque. On the other hand, rural males, regardless of their age, reported the highest mean values of the Chaoui use.

While the communicative contexts of family, neighbours and friends generally involve homogeneous parties that have comparable linguistic profiles, the communicative events that involve Chaoui speakers with Arab or other Berber speakers require the use of lingua franca that enable the parties, which generally have

distinct linguistic profiles, to communicate felicitously. The analysis of French and MSA use as lingua franca revealed that French is used minimally, and Arabic is not used at all. This means that either Chaoui or Algerian Arabic are used as codes to enable the communication. However, it was initially hypothesised that Algerian Arabic would be the main language of use with Arab speakers and Chaoui with Berber speakers from other communities.

Table 5.62. The Use of Algerian Arabic and Chaoui as Lingua Franca

Context	Variety	N	Min.	Max.	Mean	Std. Deviation
With Arab speakers	Algerian Arabic	290	00	04	3.04	1.183
	Chaoui	290	00	04	0.37	0.793
With Berber Speakers	Algerian Arabic	290	00	04	3.40	0.572
	Chaoui	290	00	03	1.52	1.146

The table above shows evidence against the initially proposed hypothesis. The findings show that Algerian Arabic is the main variety used when interlocutors have different linguistic profiles. A number of observations can be highlighted from the findings above. First, the use of Algerian Arabic with arab speakers has a relatively lower mean value than that with Berber speakers; not only that, but the standard deviation value is higher. This means that Algerian Arabic is used more often and more consistently with Berber speaker and that its use with Arab speaker, while being high in terms of sheer mean value, is marked with a considerable level of variance among the participants. Conversely, the level of variance of Chaoui is more noticeable with Berber speakers, which is indicated by the high standard deviation value. These findings read as follows: almost all participants *invariably* use Algerian Arabic with Berber speakers and never use Chaoui with Arab speakers. The use of Chaoui with Berber speakers and Algerian Arabic with Arab speakers is determined by other variables.

In order to account for the sources of variability, a correlational analysis is carried out as shown in the following table:

Table 5.63. Correlated of Algerian Arabic and Chaoui as Lingua Franca

	Gender	Age	Education	Geographical Background
Algerian Arabic With Arab Speakers	-0.426**	-0.216**	0.223**	-0.169**
Chaoui With Berber Speakers	0.047	-0.045	0.195**	-0.163**

The findings in the table above shows that the use of Algerian Arabic with Arab speakers, which logically should not be a source of variability, is correlated inversely with gender, age and education and positively with education. The use of Chaoui with Berber speakers has the same correlation pattern, except that it is not significantly correlated with gender and age. This means that the participants that do not use Algerian Arabic with Arab speakers are generally older rural or semi-urban females with lower educational levels. On the other hand, the participants that do not use Chaoui with Berber speakers are less educated rural participants regardless of their gender or age.

Table 5.64. Correlation between Chaoui and Algerian Arabic as Lingua Franca

		French with Berber Speakers	French with Arab Speakers
Algerian Arabic With Arab Speakers	**Pearson Correlation**	-0.457**	-0.474**
	Sig. (2-tailed)	0.000	0.000
Chaoui With Berber Speakers	**Pearson Correlation**	0.150*	0.135*
	Sig. (2-tailed)	0.011	0.022

The table above helps explain some of the variability in the participants' answers. The table above shows that there are strongly levels of correlation between the use of French and the cases that were reported with high standard deviations. It appears that the participants who reported high frequency of using French with Berber or Arab speaker reported using Algerian Arabic at lower frequencies. The use of French is, however, positively correlated with the use of Chaoui.

The final context of use is social media. It has been reported that social media offered contexts where both MSA and French are used very frequently. It was initially hypothesised that both Chaoui and Algerian Arabic would have high mean values of

use in the social media context. These hypotheses were motivated by two main reasons. First, the use of Algerian Arabic is motivated by the fact that the social media offers a wider platform of communication where individuals engage in interaction with member from all over the country; this motivates individuals to use Algerian Arabic very often. Second, the use of social media in groups or with friends with Chaoui profile may enhance the individuals' probability of using Chaoui more often. The following table shows the descriptive statistics obtained from the analysis of this metric:

Table 5.65. The Use of Algerian Arabic and Chaoui on Social Media

	N	Minimum	Maximum	Mean	Std. Deviation
Algerian Arabic	234	1	4	3.02	1.294
Chaoui	234	1	4	2.48	1.041

The table above shows that the mean values of use are very comparable where the two dialects are used at more than average frequencies. The use of Algerian Arabic is remarkably more frequent whereas the standard deviation values are very comparable which is indicative of similar levels of variance in the participants' answers. It is observed that the minimum value reported corresponds to the frequency "rarely", which means that none of the 234 participants reported "never" using Chaoui or Algerian Arabic as part of their social media activities. The following table illustrates the number of participants reporting each frequency rate:

Table 5.66. Frequency of Algerian Arabic and Chaoui use on social media

		Never	Rarely	Sometimes	Often	Always
Chaoui	**Number**	00	42	92	45	55
Algerian Arabic		00	23	62	67	82
Chaoui	**Percentage**	00%	17.9%	39.3%	19.2%	23.5%
Algerian Arabic		00%	9.8%	26.5%	28.6%	35.0%

The table above helps account for the difference in means but relative proximity of standard deviation. First, it is noticed that both varieties have most of the participants clustered around the medial frequency, which explains the source of standard deviation proximity. However, it is noticed that the items of the left

periphery are more in Chaoui whereas they are fewer on the right periphery; this explains why the mean value of Algerian Arabic is relatively higher.

The analysis of correlation shows that the use of Chaoui and Algerian Arabic is inversely correlated with age, gender and education and positively correlated with the geographical background. This means that older less educated male participants from semi-urban or rural areas use Chaoui and Algerian Arabic more. These findings are not surprising given that it has been established that younger more educated female participants from urban areas use French and/or MSA more in their social media. These findings amount to the conclusion that there is a positive correlation between the use of Algerian Arabic and Chaoui on social media. In fact, the analysis reveals that the correlation is very significant at a value of $\rho = 0.806**$, which indicates an almost linear covariant relationship between the two metrics.

5.4 Attitudes towards Languages

The analysis of language variation and change involves not only the social and linguistic aspect where individuals with different social backgrounds express their linguistic proficiency and use of different languages but also a psychological aspect where attitudes and orientation towards a given language or speech community can underpin individuals' linguistic behaviour. In the present study, the variable of attitude is tested towards Chaoui, Algerian Arabic, Standard Arabic, Berber and French. The aspects of attitude that are tested are as follows: prestige, patriotism, beauty, ethnicity, usefulness and intrusiveness. These elements may reflect the individuals' perception of the status of different varieties and can help account for their linguistic behaviour. On a five-point likert scale, the participants are required to identify the extent to which the varieties represent the aspects of attitude represented above.

5.4.1 French

The analysis of the data obtained from the questionnaire shows that none of the participants reported French as a patriotic or ethnic language. These findings are conceivable knowing that no ethnic groups in Algeria are French. The mean value is

μ = 0.00 with a standard deviation value of σ = 0.00. The value corresponds to the label "strongly disagree" which means that all of the participants strongly disagree with the statement that French is a patriotic and/or ethnic language. On the other end of the spectrum, the highest value reported is μ = 4.00 with a standard deviation value of σ = 0.00. This value is reported towards the statement "French is an intrusive language". These findings show that all of the participant– regardless of their gender, education, residence or age– believe that French is not a language that is part of the original linguistic identity of the Chaoui community in particular and Algeria in general.

The analysis of the answers given to the statement "French is a prestigious language" posed some research complications as the item was not very clear to all participants, especially the uneducated ones. The research assistant were instructed to explain the term to the participants by the equivalent "admired and has a status in society". The statistical analysis of the findings shows that the mean value is μ ≈ 2.45 whereas the standard deviation value is σ ≈ 1.19. The value can be rounded to the indexation of the label "neutral". This means that, overall, the participants do not believe that French is a prestigious language. However, the data shows that there is a statistically significant level of covariance in the participants' answers. To examine the nature of this covariance, a correlational analysis is carried out as shown in the following table:

Table 5.67. Social Correlates of the Perception of French as Prestigious

	Gender	Age	Education	Geographical Background	French Proficiency
Prestigious	0.492**	0.007	0.383**	-0.229**	0.542**

The table above shows that there are statistically significant levels of positive correlation between considering French as a prestigious language and gender, education and French proficiency. On the other hand, the data indicate a significant level of inverse correlation with geographical background and no correlation whatsoever with age. These findings mean that educated urban female with higher levels of French proficiency, regardless of their age, reported the highest levels of agreement with statement above. To further probe the depth of this correlation, the

mean values of different groups are compared. It is noticed that the participants from the uneducated groups reported values corresponding to the label "neutral" with no standard deviation value. This further highlights the assumption that this was ambiguous to the participants. It is reported that the lowest mean values ($\mu \leq 1.75$) are reported by the following groups:

- Young male participants with primary, secondary or tertiary education
- Young semi-urban females with primary or middle education

On the other hand, the highest values reported ($u \geq 3.5$) are reported by the following groups:

- All female participants with secondary or tertiary education regardless of their age.

These observations highlight the fact that gender is the main factor underpinning the attitude of participants towards French as a prestigious language. In fact, the comparison of the mean values of males and females highlight the apparent discrepancy as the males scored a mean value of $\mu = 1.839$ whereas the females' mean value is $\mu = 3.013$. The levels of covariance in the two gender groups are similar with a standard deviation value of $\sigma \approx 1.03$. These findings imply that females, irrespective of their age and residence, perceive French as a language of prestige. These conclusions are substantiated by the fact that females reported higher frequencies of French use in the different communicative settings. Education, however seemingly determinant, cannot be concluded as a main underlying factor due to the inconsistency of the participants answers that was consequential to an inherent ambiguity in the metric. Evidence for this conclusion come from the fact that the comparison of means across the educational levels shows inconsistency as shown in the following table:

Table 5.68. Attitude and Education

Education	Mean	N	Std. Deviation
uneducated	1,7750	40	,42290
primary/middle	1,6441	59	,48290
Secondary	2,8947	95	1,28389
tertiary	2,8125	96	1,25079

The table above shows that the mean values are not incremental, and the standard deviation values across the less educated participants are low with a mean value of $\mu \approx 2.00$. In fact, the closer examination of the participants' answers shows that almost 70% of the participants uneducated or with primary/middle education reported the "neural" label. These findings highlight a major limitation in the present study; the linguistic barrier between the researcher and the uneducated, generally old, participants, along with the limited access and lack of opportunity to revisit the items resulted in some inconsistency in the findings. However, this limitation does not influence the generalisability of the findings nor does it discredit the research design. The abundance of attitude items makes the tracking of the general attitude of the participants permissible such that the limitation can be overlooked.

Another feature of positive attitude towards French is expressed by the statement "French is a beautiful language". The participants were asked to express the extent to which they agree with this statement. The analysis of the answers show that the mean value is $\mu = 2.63$ with a standard deviation value of $\sigma = 1.27$. The mean value and the level of variance are very comparable to those expressed in the statement of prestige. In view of that, it was initially hypothesised that participants who perceive French as a prestigious language would perceive it as a beautiful language as well. To test this hypothesis, a correlational analysis is carried out, which resulted in a coefficient of $\rho = 0.850$**. This value indicates that there is a highly significant level of positive correlation between the two metric, which provides support for the hypothesis. To further test the hypothesis, a frequency analysis is provided as shown in the following table:

Table 5.69. Attitude towards French as Prestigious and Beautiful

		SD	D	N	A	SA
Beautiful	**Number**	09	78	18	91	94
Prestigious		13	51	96	50	80
Beautiful	**Percentage**	3.1%	26.9%	6.2%	31.4%	32.4%
Prestigious		4.5%	17.6%	33.1%	17.2%	27.6%

The table above shows that there is significant level of proximity in the number of participants reporting the level of agreement in each metric. The distinction is,

however, observed more saliently with the number of participants reporting neutral attitudes. It has been stated above that the source of many of the "neutral" answers is ambiguity, more particularly among the uneducated participants. As this ambiguity is cleared out with the concept of beauty, such instances would be resolved. This is more evident in the fact that of all 99 uneducated participants and those with primary/middle education, only nine expressed "neutral" attitude with the "beauty" metric while 69 expressed similar attitudes with the "prestige" metric. In view that, it the hypothesis provided above is supported, and individuals expressed similar viewpoint towards the beauty and prestige metric.

The final aspect of attitude relates to the usefulness of the French in the Chaoui community. It is noted that the prestige of one variety does not necessarily entail the usefulness thereof and vice versa. Therefore, the metric of usefulness is included in the data collection tool. The descriptive statistical analysis of the answers indicates that the mean value is $\mu = 3.288$ with a standard deviation of $\sigma = 0.858$. The mean value is very high such that it is higher that the indexation of the label "agree". This means that the majority of the participants agree that French is a useful language in the Chaoui and Algerian community despite them not all agreeing that it is a prestigious language. The standard deviation value is lower than one which means that there is a lower than one level variance between the participants. The frequency analysis further highlights the level of variance, or rather the lack thereof, among the participants:

Table 5.70. Attitude towards French as a useful language

		SD	D	N	A	SA
Useful	**Number**	00	20	14	119	137
	Percentage	00%	6.9%	4.8%	41.0%	47.2%

The table above shows that none of the participants reported a strong disagreement with the statement whereas less than 7% of them expressed mild disagreement. In point of fact, more than 88% of the participants expressed agreement with the statement. These findings are conceivable knowing that French is used in many government sectors, media outlets and even some social groups in many

communicative contexts. This metric received the highest scoring among all metrics that encompass positive attitudes.

5.4.2 Modern Standard Arabic

The analysis of linguistic proficiency and language use above showed a considerable level of discrepancy among the participants. Some participants groups were reportedly more proficient than others and used MSA more frequently. It has also been shown that some communicative contexts licenced the use of MSA more readily than others. The analysis of participants' attitude towards MSA was believed to offer more insight into the underlying factors that govern the linguistic behaviour of individuals.

The first aspect of attitude was expressed by the statement "MSA is a prestigious language" to which the participants were asked to express their level of agreement. The analysis of the quantitative data gives a mean value of $\mu = 2.40$ with a standard deviation of $\sigma = 1.054$. The value is relatively higher than the value corresponding to "neutral" which means that the participants overall do not agree nor disagree that MSA hold a status of prestige in society. However, the standard deviation value indicates that the level of covariance is worthy of investigation. The comparison of means allows for a more in-depth analysis of covariance as shown in the following table:

Table 5.71. Social Groups' Attitudes towards MSA as Prestigious

	Mean	Std. De		Mean	Std. De
Males	3.058	0.829	**Urban**	2.215	1.124
Female	1.810	0.871	**Semi-urban**	2.494	1.015
Uneducated	3.025	0.422	**Rural**	2.902	0.583
Primary/Middle	2.796	0.550	**Young**	2.267	1.114
Secondary	2.178	1.202	**Middle-aged**	2.447	1.134
Tertiary	2.114	1.141	**Old**	2.534	0.800

The table above shows that the mean value decreases with educational levels. However, the level of decrement is not statistically significant. Moreover, it is observed from the table that rural areas scored more than their semi-urban and, in

turn, urban counterparts. Similarly, the young participants reported the lowest values compared to their middle-aged and older counterparts. However, it is noticed that the highest level of discrepancy is reported between males and females where females reported less positive attitudes towards MSA as a prestigious language. The data reported has a seeming inverse correlation with those reported with French as prestigious language. The correlation coefficient gives a value of $\rho = -0.720**$, which is indicative of a high level of statistically inverse correlation between attitudes towards French and MSA as prestigious languages. This means that the participants who reported positive attitudes towards French with reference to this metric are more often than not the same participants who reported negative attitudes towards MSA as a prestigious language.

The metrics of beauty and prestige showed very approximate mean values in the case of French. However, in the case of Arabic, the difference is very considerable as the participants reported a mean value of $\mu = 3.44i4$ with a very low level of standard deviation at $\sigma = 0.563$. This means that almost all participants perceive MSA as a language that can be described as "beautiful". Interestingly, although a significant lower mean value was reported with the metric of prestige, the participants' perception of MSA as a beautiful language is very high with almost no levels of covariance among the participants. These findings can be explained by the fact that Standard Arabic is supported by its religious status and is thought of as a language with unique morpho-lexical and syntactic features. The divinity of Standard Arabic and its liaison with the religious practices led the individuals to perceive it as a language of beauty. The lower values of prestige are also conceivable knowing that prestige is encoded in the sociolinguistic practices of individuals, and Arabic is not commonly used to demonstrate status. The following table shows the frequency of each level of agreement:

Table 5.72. Attitude towards MSA as Prestigious and Beautiful

		SD	D	N	A	SA
Beautiful	**Number**	00	00	10	141	139
Prestigious		00	84	48	116	42
Beautiful	**Percentage**	00%	00%	3.4%	48.6%	47.9%
Prestigious		00%	29.0%	16.6%	40.0%	14.5%

A number of observations result from the data displayed in the table above. First, in the two metrics, none of the participants reported strong levels of disagreement with the statements. Interestingly, none of the participants report any level of disagreement with the conceptualisation of MSA as a "beautiful" language. In fact, a percentage of 96.5% report a strong level of agreement with the beauty metric whereas 54.5% reported similar attitudes with the prestige metric.

With regard to the statement "MSA is an intrusive language", the findings show that none of the participants reported any level of agreement. The mean value reported is very low ($\mu = 0.127$) and the standard deviation value is almost non-existent ($\sigma = 0.334$), indicating a high level of coherence among the participant answer. However, the value of the standard deviation is significant relative to the mean value proper. The examination of the questionnaires shows that 253 (87.2%) of the participants answered "strongly disagree", and 37 (12.8%) answered "disagree".

The final two aspects of attitude relate to the extent to which MSA has patriotic and ethnic bearings. Patriotism, here, refers to the extent to which MSA reflects the national identity whereas ethnicity reflect whether or not it symbolises the ethnic affiliation of Chaoui speakers. The analysis shows that the two metrics are very comparable in terms of means and standard deviations ($\mu \approx 1.200$ and $\sigma \approx 0.900$). These values are closer to the value corresponding to "disagree". This means that the participants overall disagree with the statement that MSA has patriotic or ethnic bearings. The standard deviation values, however, amount to some variance in the participants answers. Interestingly, the table above shows that none of the participants expressed strong agreement with the statement. The following table illustrates the frequency of each level of agreement:

Table 5.73. Attitude towards MSA as Ethnic and Patriotic

		SD	D	N	A	SA
Ethnic	**Number**	81	119	67	23	00
Patriotic		65	112	89	24	00
Ethnic	**Percentage**	27.9%	41.0%	23.1%	7.9%	00%
Patriotic		22.4%	38.6%	30.7%	8.3%	00%

The table above shows that the distribution of the different level of agreement is comparable between the two metrics, with the exception of the value "neutral" being relatively more prevalent in the "patriotic" metric. In order to understand the underlying social factors that underpin the distribution of the value, a comparison of means analysis is conducted, and the findings are tabulated as follows:

Table 5.74. Comparison of Means across the Social Groups

	Ethnic	Patriotic		Ethnic	Patriotic
Males	1.248	1.350	**Urban**	0.867	1.00
Female	0.986	1.156	**Semi-urban**	1.131	1.274
Uneducated	2.00	2.00	**Rural**	2.00	2.146
Primary/Middle	1.678	1.932	**Young**	1.250	1.419
Secondary	1.031	1.263	**Middle-aged**	0.904	1.00
Tertiary	0.468	0.500	**Old**	1.191	1.342

The data displayed in the table above show that the males reported higher mean values than females with regard to both metrics. Moreover, it is shown that the rural participants reported higher than the semi-urban who, in turn, reported higher means than the urban. Finally, tut is shown that the middle-aged participants reported the highest level of disagreement, numerically reflected in the low mean value. However, it is noticed that these differences are subtle and represent little, if any, statistical significance. However, it is noticed that the mean values between the two ends of the education spectrum are very different where educated participants reported lower mean values, indicating more disagreement with the statements. These findings are explainable knowing that educated participants are more aware of the linguistic conflict in the Algerian socio-political scene which leads them to be more/exclusively attached to the variety that has a direct bearing on their linguistic identity. In view of that, it was hypothesised that the two metrics would score the highest in the case of Chaoui and Berber.

5.4.3 Berber

The discussion of language variation and change has attitude as a central concept that can determine the outcome of contact. Attitudinal analysis involves the

speakers' perception of not only the languages of contact but also the languages that are part of the communities' native linguistic repertoire. Berber, a reportedly protolanguage of many current dialects, has been receiving the attention of scholars and politicians alike. The discussion was reflected in the speakers' awareness of the linguistic situation in Algeria and resulted in Berber being even more embraced as a central element in the Berber identity. In the present study, the analysis of attitudes is not restricted to the currently spoken languages but also to a protolanguage that the speakers may well not be linguistically familiar with. The rationale for the inclusion of this variety, although not being a language in use, is that it has a semiotic connotation as it represents a cultural and ethnic affiliation. In view of that, it was hypothesised that speakers would have very positive attitudes towards Berber.

The analysis of the data obtained from the questionnaire shows that none of the participants reported any level of agreement with the statement that Berber is an intrusive language. On the contrary, the mean value reported with this metric is $\mu = 0.00$ with a standard deviation value of $\sigma = 0.00$, indicating that all participants "strongly disagree" with the statement. These findings are in support of the hypothesis enunciated above as Chaoui speakers have a strong sense of liaison with the Berber descent.

On the other end of the spectrum, the analysis of the metrics: "patriotic" and "ethnic" showed very high levels of mean values as most of the participants believe that Berber is an unsegmental part of the national identity, and it is representative of an ethnic group in Algeria. The descriptive statistics that are obtained from the analysis of the questionnaires with regard to these metrics shows that the lowest value is 3.00 which corresponds to "agree". This means that none of the participants reported "neutral", "disagree" or "strongly disagree" with reference to the two metrics. Moreover, the table shows that the mean values are very comparable $\mu \approx 3.6$, which is closer to the value corresponding to "strongly agree". The distribution of the two values "strongly agree" and "agree" is shown in the following table:

Table 5.75. Attitude towards Berber as Patriotic and Ethnic

		SD	D	N	A	SA
Patriotic	**Number**	00	00	00	113	177
Ethnic		00	00	00	102	188
Patriotic	**Percentage**	00%	00%	00%	39.0%	61.0%
Ethnic		00%	00%	00%	35.2%	64.8%

The table above shows that most of the participants strongly perceive Berber as a patriotic language as almost two thirds of them reported such attitudes. It should be noted that none of the participants reported a strong level of agreement with Arabic as a patriotic language, and an average of 8% of them reported mild agreement. On the other hand, all of the participants reported a strong level of disagreement with French any ethnic or patriotic implications. These findings show that there is a general accord among the participants with regard to Berber not being an intrusive language and, conversely, being highly of ethnic and patriotic implications.

The final aspects of attitude relate to the extent to which participants agree that Berber can be described as "prestigious", "beautiful" and "useful". Although these features are not commonly used in scientific inquiry to described linguistic systems as no language is inherently more prestigious, beautiful or useful than another, and these are mere subjective evaluations of socially acquired features that are by no means language-intrinsic. However, the analysis of attitudes does not seek to offer an accurate scientifically reliable description of the features of language. Rather, it seeks to assess individuals' perception of certain languages against a set of features that can be used in non-scientific encounters to describe languages. In view of that, the following table shows the mean values of the participants' agreement with the statements describing Berber as a prestigious, beautiful or a useful language.

Table 5.76. Berber as Prestigious, Beautiful and Useful

	N	Minimum	Maximum	Mean	Std. Deviation
Prestigious	290	0.00	3.00	1.4483	1.1402
Beautiful	290	0.00	4.00	1.8276	1.1182
Useful	290	0.00	3.00	1.2379	1.2541

The data displayed in the tale above shows that the lowest mean value is reported with the metric "useful" at μ = 1.2379. The value is closer to the indexation of the label "disagree", which means that the participants do not view Berber as a useful language. These findings are not surprising knowing that Berber is not a language that is in current use. The standardised version of Berber is perceived by many Chaoui speakers, according to interviews with a number of Chaoui academics, to be a derivative of Kabyle that does not represent proto-Berber. It is, therefore, conceivable that participants do not perceive Berber as a useful language as it is not commonly used in any communicative events. The table above also shows that the metric "prestigious" has a low mean value of μ = 1.4483. Similarly, this value means that the participants do not associate Berber with prestige. The fact that Berber is not known to all Chaoui speakers may be an underpinning reason for such findings.

On the other hand, the data shows that the participants' reported higher mean values with the statement describing Berber as a beautiful language. The mean value of μ = 1.8276 can be rounded to the value of 02, which means that the general tendency of the participants is to have neutral views of Berber as a beautiful language. This means that they do not totally agree with the statement, nor do they reject it. Nonetheless, the data shows that the standard deviation values are relatively high (σ ≈ 1.15), indicating a level of covariance that is worthy of investigation. To account for this covariance, a frequency analysis is conducted where each level of agreement is counted as shown in the following table:

Table 5.77. Attitudes towards Berber as Prestigious, Beautiful and Useful

		SD	D	N	A	SA
Prestigious		87	51	87	65	00
Beautiful	Number	26	112	58	74	20
Useful		119	65	24	82	00
Prestigious		30.0%	17.6%	30.0%	22.4%	00%
Beautiful	Percentage	9.0%	38.6%	20.0%	25.5%	6.8%
Useful		41.0%	22.4%	8.3%	28.3%	00%

The table above provide an explanation for the mean values reported above. First, it is shown that the metric "useful", being the lowest in mean value, has the

highest number of participants reporting strong disagreement with statement whereas the metric "beautiful", being the highest in mean value, is the only metric where there are cases of strong agreement. The table also shows that the number of participants expressing mild agreement is comparable across the three metric. However, these data does not warrant the understanding of the social implications of such attitudes. To achieve that, an inferential correlational analysis is conducted and supplemented with a descriptive comparative analysis of means.

Table 5.78. Social Correlates of Attitudes towards Berber

	Gender	**Age**	**Education**	**Geographical Background**
Prestigious	-0.264**	0.660**	-0.375**	0.165**
Beautiful	-0.165**	0.684**	-0.244**	0.119*
Useful	-0.273**	0.711**	-0.304**	0.102

The table above allows for two main conclusions. First, the three metrics show similar patterns of correlation irrespective of the value proper. That is, the items are equally positively/inversely correlated with the social variables. This is strongly suggestive of a positive correlation between the metrics. In fact, the analysis of Pearson Correlation Coefficient gives very high statistically significant values between the metrics: prestigious-beautiful (ρ = 0. 693**), prestigious-useful (ρ = 0.796**), and useful-beautiful (ρ = 0.777**). The second conclusion is that the strongest levels of correlation are achieved with respect to the variable of age. This means that older participants reported higher levels of agreement with the statements than their younger counterparts. Moreover, the data shows that there is a relatively significant level of inverse correlation between education and attitude with reference to the three metrics as less educated participants reported higher mean values. However, it has been shown the variable of education can cause some misunderstanding as the value neutral is predominant in the answers, and it is higher in index than the mean value of the sample. In fact, the cross-tabulation of these metrics with the education variable shows that the cases of "neutral" are most reported by uneducated participants or those with primary/middle educated as follows: 82 out of 87 in the metric of "prestigious" (0.94:01), 39 out of 58 in the

metric of "beautiful" (0.67:01), and 24 out of 24 in the case of "useful" (01:01). These findings may indicate that the variable of education is of less relevance than that of age.

Table 5.79. Comparison of Attitudes across the social groups

	Presti gious	Beauti- ful	Useful			Presti gious	Beauti- ful	Useful
Males	1.766	2.021	1.598		**Urban**	1.329	1.727	1.183
Female	1.163	1.653	0.915		**Semi.**	1.428	1.868	1.131
Uneducated	1.975	2.325	1.975		**Rural**	1.951	2.212	1.682
Prim./Mid.	2.067	2.118	1.525		**Young**	0.562	1.017	0.312
Secondary	1.357	1.694	1.147		**Mid-aged**	1.704	1.895	1.276
Tertiary	0.937	1.572	0.843		**Old**	2.438	2.972	2.602

The table above further substantiates the claim that education is not of close relevance to these metric to the same extent as age. The data displayed shows that the different between males and females is not considerable, with males slightly having more positive attitudes towards Berber. The residence variable also seems of less relevance as the discrepancy between the three residence groups does not have strong statistical implications. It should be noted, however, that the rural areas scored relatively higher than the two groups in all metrics. With regard to education, it is shown that the less educated groups scored higher mean values than the more educated counterparts. Participants with tertiary education reported low mean values, especially with regard to the metrics of prestige and usefulness. On the other hand, the difference between the age groups is very apparent as the old participants reported mean values that are more than the quadruple of their young counterparts. These findings read as follows: *gender, residence and education are variables that help explain the attitude of participants where males have more positive attitudes towards Berber than females, rural more than semi-urban, semi-urban more than urban, and less educated more than educated. However, the main underlying factors is age where older participants have more positive attitudes than the middle-aged who, in turn, do more than the young*.

5.4.4 Algerian Arabic and Chaoui

Chaoui and Algerian Arabic are the languages that has been shown in the discussion above to be mostly used in daily communicative events. The analysis of language use showed some contrasting patterns of use where each variety is used by specific social groups more often than others. It was hypothesised that the attitudes towards these two varieties would essentially be underpinned by the frequency of use. Therefore, the presentation of these two varieties in a contrastive fashion can be the most expedient way to illustrate the findings.

The first aspect of attitude relate the perception of Algerian Arabic and Chaoui as ethnic or patriotic varieties. One of the major limitations of the present study is that such concepts can be intricate, and getting accurate output from less educated participants can be challenging. In this view, the researchers acknowledges that the accuracy of the findings can be compromised among the uneducated participants, all the more so given that the research assistants and language barriers may prevent adjustment of protocol amidst the administration of the tools. Be that as it may, the data collected involves a certain degree of consistency that can be indicative of actual reliability of data. The following table highlights the main findings obtained from the descriptive analysis of the data obtained with regard to the "patriotic" and "ethnic" metrics:

Table 5.80. Attitudes towards Algerian Arabic and Chaoui as Patriotic and Ethnic

		Minimum	Maximum	Mean	Std. Deviation
Patriotic	**Algerian Arabic**	0.00	3.00	2.0448	0.9565
	Chaoui	4.00	4.00	4.00	0.00
Ethnic	**Algerian Arabic**	0.00	2.00	0.6931	0.7479
	Chaoui	4.00	4.00	4.00	0.00

The table above highlights the significant level of contrast between Algerian Arabic and Chaoui as languages that can be perceived as having patriotic and ethnic connotations. The data shows that all of the participants perceive Chaoui as a patriotic and ethnic variety. The mean value of $\mu = 4.00$ and the standard deviation of $\sigma = 0.00$ indicates that all of the participants– regardless of their age, gender, education or

residence– strongly agree that Chaoui is a language that represents the ethnic and patriotic values of Chaoui speakers. These findings are concomitant with the data obtained from the analysis of the participants' attitudes towards Berber where none of the participants reported any form of neutrality or disagreement with the statement.

On the other hand, the table shows that Algerian Arabic is not perceived as an ethnic language as the mean value is $\mu = 0.6931$ whereas a number of participants reported a level of agreement with the statement describing Algerian Arabic as a language that has patriotic symbolism. These findings are not surprising knowing that patriotism involves a sense of nationalism and affiliation to the nation rather than the ethnicity. Given that Algerian Arabic, albeit regionally discrepant, is a dialect of the Algerian society. It is, therefore, expected that some participant perceive it as a variety of nationalism despite not being perceived as a variety of ethnicity. The minimum and maximum values reported in the table also show that none of the participants reported a strong level of agreement with the representation of Algerian Arabic as patriotic whereas none even report any form of agreement with its representation as ethnic. In view of that, the following table shows the frequency of each level of agreement with regard to Algerian Arabic being described as "patriotic" or "ethnic":

Table 5.81. Attitude towards Algerian Arabic as Patriotic and Ethnic

		SD	D	N	A	SA
Patriotic	**Number**	05	111	40	134	00
Ethnic		139	101	50	00	00
Patriotic	**Percentage**	1.7%	38.3%	13.8%	46.2%	00%
Ethnic		47.9%	34.8%	17.2%	00%	00%

The table above further illustrates the attitudinal discrepancy between Chaoui and Algerian Arabic. The frequency analysis shows that most of the participants (82.7%) expressed mild or strong disagreement with the statement relating algerian Arabic to Chaoui ethnicity. Comparatively, the patriotic connotation of Algerian Arabic was accepted by 46.2% and rejected by 40%. A total of forty participants expressed neutrality. Interestingly, the number of "neutral" responses is comparable in the two metrics, but the distribution of these responses across the social groups is

different. The cross-tabulation of the two metrics with the variable of education shows that six out of the forty responses in the metric "patriotic" are by uneducated or with primary/middle education participants. This means that most neutral responses are by highly educated participants. Conversely, all of the "neutral" responses in the metric "ethnic" are by less educated participants, meaning that all of the educated participants demonstrated mild or strong disagreement with the depiction of Algerian Arabic as an ethnic language. These findings are interesting as they imply that the educated Chaoui speakers accept Algerian Arabic as part of the national linguistic identity but do not consider it as representative of the Chaoui ethnic group.

The subjective judgement of languages as beautiful or prestigious has direct insight into the overt status of the varieties in societies and can help explain much of the linguistic behaviour of individuals. In the present study, Algerian Arabic and Chaoui are contrastively tested against the metrics "prestigious" and "beautiful". The descriptive analysis shows that the two varieties are generally not perceived by the participants as "prestigious" or "beautiful". The following table illustrates the outcomes of the analysis:

Table 5.82. Means of Algerian Arabic and Chaoui as Prestigious and Beautiful

		Minimum	**Maximum**	**Mean**	**Std. Deviation**
Prestigious	**Algerian Arabic**	0.00	3.00	1.5793	1.0301
	Chaoui	0.00	3.00	1.5034	1.1199
Beautiful	**Algerian Arabic**	0.00	4.00	1.7931	1.0966
	Chaoui	0.00	4.00	2.0552	1.2042

It can be observed from the table above that the values "strongly disagree" can be found in the two metrics and the two varieties. However, only mild levels of agreement are reported in the metric "prestigious" whereas strong levels of agreement can be observed with the metric "beautiful". The mean values show that the participants do not generally agree that the two dialects are prestigious or beautiful; the differences in the means are of little statistical significance. However, it is noticed that the standard deviation values are relatively high, indicating a level of covariance in the participants' answered such that further exploratory analyses are called for.

Interestingly, the maximum and minimum values, means and standard deviations reported in the table above are concordant with those reported with reference to Berber. The following table shows the frequency analysis of the two metrics:

Table 5.83. Frequency of Algerian Arabic as Beautiful and Prestigious

		SD	D	N	A	SA
Algerian Arabic	**Beautiful**	23	121	59	67	20
Chaoui		23	94	56	78	39
Algerian Arabic	**Prestigious**	51	87	85	67	00
Chaoui		76	61	84	69	00

The table above shows that the mean values of the two metrics are equally distributed across the two varieties. This resemblance, along with the approximate mean values, may indicate a level of correlation between the two metrics. In fact the analysis of correlation gives the following values: $\rho = 0.952**$ between the two verities' means of "prestigious", $\rho = 0.787**$ between the two varieties' means of "beautiful", $\rho = 0.646**$ between the metrics "prestigious" and "beautiful" in the case of Chaoui and $\rho = 0.575**$ in the case of Algerian Arabic. These findings mean that there is a level of correlation not only between the two metrics but also between the two varieties, which indicates that the two varieties are perceived equally with regard to these metrics.

The comparison of means across the social variables shows that the attitudes reported via these metrics are not different with regard to gender as the mean values of males and females are relatively similar: closer to the mean values reported above. However, age is shown to have some implications on these metrics are the younger participants scored lower mean values, implying less positive attitudes, than their older counterparts. The impact of the geographical background is not as apparent, but the urban participants reported slightly lower mean values than then their rural counterparts. The most apparent impact is pertinent to the variable of education where the more educated participants reported less positive attitudes. These findings can be contrasted to those of language use where the social groups that reported the highest frequencies of Algerian Arabic use generally have less positive attitudes towards the two varieties. One possible explanation for these counter-intuitive findings is that

young educated urban participants generally associate aspects of beauty and prestige with standard languages. This is substantiated by the fact that they reported higher values in Berber, French and MSA with reference to these metrics.

The examination of the participants' attitudes towards the two varieties with reference to the metric "useful" shows that none of the participants reported any neutrality or disagreement with the statements describing Algerian Arabic and Chaoui as useful. This resulted in very high mean values where the participants reported a mean value of $\mu = 3.8379$ for Algerian Arabic and $\mu = 3.7276$ for Chaoui. These findings that almost all of the participants strongly agree that these varieties are useful in the Chaoui community. What is interesting is that not all of the participants reported high frequency of use or high levels of proficiency in these dialects. The frequency analysis shows that only 47 participants (16.2%) reported mild agreement with the statement describing Algerian Arabic as useful whereas 79 (27.2%) reported similar attitudes in the case of Chaoui. This means that 83.8% of the participants strongly agree that Algerian Arabic is useful while 72.8% strongly agree that Chaoui is.

Given the high mean and low standard deviation values, these findings cannot be interpreted in terms of social variables as there is little, if any, covariance among the social groups. However, it is observed that all of the participants who reported having weak, average levels in Chaoui (43 participants) reported mild agreement the statement describing Chaoui as useful. On the other hand, not all of the participants with similar levels of proficiency reported similar attitudes towards Algerian Arabic. In fact, a total of 35 out of 82 participants with less than excellent levels of Algerian Arabic proficiency reported strong agreement with the statement describing Algerian Arabic as useful.

Given that more participants have weak levels in Algerian Arabic than in Chaoui, and knowing that some participants do not even have any level of proficiency in Algerian Arabic, these findings show that participants with weak levels in Chaoui do not have a sense of strong agreement regarding its usefulness whereas some participants with no level of proficiency in Algerian Arabic still acknowledge its

usefulness in the Chaoui community. These pieces of trivia may account for the slightly higher mean value of this metric in Algerian Arabic.

The final aspect of attitudinal analysis relates to the extent to which the participants agree with the statement describing Algerian Arabic and Chaoui as "intrusive". The analysis shows that all of the participants reported strong disagreement with the statement. This is not surprising knowing that similar results were obtained were obtained from the analysis of Berber. On the other hand, the mean value for Algerian Arabic is $\mu = 1.4483$ with a standard deviation of $\sigma = 1.0648$. The mean value is closer to the value of "disagree", which means that the participants generally do not perceive Algerian Arabic as an intrusive variety. However, it is observed that the lowest value is min. $= 0.00$ and the highest is max. $= 3.00$. This means that some participants answered with "agree" to this statement. The standard deviation value is also suggestive of significant covariance in the participant answers. The following table highlights the frequency analysis of the participants' answers:

Table 5.84. Attitude towards Algerian Arabic as Intrusive

		SD	D	N	A	SA
Intrusive	**Number**	45	153	09	83	00
	Percentage	15.5%	52.8%	3.1%	28.6%	00%

The table above shows that more than two thirds of the participants (68.3%) reported disagreement with the depiction of Algerian Arabic as an intrusive language whereas the remaining 31.7% reported neutrality or, substantially, agreement. In order to understand the implications of these findings, an analysis is conducted where these 92 participants' answers are segmented. The examination of the questionnaires shows that the two genders are almost equally represented as there are 42 males (30.6% of the total males) and 50 females (32% of the total females). Similarly, the three residence groups do not show a significant disparity in the distribution as there are 22 urban, 34 semi-urban and 36 rural participants, which do not indicate any considerable statistical difference.

On a different frame of reference, age and education seem to have more apparent prevalence in this subgroup of participants. It is noticed that 81.5% of the 92 participants are in the lower educational levels (uneducated or primary/middle). Moreover, it is noticed that this subgroup is predominantly in the older group as there are 48 old, 33 middle-aged and 11 young participants, which represent 65.7%, 31.4% and 9.8% of the total of the respective age groups. This means that almost two thirds of the old participants reported mild agreement to the statement describing Algerian Arabic as an intrusive variety. Interestingly, the closer examination of this subgroup reveals a more determining factors: mother tongue and language proficiency.

It is noticed that all of the participants in this subgroup and their parents do not speak Algerian Arabic as a mother tongue. The mean Algerian Arabic proficiency of this subgroup is $\mu = 2.42$ which is significantly lower than the mean value of the entire sample, $\mu = 3.43$. These findings are more conceivable than any social factor as having Chaoui as the only mother tongue may well be a strong factor in shaping the individuals' attitudes against any variety that can represent a social or linguistic competition to their mother tongue.

5.5 Attitudes towards Loanwords

The discussion so far shows that the Chaoui speakers have different attitudes towards the linguistic varieties around them. These attitudes can be influenced by register variations as standard languages are associated with prestige and beauty and non-standard with usefulness. They can also be influenced by typology where the non-indigenous, French, is typified as intrusive and the indigenous as ethnic and patriotic. The following figure shows the attitudes of the different varieties:
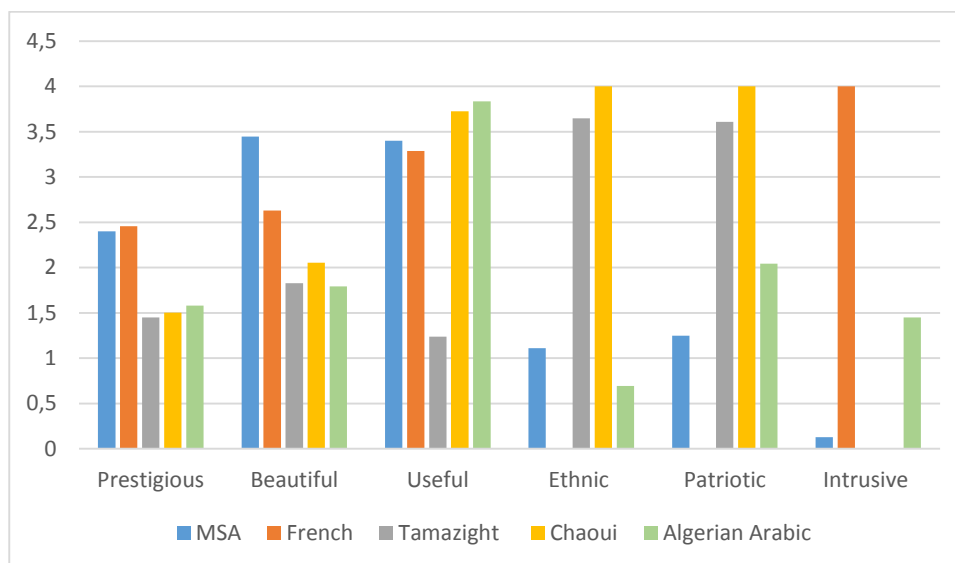
Figure 5.2. Attitudes towards Languages

The examination of attitudinal patterns requires an exhaustive description of the speakers' perception of not only the varieties but also the use of these varieties as part of the Chaoui discourse. In the present study, a particular emphasis is placed upon the participants' attitudes towards the use of loanwords from Standard Arabic, Algerian Arabic and French in Chaoui. The participants are required to express the extent to which they agree to the statement asserting that the use of loanwords from these varieties distorts their identity or language. The means for each of the three varieties can have the following value: $0 \leq \mu \leq 4$, where $\mu = 0$ expresses strong disagreement with the statement and indicates positive attitudes towards the loanwords from that donor variety and vice versa. The descriptive statistics for each variety highlights a noteworthy level of contrast. First, it is noticed that the mean value for MSA loanwords is $\mu = 0.32$, which is close to the value of "strongly disagree". These findings highlight the fact that the participants almost all "strongly disagree" that using MSA loanwords distorts their language or identity. The mean value is significant relative to the mean value. However, the table shows that the maximal value is $n = 1.00$, which corresponds to "disagree". This means that none of the participants reported any neutrality or agreement to the statement depicting the use of Standard Arabic loanwords as distortive.

On the other hand, it is found that the mean values for Algerian Arabic and French are relatively high, and both extremities are reported as the value are min.= 0.00 and max.= 4.00. This means that some of the participants reported strong rejection to the use of loanword whereas others reported quite the opposite. The mean values for French and Algerian Arabic are very comparable, but there is a relatively higher level of covariance in the attitudes towards French. To understand the nature of the covariance, the following table provides an illustration of the frequency of each level of agreement:

Table 5.85. Attitude towards Loanwords

		SD	D	N	A	SA
MSA	**Number**	196	94	00	00	00
Algerian Arabic		20	119	06	95	50
French		55	73	00	83	78
MSA	**Percentage**	67.6%	32.4%	00%	00%	00%
Algerian Arabic		6.9%	41%	2.1%	32.8%	17.2%
French		19%	25.2%	00%	28.6%	26.9%

The table above provides more insight into the mean values reported earlier. First, it is noticed that the number of participants on both ends of the agreement spectrum is more manifest. This means that the attitudes towards French involve more polarity as 45.9% of the participants (133) reported answers with strong agreement/disagreement. In the case of Algerian Arabic, however, only 25.1% of the participants (70) have schismatic beliefs. Moreover, more participants reported disagreement with the depiction of Algerian Arabic as being distortive of Chaoui than did with French. In the case of MSA, it is noticed that more than two thirds of the participants reported strong disagreement with the statement. What is interesting is that the neutral answers represent a very small portion of the total answers.

The examination of these findings in relation to the social groups revealed that none of the female groups unanimously reported mild agreement with the statement depicting the use of MSA loanwords as distortive of Chaoui language and identity whereas the following male groups unanimously reported "agree" to the statement:

- Old semi-urban with secondary education

- Old urban with tertiary education
- Middle-aged semi-urban with tertiary education
- Young with primary/middle education

On the other hand, the following groups unanimously reported "strongly disagree" to that statement:

- Old uneducated females
- Old semi-urban females with primary/middle or secondary education
- Middle-aged urban females with tertiary education
- Middle-aged rural females uneducated or with primary/middle educated
- Young semi-urban or rural females with primary/middle education
- Young semi-urban males with secondary or tertiary education
- Old or middle-aged males with primary/middle education
- Middle-aged rural uneducated males

These findings show that there is no clear patterns with which the values "strongly disagree" and "disagree" are distributed. In fact, the pattern can be haphazard or consequential to the participants having different ways of expressing their disagreement. Given the subtle distinction of the two values in relation to the overall pattern of disagreement, these differences are overlooked. However, the level of covariance in the attitudes towards Algerian Arabic and French is considerable and calls for of correlational analyses. The examination of the findings shows that there is a significant level of correlation between attitudes towards French/Algerian Arabic words and all the other variables as shown in the following table:

Table 5.86. Correlational of Attitudes towards Loanwords

Loanwords	Gender	Age	Education	Geographical Background
Algerian Arabic	-0.122[*]	0.407[**]	-0.452[**]	0.405[**]
French	-0.477[**]	0.090	-0.308[**]	0.288[**]

The table above shows that the mean values of attitudes towards Algerian Arabic loanwords are inversely correlated with gender and education and positively correlated with age and geographical background. Knowing that higher mean values are indicative of less positive attitudes, it can be concluded that the male and less educated participants have negative attitudes towards Algerian Arabic loanwords

whereas the females and the generally more educated participants scored lower, indicating that they do not perceive loanwords as distorting the Chaoui language and identity. Moreover, it can be concluded that the mean values of the older and less urban participants are higher, indicating less positive attitudes. In other words, the younger urban participants perceive Algerian Arabic loanwords not as having a negative impact on their linguistic and cultural identity.

The attitudes towards French words can be seen as having similar patterns with two main exceptions. First, it is noticed that gender has a more significant inverse correlation with attitude in the case of French than in the case of Algerian Arabic. This means that females are more comfortable with the use of French words than Algerian Arabic loanwords, and they are generally more comfortable with using them compared to their male counterparts. The second exception is that age does not seem to have strong bearing on the attitude towards French words as age-related differences are generally insignificant. The cross-tabulation of the findings further substantiate these conclusions:

Table 5.87. Attitudes towards Loanwords across the Social Groups

		Gender		Education				Age			Residence		
		Males	Fema-les	Uned.	Prim/ Mid	Secon-dary	Terti ary	Youn g	mid	Old	Urba n	Semi-urban	Rural
French	μ	2.963	1.500	2.900	3.120	1.652	1.875	2.026	2.250	2.369	1.848	2.384	3.125
	σ	1.245	1.437	1.256	1.077	1.427	1.623	1.562	1.531	1.48	1.535	1.481	1.158
Algerian Arabic	μ	2.292	1.973	3.400	2.593	1.778	1.645	1.633	2.019	3.027	1.784	2.087	3.512
	σ	1.237	1.342	0.928	1.261	1.159	1.151	1.200	1.232	1.079	1.147	1.338	0.778

The table above shows that the difference in the mean values between the two genders is more significant in French. This explains the higher ρ value above. Moreover, it is shown that age difference is almost non-existent in the attitudes towards French as the three age groups reported very comparable mean values. The differences in attitudes towards Algerian Arabic, however, are significant more apparent, further corroborating the difference in Pearson Coefficient reported earlier. Finally, the geographical background and education demonstrate similar patterns of discrepancy, albeit slightly more apparent in the case of Algerian Arabic.

5.6 The Sociolinguistic Interview

Research in the field of language variation and change requires a description of the linguistic, social and psychological features of the language and speech community under investigation. The present study provided a linguistic account for the Chaoui variety and how prospective languages of influence fed into the lexical inventory of the various semantic fields. Moreover, a social overview was provided as the questionnaire analysis offered a discussion of the social variables such as gender, age, education and residence and how they are reflected in the linguistic profile of individuals. However, it has been reported that there are certain limitations that can be linked to such analysis. First, the formal analysis of lexical inventories in isolation can be misrepresentative of the actual state of affairs as it is the outcome of ten Chaoui speakers' translation where considerable mental and metalinguistic conscious efforts were exerted. This is defective in many ways as it lacks quantitative representativeness of the population, and it is not an instance of naturally occurring linguistic behaviours but rather monitored contemplation upon language. Therefore, a need for the observation of actual language use is legitimised. Second, although the questionnaire gives insight into numerous aspects of language use, the account is constructed after the participants' self-report and does not allow for conclusive findings with regard to how loanwords are operative in the speech of Chaoui speakers from different social backgrounds.

In view of these limitations, the present study developed a sociolinguistic interview where specific lexical variables are targeted and, hence, induced. It should be noted that the selection of the lexical variables is motivated by two parameters. First, the variable must have at least two variants where one of them is a non-loanword and the other is a loanword. By so doing, participants' choice of changed/unchanged variants can help sketch a context for the path of language change and the social groups that lead/resist change. Second, the lexical variables must desirably represent different morpho-lexical categories such that an understanding of the internal and inherent features of language that licence change more readily is possible. However, it is noted that the selection of the words on the basis of the two

parameters made the task more challenging, and, in case of inconvenience, the second was compromised.

The quantification of linguistic behaviour in the present study was based on the outcome of the formal analysis of the previous chapter where unchanged variants of the lexical items are indexed 01 and the changed ones are indexed 02. By so doing, a mean analysis can be performed where the linguistic behaviour of individuals with reference to each word has a value of $01 \leq \mu \leq 02$. The values on the higher end of the spectrum refer to a state of change that is adopted by the vast majority of the participants and vice versa. The statistical analysis of the means is illustrated in the following table:

Table 5.88. Change Index tor the Different Lexical Items

	Freeze	**Cry**	**Regret**	**Love**	**Forgive**	**Sun**	**Cave**	**Thunder**	**Animal**
Means	1.800	1.655	1.782	1.541	1.706	1.224	1.810	1.824	1.158
Std. De	0.400	0.476	0.413	0.499	0.455	0.417	0.392	0.381	0.365

	Eagle	**Tailor**	**Morning**	**People**	**In front of**	**Long**	**Quiet**	**Astonished**	**Now**
Means	1.234	1.917	1.513	1.944	1.666	1.610	1.444	1.744	1.6966
Std. De	0.424	0.275	0.500	0.228	0.473	0.488	0.497	0.436	0.460

The table above shows the means and standard deviation values for each lexical item. The examination of the numbers shows that the lexical items can be categorised into three groups based on the mean value of the change index:

➢ **Group A:** This group includes lexical items with mean values of $\mu >$ 1.6. Such values result from the fact that most participants have demonstrated a use of the changed variant. The closer the value is to 02, the more indicative it is of a unanimous pattern of use. The items in this group include the following items in descending order: people, Tailor, thunder, cave, Freeze, regret, astonished, forgive, now, cry, in front of and long.

➢ **Group B:** This group includes lexical items with mean values of $\mu <$ 1.44. Such values result from the fact that most participants

demonstrated a use of the unchanged variant. The closer the value is to 01, the more indicative it is of a unanimous pattern of use. The items in this group include the following items in ascending order: animal, sun, eagle and quiet.

➢ **Group C:** This group include lexical items with the mean value of µ ≈ 1.5. This value is indicative of the fact that both variants, changed and unchanged, are almost equally used by the participants. The closer the value is to 1.5, the more balanced the distribution across participants is. Two items are included in this group: love and morning.

The examination of the standard deviation values shows that it peaks around the mean value of µ ≈ 1.5 and decreases on both extremities of the spectrum. These patterns further substantiate the categorisation above as the items in the third category have the highest standard deviation values, and the items in the first two groups are ordered in descending order of covariance. The data collected from the sociolinguistic interview is indexed, and the frequency of each variant is illustrated in the following table:

Table 5.89. Frequency Analysis for the Changed/Unchanged Items

	Freeze	Cry	Regret	Love	Forgive	Sun	Cave	Thunder	Animal
Unchanged	58	100	63	133	85	225	55	51	244
	20%	34.5%	21.7%	45.9%	29.3%	77.6%	19%	17.6%	84.1%
Changed	232	190	227	157	205	65	235	239	46
	80%	65.5%	78.3%	54.1%	70.7%	22.4%	81%	82.4%	15.9%

	Eagle	Tailor	Morning	People	In front of	Long	Quiet	Astonished	Now
Unchanged	222	24	141	16	98	113	161	74	88
	76.6%	8.3%	48.6%	5.5%	33.8%	39%	55.5%	25.5%	30.3%
Changed	68	266	149	274	192	177	129	216	202
	23.4%	91.7%	51.4%	94.5%	66.2%	61%	44.5%	74.5%	69.7%

One of the possible interpretations for the data in the table above is that the lexical items with different frequency values represent stages in language change. The items with extremely high "unchanged" frequency rates represent an instance of change that is just being initiated by society. The low frequency of "changed" in these items may be consequential to the fact that these loanword variants are embraced by a small portion of the society, which can be the leaders of changed. On the other end

of the spectrum, the lexical items with extremely high "changed" frequency represent language change that has taken motion in previous phases and has been embraced by the vast majority of the population. The cross-tabulation of the findings may help sketch an overview of the path of change and the underlying social factors that motivate it. The following sections illustrate the findings obtained from the analysis of the lexical items in each of the groups with reference to the social variables.

5.6.1 Lexical Items with Unchanged-Dominant Variants

It is reported above that four items in the selected list of variables has been found to be used mostly in terms of their non-loanword variants. The examination of these words in isolation shows that a small portion of participants elect to use the loanword variants while the majority of them use the unchanged forms. Therefore, the analysis in this section is going to be predominantly focused on the portion of participants that demonstrate a use of the changed items as they represent the social group with linguistic non-conformity. First, the word "sun" has been shown in the previous chapter as having two equivalents: /lqeɪl'a/, which is an Arabic loanword and /ɵ'afu:kɵ/ which showed no evidence of borrowing and is, hence, considered as a non-loanword. The findings show that only 65 of the participants (22.4%) reported using /lqeɪl'a/.

Table 5.90. Variation of the Word "Sun" across the Social Groups

Groups	Changed	Unchanged		Groups	Changed	Unchanged
Young	23	89		**Males**	30	107
Mid.	30	75		**Females**	35	118
Old	12	61		**uneducated**	00	40
Urban	45	113		**Primary/middle**	12	47
Semi.	20	71		**Secondary**	26	69
Rural	00	41		**Tertiary**	27	69

The table above shows some very interesting findings. First, it is shown that 20.5% of the young participants use the changed variant. This percentage is close to the mean of the sample (22.4%), which suggests that the young participants are not exceptionally different from the mean value of the entire group. The old participants, however, are significantly lower than the mean value of the group as 16.4% of the

old participants demonstrate a use of the changed variant. Interestingly, the highest percentage was observed among the middle-aged participants where more than 28.5% of the participants within this age group used the changed variant. This percentage is relatively disproportionate to the findings obtained by the entire sample. However, it is noted that none of the age groups reported use percentages that are significantly different from those reported by the group as a whole. This implies that age is not necessarily a prime determinant of the use of the variant /lqeɪl'a/. On equal footing, gender does not seem to have a strong bearing on the distribution of the two variants as 21.9% of the males and 22.8% of the females demonstrated a use of /lqeɪl'a/. Although the female participants are higher in terms of the number of participants using the loanword variant, these differences are not statistically significant and do not warrant any conclusion for the reason that the two percentages are very comparable to the mean value of the group (22.4%).

On the other end of the spectrum, the variables of residence and education show a strong correlation with the use of the changed variant. It is reported that none of the rural participants demonstrated a use of the word /lqeɪl'a/ while the semi-urban participants' use is proportionate to the norm of group as 22% of them use the loanword variant. Contrastively, the urban participants reported the highest percentage of use as 28.5% of them use the changed variant. However, it should be noted that the difference between the semi-urban and urban participants is not very apparent and can be consequential to the sampling paradigm and the distribution of other social variables across the two residence groups. This means that the rural participants show the most recognisable form of linguistic conformity.

It is also shown in the table above that all of the uneducated participants use the variant /ɵ'afu:kɵ/. On the other hand, the participants with parimary/middle education reported a 20.3% use of the changed variant, which is very comparable to the average of the entire group. In comparison, the participants with secondary or tertiary education reported percentages that are relatively higher than the group average (27.3% and 28.1% respectively). This means that the three education groups

are comparable, and the only group showing extreme levels of conformity are the uneducated participants.

The findings so far amount to the conclusion that the "sun" variant is mostly unchanged; rural and uneducated social groups show the highest level of conformity with the group. However, given that the variable is predominantly "unchanged" the disconformity analysis requires finding what social groups show the highest rates of changed variant use. The examination of gender, age, education and residence does not show any significantly high levels of /lqeɪl'a/ in correspondence to these variables. However, this does not exclude the prospect of one social group being the leaders of change. To investigate that, a cross-tabulational analysis of means is carried out. Here, the highest mean values across the social groups reflect the leaders of change.

The analysis of the means shows that a number of social groups demonstrate a relatively high frequency of changed variant use. That is, the middle-aged urban and semi-urban males with secondary or tertiary education demonstrated the highest rates of use with mean values that are equal or higher than $\mu = 1.50$. These findings can seem counter-intuitive at first encounter. However, they are reasonably explainable given the attitudinal and linguistic proficiency analysis reported middle-aged urban and semi-urban males with relatively higher levels of education as the most proficient subgroup in Algerian Arabic. These groups has also been shown as having the highest mean values of viewing Algerian Arabic as a useful language. The middle-aged participants has also been shown as being predominantly native speakers of both Chaoui and Algerian Arabic. That is, they represent most bilingual individuals in the Chaoui community. As shown in the theoretical discussion of the present study, multilingual speakers are shown by many studies to be the locus of language variation and change.

Having established the word "sun" as a point of reference for the analysis, the remaining lexical items are, thus, compared to the findings reported above. The analysis of correlation between the items "sun", "eagle", "animal" and "quiet". The correlational analysis shows that there is a very high level of correlation in the use of

the changed variants of the word "sun" with those of "animal" "eagle" and "sun" showing the highest levels of correlation ($\rho = 0.\,0.808^{**}$, $\rho = 0.659^{**}$ and $\rho = 0.434^{**}$ respectively). With regard to the word "animal", the analysis above shows that less than 16% of the participants use the Arabic loanword variant /lħʼajʼawɜ:n/ whereas more than 82% of them use the variant /ʼaɣərsi:w/, which is shown in the formal analysis as a non-loanword. Moreover, it is shown that 23.4% of the participants use the word /fʼa:liçu:/, which has been argued for as being a French loanword for "eagle", while 76.6% of them use the variant /gi:ðər/, for which, no evidence of borrowing was found. The examination of the distribution of these variants across the social groups shows some interesting findings as shown in the following table:

Table 5.91. Frequency Comparison of the Words "Animal" and "Eagle"

Groups		Changed		Unchanged		Groups		Changed		Unchanged	
		Ani.	Eag.	Ani.	Eag.			Ani.	Eag.	Ani.	Eag.
Age	Young	15	25	97	87	Gender	Males	19	31	118	106
	Mid.	23	27	82	78		Females	27	37	126	116
	Old	08	16	65	57	Education	Uneducated	00	00	40	40
Reside	Urban	28	45	130	113		Pri/mid	09	10	50	49
	Semi.	18	23	73	68		Secondary	15	32	80	63
	Rural	00	00	41	41		Tertiary	22	26	74	70

The findings in the table above are very comparable to those displayed in Table 5.89. The main similarity is that the rural and uneducated participant reported no use of the changed variant. The cross-tabulation of these findings show that the middle-aged urban and semi-urban participant with secondary and tertiary education are the main social groups that demonstrate a frequent use of the loanword variant in a similar fashion that the word "sun" is used with. The final items in this group is the word "quiet" which has two variants: /ðəlʕʼaqəl/ which is an Arabic loanword and /jəssu:səm/ which is evaluated as a non-loanword. It is reported above that the mean value of use is $\mu = 1.44$ which puts this word on the very upper end of this group as it can be argued as belonging to Group C. Moreover, the findings above show that the Arabic loanword is used by 44.5% by the participants. The following table provides a comparison of frequency of use across the social groups:

Table 5.92. Frequency Comparison of the Words "Quiet"

V	Groups	Changed	Unchanged	V	Groups	Changed	Unchanged
Age	Young	63	49	Gender	Males	68	69
	Mid.	38	67		Females	61	92
	Old	28	45	Education	uneducated	06	34
Residence	Urban	96	62		Primary/middle	23	36
	Semi.	29	62		Secondary	58	37
	Rural	04	37		Tertiary	42	54

The table above highlights a number of considerable observations. First, it is noticed that the uneducated and rural social groups, still, use the changed variants although at very low frequencies. This suggests that the first three variables are completely resisted by the rural and uneducated social groups, and they are initiated by the middle-aged urban and semi-urban educated males, but are not spread to the majority to the population. Moreover, it can be concluded that the changed variant of this variable is more embraced by the community, is more in use– as implied by the mean value– and has been propagated to the uneducated and rural participants. It should be noted that none of the NORM's have reported any instances of use, which means that the loanword variant /ðəlʕ'aqəl/ is still on the periphery of the typically change-resisting social groups.

The second observation is the gender-related differences. The table above shows that while the previous lexical items showed little, if any, differences that can be explained in terms of gender, the use of /ðəlʕ'aqəl/ can have some gender implications. It is reported that 49.6% of the males and 39.8% of the females use the loanword variant. Surprisingly, the gender difference in the previous three variable, although very marginal, is in favour of females as the percentage of their use of changed variants is slightly higher than that of males. In the case of the "quiet", it is shown that the males are significantly higher than females in terms of changed variant use. These findings can be explained by the fact that "quiet" represents a case of more equitable language variation that is embraced by a significant portion of the population (44.5%) whereas the remaining variables represent a case of linguistic innovation that is yet to be spread to the community as an average of one fifth of the sample use the changed variant. It has been shown in the theoretical discussion that empirical evidence suggest that females generally lead in the cases of linguistic

innovation. In other words, linguistic variants that are innovated are more readily adopted by female participants, although they are not necessarily the leading group of this innovation. As this innovation spreads to the community, the use of this variant is reconfigured depending on a number of other variables such as mobility, attitude and proficiency.

5.6.2 Lexical Items with Equitable Distribution of Variants

The analysis of the word "quiet" showed that it does not represent a case of linguistic innovation. Rather, it is a closer to a case of equitable variation where both variants are in use by a significant portion of the population. It was, therefore, hypothesised that the items in Group C –love and morning– would be closer in distribution to "quiet". The findings reported above show that the respective mean values for the two items are $\mu = 1.541$ and $\mu = 1.513$ with standard deviation values of $\sigma = 0.500$. This suggests that the two variants are almost equally distributed across the participants, which is further substantiated by the frequency analysis where the changed variants are found to be used by 54.1% and 51.4% of the population respectively.

The verb "love" has two variants: /jətħi:bb'a/ which is an Arabic loanword and /j'axs/ which is evaluated as a non-loanword. On the other hand, the word "morning" has two variants; one of them is judged as a non-loanword /ti:f'a:wət/, and the other is an Arabic loanword /ɵ'aṣəḅħi:ɵ/. The use of these variants by the different social groups is illustrated in the following table:

Table 5.93. Frequency Comparison of the Words "Love" and "Morning"

Groups	Changed		Unchanged		Groups	Changed		Unchanged	
	Love	Mor.	Love	Mor.		Love	Mor.	Love	Mor.
Young	68	64	44	48	**Males**	73	69	64	68
Mid.	66	64	39	41	**Females**	84	80	69	73
Old	23	21	50	52	**Uneducated**	02	02	38	38
Urban	99	91	59	67	**Pri/mid**	19	19	40	40
Semi.	54	54	37	37	**Secondary**	63	59	32	36
Rural	04	04	37	37	**Tertiary**	73	69	23	27

The findings displayed in the table above provide support to the hypothesis enunciated above. First, it is shown that some of the uneducated and rural participants

still use the changed variant in the same way that is reported with the word "quiet". These findings can be contrasted with the words in the first group where none of the uneducated or rural participants used the loanword variants. However, one main area of contrast between these words and "quiet" is the gender difference. The table above shows that 53.3% of the males and 54.9% of the females use the changed variant of the word "love", and 50.36% of the males and 52.2% of the females use the changed variant of "morning". These percentages highlight the fact that there are no significant differences in the use of the two words with reference to gender.

Another observation that can be raised from the comparison of "quiet" to "love" and "morning" is the fact that the numbers are very comparable across all of the social groups except the following: females, middle-aged, semi urban and tertiary. The use of the changed variant of the word "quiet" is considerably less common among these groups than the use of the changed variants of "love" or "morning" as illustrated in the following table:

Table 5.94. Comparison of "Quiet" to "Love" and "Morning"

	Changed			Unchanged		
	Love	Morning	Quiet	Love	Morning	Quiet
Females	54.9%	52.3%	39.8%	45.0%	47.7%	60.1%
Middle-aged	62.8%	60.9%	36.1%	37.1%	39.0%	63.8%
Semi-Urban	59.3%	59.3%	31.8%	40.6%	40.6%	68.1%
Tertiary	76.0%	71.8%	43.75%	23.9%	28.1%	56.2%

The mean values for the three words are not very different ($\mu = 1.541$ "love", $\mu = 1.513$ "morning" $\mu = 1.44$ "quiet"). This means that there is less a 6.5% increment in changed variant use between "quiet" and "love" while there is a 4.6% increment between "quiet" and "morning". However, it is noticed that these small differences are not reflected in the differences illustrated in the table above where the percentage difference can exceed 32%. To explain these differences, the use of the changed variant of "quiet" is contrasted to the words "animal" and "eagle". Interestingly, the highest levels of contrast include none of the social groups reported in the table above. In fact, the young, urban, male and secondary groups show the highest level of differences.

These findings mean that the word "quiet" is contrasted with the words representing innovation (animal and eagle) in terms of young, male, urban and secondary education groups and contrasted with the words representing equitable variation in terms of the social groups immediately above: middle-aged, semi-urban, females, and tertiary. The number of participants using a changed/unchanged variant is an accurate metric for the stage of language change where the more participants use the changed variant, the more advanced the stage of change is. Therefore, we can consider the words "animal" and "eagle" as words that are on the initial stages of language change, the words "love" and "morning" as words on the later stages of that change and the word "quiet" as a word that is in an intermediary stage.

By so positing, the result of the contrast can be explained. The difference between the use of the variant in the stage of innovation and spread is more observable among young, urban males with secondary education, which means that these groups are the fastest to embrace change. Change at this phase spreads at the slowest rate among middle-aged, old, rural, or less educated groups. In the second phase of language change, the groups of middle-aged, semi-urban females or educated participants show the highest rate of embracing the changed variants. These conclusions can be translated to the figure below:
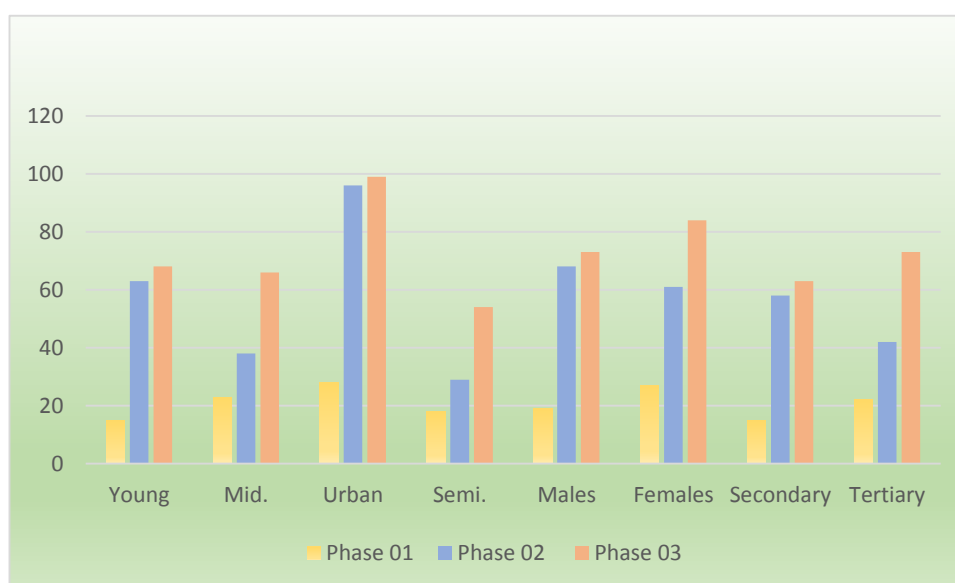
Figure 5.3. The Use of Changed Variants across the First Three Phases of Change

These findings are indicative of the social groups with the most unstable linguistic behaviour; the more extreme the contrast between the cluster columns is, the more unstable the social group is in terms of their linguistic behaviour. The figure above shows that the most drastic changes in frequency of change variant use can be observed across the young, urban, male, and secondary education groups in the transition from the first to the second phases of change. Moreover, the groups of middle-aged, semi-urban, female and tertiary education groups represent the most observable contrast between the second and third phases of change. In other words, these findings show the different stages where the different social groups embrace change at the highest rates.

The level of correlation between the use of the changed variants /jətħi:bba/ /ɵ'aṣəḅħi:ɵ/ is very high ρ = 0.946**, which indicate an almost ideally linear fashion of language use. That is, the participants who reported using the changed variant of the word "love" also reported using the changed variant of the word "morning". The level of correlation between "quiet" and these words is, however, very low, which indicates that there is a significant level of difference in the participants answers regarding these words. The comparison of means shows that the use of the changed/unchanged variants is predominantly underlain by the factors of age and residence and secondarily by education whereas gender does not have a strong bearing on the interpretation of the findings. Knowing that education is consequential to the factors of age and residence, it can be, thus, concluded that the distribution of the changed/unchanged variants is determined by the age, education and residence of the speakers whereas there is a significant level of conformity among male and female participants regarding their linguistic behaviour with reference to the variables "love" and "morning".

The contention that the mean value of use is representative of the stage of language change means that the words with the mean values of μ ≈ 02 constitute examples of change that is embraced by the vast majority of the population and is at its final stages from a constructive non-conformity to a final conformity of linguistic

behaviour. The following section provides and analysis of the words in the first group where the mean values are very high.

5.6.3 Lexical Items with Changed-Dominant Variants

The final group of words include lexical items that are expressed in terms of changed variables in most cases. That is, the mean value of the change index is μ > 1.6. In this regard, the word "people" has the highest index where only sixteen participants (5.5%) use the non-loanword variants /ʔiːwð'aːn/ and /ʔ'aːgðuːð/ whereas the remaining participants use the Arabic loanword /ɣ'aːʃi/. For economic representation, the analysis is reserved to the sixteen participant as they represent cases where change is resisted at its peak.

Table 5.95. Change-Resisting Participants

		Middle-Aged		Old	
		Male	**Female**	**Male**	**Female**
Semi-Urban	**Uneducated**			02	01
Rural		01	03	04	02
	Primary/Middle		01		
Urban				02	

The table above shows that none of the educated or young participants are part of the change-resisting group and that the group is mainly rural (68.7%), uneducated (81.2%) and old (68.7%). The two genders are almost equally represented as this subgroup is 43.8% females and 56.2% males. This means that the change-resisting group are not necessarily NORMs but rather NOURs (non-mobile old uneducated rural participants).

On equal footing, the word "tailor" represents a case of change at its latest stages as the variant /ʔ'axijjaːṭ/, which is an Arabic loanword, is used by 91.7% of the participant whereas the phrasal non-loanword variant /weɪ ʔiːgənniːn/ "he who sews" is used by 8.3% of them. Interestingly, although the translation process offered another lexical rather than phrasal alternative /ʔagənnei/, none of the participants demonstrated a use of this variant. In this view, the cross-tabulation of the social variables in this particular group of 24 participants results in the following table:

Table 5.96. Participants Using the Unchanged Variant of "tailor"

		Uneducated		primary/middle school		
		Middle-aged	Old	Young	Middle-aged	Old
Urban	**Male**		01			02
Semi-Urban	**Female**		02			
Rural	**Male**	01	04	03	01	
	Female	03	04	01	02	

Compared to the use of the word "people", the use of the unchanged variant of the word "tailor" includes four participants from the rural area, both of which received primary education. This means that while the word /ʔi:wð'a:n/ or /ʔ'a:gðu:ð/ have died out and are no longer in use among younger participants, the word /weɪ ʔi:gənni:n/ is known among the young participants. These findings can be attributed to the fact that the lexical form of the word "tailor" is completely out of use, and the phrasal alternative is used. If we exclude the phrasal variant, it can be said that the Arabic loanword completely replaced the Chaoui variant. These findings highlight a very important observation. It is shown that change is being resisted by the NOURs (non-mobile old uneducated rural participants). On the other hand, the participants on the other end of these spectra represent the leaders of change (mobile younger urban educated participants).

The primary examination of the interview shows that the words "cave", "thunder" and "freeze" have similar patterns of use. To confirm, a correlation analysis is conducted where the Pearson coefficient gives a value of $0.956 < \rho < 0.770$. This means that there is a strong level of positive correlation between the uses of the three word such that they can be analysed together. First, the word "cave" has two variants: /lk'a:f/ which is an Arabic loanword and /ʔi:fri/ which is a non-loanword. Second, the word "thunder" has two variants: /r̩ʕʌd/ which is an Arabic loanword and /ʔ'adʒeɪn/ which is evaluated as a non-loanword given the lack of evidence for borrowing. Finally, the word "freeze" has the Arabic loanword /ʔ'a:ðiʒəmməd/ and the non-loanword /ʔ'a:ðjəqr̩əf/.

CHAPTER FIVE: Language Proficiency, Language Use, Attitude and Language Change

The interview results show that the Arabic loanwords are used by 80% or more of the participants. To understand what social groups are resisting change the most, a mean comparison is conducted where the lowest values represent social groups that use the non-loanword variants more prevalently.

Table 5.97. Comparison of the Words "Cave", "Thunder" and "Freeze"

	Cave	Thunder	Freeze		Cave	Thunder	Freeze
Young	1.919	1.916	1.866	**Males**	1.773	1.802	1.795
Mid.	1.866	1.867	1.861	**Females**	1.843	1.841	1.803
Old	1.561	1.616	1.602	**Uneducated**	1.050	1.125	1.175
Urban	1.943	1.962	1.974	**Pri/mid**	1.711	1.728	1.678
Semi.	1.912	1.923	1.824	**Secondary**	2.00	2.00	1.989
Rural	1.073	1.073	1.073	**Tertiary**	2.00	2.00	1.947

The table above shows that the differences in terms of gender are very minimal, but the females generally have higher mean values indicating that they use the changed variant more. The differences in terms of age are also not observable among the young and the middle-aged participants; the old, however, have relatively lower mean values. With regard to residence and education, the discrepancy is more prominent as the uneducated and rural participants reportedly showed very low mean values. These findings amount to the conclusion that the use of the changed variant is categorical rather than continuous across the social spectra. That is, we do not see that the use of the changed variant forms a continuum, increasing with the increase of urbaness, age or education. Rather, the linguistic behaviour is categorical as the young and the middle-aged; the urban and the semi-urban; and the primary, secondary and tertiary are in conformity, and the remaining categories in each spectrum are in disconformity with the other categories altogether. These findings suggest that residence and education are the prime determinant of linguistic behaviour where rural and uneducated participants resist change, all the more so when coupled with the variable of age.

The word "regret" is found in the formal analysis to have two variants: the Arabic loanword /ʔiːndəm/ and the non-loanword /ħɡarʐaːʂ/. The interview results show that more than 78% of the participants use the Arabic loanword. That is, only 63 of the participants use the non-loanword. It is worthwhile noting that the two

genders are almost equally represented in this subgroup as there are 32 male and 31 female participants who used the unchanged variant. This may, at first encounter, give the impression that gender is completely irrelevant to the use of /hg'arẓaːṣ/. However, in comparison to the entire group, this means that 23.3% of the males and 20.2% of the females actually use the unchanged variable, which means that the male participants are relatively more reserved to the unchanged variant. Furthermore, it is found that 21 young, 22 middle-aged and 21 old participants use the non-loanword. Put otherwise, a total of 18.7% of the young, 20.9% of the middle-aged and 27.4% of the old participants constitute this subgroup.

With regard to education, the analysis shows that the 69 participant group consists of 12 uneducated, 21 primary/middle, 16 secondary and 14 tertiary education participants, which correspond to the proportion of 30%, 35.6%, 16.8% and 14.5% of the respective education groups of the entire sample. Finally, it is found that 28 urban, 19 semi-urban and 16 rural participants reported using the unchanged variant. This translates to 17.7% of the urban, 20.9% of the semi-urban and 39% of the rural. These observations highlight the fact that although the numbers of the urban, educated and young/middle-aged participants is higher, which can cause misinformed conclusion, the percentages of these social groups in proportion to their respective percentages in the sample show that it is mostly rural, uneducated and old participants that demonstrate a use of the unchanged variant, and gender is of a less observable marking.

The correlational analysis of the use of the two variants in relation to the social variables shows that there are very low and insignificant levels of correlation between the use of the two variants of "regret" and age/gender. The level of correlation with education and residence, although of a relative significance, is on the lower end ($\rho \approx$ 0.50**). This means that the use of the variants cannot be explained in terms of the social factors, which can lead to the question of whether all instances of linguistic variation can be explained in terms of sociolinguistic paradigms.

The word "astonished", on another line of reference, is expressed by three quarters of the participants (74.5%) in terms of its Arabic loanword variant /jħ3ːr/

whereas the non-loanword variant /jərrebz'a/ is used by one quarter. What is noticed is that all of the social variables are represented in the group using the unchanged variant as shown in the following table:

Table 5.98. Participants Using the Unchanged Variant of "Astonished"

	Number	Percentage		Number	Percentage
Young	18	16%	**Males**	28	20.4%
Mid.	23	21.9%	**Females**	45	30%
Old	33	45.2%	**Uneducated**	35	87.5%
Urban	11	6.9%	**Pri/mid**	23	39%
Semi.	25	27.4%	**Secondary**	07	7.3%
Rural	38	92.7%	**Tertiary**	09	9.3%

The data in the table shows that there are some statistically significant differences with reference to all of the social variables. First, it is shown that there is the gender differences are the least observable as there are relatively more females using the unchanged variant. Moreover, it is noticed that there is a level of conformity between the middle-aged and the young as opposed to the old who use the non-loanword variant significantly more often. Residence and education represent the most distinctive features as the rural and uneducated participants use the unchanged variant significantly more often. This means that gender and age have less impact on the linguistic behaviour of the participants than residence and education. Such a conclusion is further substantiated with the correlation analysis which gives values of $\rho = -0.110$, $\rho = -0.251^{**}$, $\rho = 0.560^{**}$ and $\rho = -0.622^{**}$ for gender, age, education and residence respectively. The cross-tabulation of the means shows that all of the uneducated rural participants, irrespective of their gender and age, and the old semi-urban uneducated participants use the unchanged variant.

The words "forgive", "now", "cry" and "long" are shown to have a have level of correlation $\rho > 0.805^{**}$, which means that the patterns of use are almost identical. In view of that, the formal analysis of the list showed that these words have Arabic loanword variants (/jəss'amħ'a:s/, /lu:qq'a/, /jətʕ'aja:ðˤ/ and /jəʈʈəw̞ɑ:l/ or /jʈʌwwəl/ respectively) and non-loanword variants (/jəssu:rfiɵ/, /ʔi:mi:r'a/, /ji:l/ and /ð'azəgr'a:r/ respectively). These words are expressed mostly by the loanword variants with an average of 67% of the participants.

Table 5.99. Correlates of "Long", "Forgive", "Cry" And "Now"

	Gender	Age	Education	Geographical Background
Long	0.051	-0.110	0.194**	-0.162**
Forgive	0.058	-0.216**	0.341**	-0.286**
Cry	-0.062	-0.152**	0.240**	-0.314**
Now	0.051	-0.218**	0.305**	-0.223**

The table above shows that gender is not closely relevant to the use of the changed variants of the four words. The remaining of the variables show statistically significant levels of correlation. However, compared to the levels of correlation reported above, these correlations are not as significant. It can be concluded that there is an inverse correlation between age/residence and the use of the changed variants which is positively correlated with education where old, rural and uneducated participants use the changed variant less.

One of the reasons that the correlation coefficient values are low can be attributed to the conformity that is observed among some categories in the social groups. For instance,

Table 5.100. Comparison of "Long", "Forgive", "Now" and "Cry" across Social Groups

	Long	Forgive	Now	Cry		Long	Forgive	Now	Cry
Young	33%	18.7%	19.6%	26.7%	**Uned.**	62.5%	62.5%	57.5%	62.5%
Mid.	40%	30.4%	31.4%	35.2%	**Pri/Mid.**	45.7%	44%	47.4%	45.7%
Old	46.5%	43.8%	45.2%	45.2%	**Secondary**	30.5%	17.9%	18.9%	21%
Urban	34.8%	20.8%	23.4%	24%	**Tertiary**	33.3%	17.7%	19.8%	29.2%
Semi.	35.1%	28.5%	30.7%	36.2%	**Males**	41.6%	32.1%	32.8%	31.3%
Rural	63.4%	63.4%	56%	70.7%	**Females**	36.6%	26.8%	28.1%	37.2%

As shown in the table, the difference between males and females is not very apparent. Likewise, although the older participants have relatively higher percentage of unchanged variants use, the difference is overlooked across the four words. These differences, or the lack thereof, result in low correlation coefficient. With regard to residence and education, it is shown that there correlation is more apparent, which explains the significance of the correlation above. However, it is noticed that there is a level of conformity across the groups within the same social spectrum. For example, the participants with tertiary, secondary or middle education report comparable

percentages that are deviating from those reported by the older participants. Similarly, the urban and semi-urban are in conformity although being altogether very distinct from the findings of the rural participants. Such pattern of linguistic behaviour means that the variables of residence and education form categories rather than continua. That is, the labelling of these variable as *literate/educated vs. illiterate/uneducated* and *rural vs. non-rural* may yield more consistent findings.

The final item in the analysis is prepositional. The word "in front of" is expressed by an Arabic loanword /jqa:bəl/ and a non-loanword /zza:ɵ/. The quantification of linguistic behaviour showed that the Arabic loanword is used by two thirds of the participants (66.2%). The analysis of correlation shows that the use of these variants is closely related to that of "love" and "morning" given that the correlation coefficients is $\rho \approx 0.750^{**}$. It is shown that these two latter words belong to the group where both variants are used almost equally. This means that the social factors that underpin the use of these two words are closely related to those underpinning the use of "in front of". To examine that, a frequency analysis is performed across the social variables.

Table 5.101. Frequency Comparison of The Word "In front of"

Groups	Changed	Unchanged	Groups	Changed	Unchanged
Young	75%	25%	**Males**	72.3%	27.7%
Mid.	70.5%	29.5%	**Females**	60.8%	39.2%
Old	46.5%	53.5%	**uneducated**	17.5%	82.5%
Urban	79.1%	21.9%	**Primary/middle**	45.7%	54.3%
Semi.	67%	33%	**Secondary**	82.1%	17.9%
Rural	14.6%	85.4%	**Tertiary**	83.3%	16.6%

The table above shows that the males generally use the changed variant /jq'a:bəl/ more prevalently. However, the difference is not very apparent and can be consequential to other factors that intertwine with gender. With regard to the remaining social variables, it transpires that there is a fusion across two categories in each variable spectrum. To be precise, the participants groups with secondary and tertiary education, the semi-urban and the urban, in addition to the young and the middle-aged show very high levels of coherence and are not contrastable. Rather,

they can be grouped into overlapping groups that can be contrasted to the uneducated, the rural and the old participant groups respectively.

With that in mind, it should be noted that the data displayed in the table above amount to the conclusion that education and residence are the most prominent determining factors that underpin the use of the changed variant of the preposition "in front of"; age has a less observable impact while gender is almost insignificant. These conclusions are further substantiated by the analysis of correlation coefficient which gives the values of $\rho = -0.121*$ with gender, $\rho = -0.224**$ with age, $\rho = 0.477**$ with education and $\rho = -0.419**$ with residence.

5.7 Conclusion

The study of language change in the present study was divided into a formal analysis that has the goal of analysing lexical items in isolation to see the traces of borrowing from prospective languages of influence. The items that were found to have more than one representation that are cross-linguistic rather than synonymous are used as materials for the analysis of linguistic behaviour. To establish a ground for the interpretation of the sociolinguistic interview findings, a questionnaire was developed so as to have an understanding of individuals' social and linguistic background in addition to their attitude towards the different languages that make up the Chaoui linguistic profile.

It was revealed in the discussion of the present study that there are significant differences in the linguistic proficiency of the participants where proficiency in French and MSA were linked principally to education and secondarily to age, with gender and residence being of insignificant impact. The mastery of Algerian Arabic was shown to be higher among middle-aged males regardless of their age and education. Such findings were attributed to the high level of mobility that males of this age group are marked with. With regard to language use, the study showed that MSA and French are contextually very restricted; Algerian Arabic and Chaoui are the main codes of interaction in most natural contexts. It is shown that residence and age are the prime determinants of language use as young urban groups use Algerian Arabic more often in contrast to old rural groups who predominantly use Chaoui.

With regard to attitudes, the findings of the present study showed considerable contrasts between the varieties as Berber and Chaoui were linked more to ethnicity and patriotism; MSA and French to prestige and importance; and Algerian Arabic to usefulness.

The interview findings showed that the lexical items can be categorised into three groups, each representing a stage in language change. Variables that are expressed chiefly through the unchanged variants are judged as representing an instance of innovation or change at early stage; the fewer the instances of unchanged variant use, the more advanced the phrase of change is. With regard to the interplay of the social factors with linguistic behaviour, it was found that gender is almost irrelevant, except in cases where there is a linguistic innovation. Age was found as a significant variable that has a strong intertwine with education. Older and less educated members are found to use the unchanged variants considerably more observably. In cases where there is a balanced variation between the loanword and non-loanword variants, middle-aged males were found to use the loanword variants more. Finally, the impact of residence was shown as being key in explaining linguistic behaviour. The differences in the use of changed/unchanged variants was found as mainly attributable to region where rural participants use the unchanged variants more.

General Conclusion

The goal of the present study is to shed light on a very important area of inquiry in sociolinguistics research, language change. The motivation of the research stems from the fact that despite the increasing number of researcher papers addressing the sociolinguistic profile in Algeria, still, there is a noticeable paucity with regard to many Algerian Arabic and non-Arabic varieties. The Berber dialects are noticeably under-researched, and the scholarly context calls for more investigations at the level of formal and functional features of these dialect with reference to the socio-cultural features of their speech communities. The present study, thus, sought to address a number of research concerns. First, it has the goal of developing a linguistic glossary that, beyond the immediate context of the present study, can serve as a ready-to-use secondary data for other researchers to meta-analyse. This goal was relatively attained as the list of the present study consists of 1500 meaning items translated to Chaoui. Meta-analytical procedures are warranted given the fact that the translated items are provided with a morpho-syntactic and etymological gloss that helps re-evaluate the outcomes of analysis. Second, the study as a primary concern to cross-reference borrowability and borrowing status across words with different semantic content and morpho-syntactic configurations. This goal is achieved as the list includes items that are grouped on the basis of the semantic field, within which different word classes are recognised.

The present study made use of an already tested data collection tool that proved psychometric validity and measurement reliability. The findings obtained from the study show that the items in the list include a number of non-loanwords. The judgement of a word as a non-loanword arrives with a number of limitations. First, it was noted that the evaluation of non-loanword status does not excluded prehistoric borrowing processes. These processes are not available to the researcher at this juncture of study. This piece of trivia does not pose a significant problem as the study has a focused scope on language change that is induced by language contact in modern frame of reference. That is, only French and Arabic-induced language change is addressed. Another limitation of the analysis is reported as the translated list does not consider to the prospect of inter-dialectal borrowing. It is conceivable to assume that the Chaoui dialect has undergone change that is induced by other adjacent, or

even remote, dialects of Berber such as Kabyle. The investigation of such instances is not possible for a number of reasons including: the researcher is not a speaker of any of these dialects which means that introspection is possible as a comparative study to Arabic and French. Moreover, there is, to the best of the researcher's knowledge, available lexical materials in different Berber varieties in such a way as to allow the comparison of these dialect before and after the upsurge of mobility.

The second limitation revolves around the fact that the list provided for the present study calls for a more exhaustive refinement so as to fit into the social specificities of the target variety of analysis, aligning with the culture of the speech community. A number of items in the list are irrelevant to the speakers, and many other closely relevant items are missing from the list. However, the researcher undertook the procedural decision not to restructure the list. This decision is motivated by the fact that the researcher herself is not a native speaker of the dialect, nor is she a member of the community, which means that an account of all cultural and social niceties of the Chaoui community. The task of building an exhaustive customised list would, otherwise, have been possible with the collaboration of researchers whose native tongue is Chaoui and are well invested into the Berber culture. In addition, developing the list on after the specificities of the Algerian culture would similarly pose similar concerns. All in all, the epistemological, human and temporal resources available at the researcher's disposal made the task of developing a more culture-fitting list beyond the capabilities of the present study. Still, the researcher calls for a joint effort whose objective is to design a glossary that can give a more refined insight into how the Chaoui dialect is impacted by other prospective languages of influence.

The translation of the list in the present study is carried out by asking the native speakers "how do you say x?". This task, however seemingly unequivocal, can be problematic. The correspond of lexical items is not always one-to-one, and different speakers can provide different corresponding forms depending on their understanding of the Arabic form provided to them. In many cases, the researcher undertook the task of explaining the items to the informants so as to provide the closest approximation

to its meaning. In addition, geographical and social variables cannot be all accounted for with the available resources. This is due to the fact that the list is relatively lengthy, and the informants, particularly those unacquainted with the researcher, often lose interest and show signs of discomfort less than half an hour through the interview. To overcome the complication of the researcher's small network within the Chaoui community, the researcher opted for providing incentive for the informants. This measure improved the quality of the translation, but, unless the translation is double-checked by educated native speakers of the dialect who are interested in language researcher, any measurement of this kind is not completely faithfully representative of the actual state of affairs.

The translation of the meaning items in the present study showed that corresponding items fall within one of the following categories: (a) items that retained their Berber origins, (b) items that show clear Arabic influence, (c) items that are borrowed from French, (d) items that are shared between Chaoui and Algerian Arabic, (e) items that have two variations from two donor languages, (f) items that have phrasal rather than lexical representations and (g) items that have no equivalents. Determining the category of each word is achieved by an examination of the phonological structure of the translated word to track any possible phonological resemblance to a word in French or Arabic. The resulting resemblance is then tested for semantic relevance. This is motivated by the fact that not all phonologically close words are consequential to borrowing; haphazard phonological resemblance cannot be ruled out. The other step in the analysis is examining whether a word is represented in one-word form or in phrasal form.

In the first category, we can find words that are considered as non-loanwords. The labelling of a word as a non-loanword means that it shows no traces of Arabic of French influence and, by no means, suggests that it is a trace of the proto-Berber language. It is found that the distribution of these items across the semantic fields in not equal. The semantic fields of the physical world, kinship and body have relatively higher percentage of non-loanwords. Moreover, it is noticed that function words and verbs constitute the greater portion of items in this list.

The second category includes items that are of clear Arabic origins. Throughout the analysis, the distinction between standard and non-standard Arabic forms is uncalled for, more particularly when the distinction is phonological or subtly semantic rather than lexical. That is, a word that is found in Algerian Arabic and has a corresponding form, notwithstanding the semantic content, is considered as an Arabic loanword provided that it conforms to the phonotactics of Arabic. The analysis of the translated list showed that some semantic fields are densely packed with regard to Arabic loanwords than others. For example, religion and belief, clothing and grooming and the house have relatively higher percentages of Arabic loanwords.

The third category includes items that are represented in French loanword but have no other Arabic or non-loanword coexisting alternative. Most of these words are found to be used in both Algerian Arabic and Chaoui. This actually implies that there is a possibility that these items are borrowed from Algerian Arabic which, transitively, borrowed them from French. This observation highlights one of the limitations of borrowing research. Borrowing is a process of transfer linguistic items from one language into another regardless of the source of the transferred items. Etymology research, on the other hand, seeks to establish the source of the word with reference to linguistic genealogy. The two areas of research are closely related by essentially separable. The context of the present study investigates the process of language change that is most consequential to language contact. It can, thus, be of less relevance to discuss lexical etymology. However, given the lack of evidence, etymological questions are placed within the centre of the discussion and processes of transitive borrowing from French into Algerian Arabic and then, possibly, to Chaoui are dismissed. It is shown that the semantic field of modern world has the higher percentage of French borrowed words with nouns being inherently more susceptible to change.

The forth category includes items includes items that are can be found in both Algerian Arabic and Chaoui but have no seeming phonological resemblance in French or Arabic words. Items within this category were the most problematic ones as they do not allows the research to clearly identify the borrowed status of a word.

Moreover, there is a very conceivable argument that Algerian Arabic has borrowed these items from Berber varieties. Given the fact that there are little if any verbal records of the Berber verities, all that the researchers can do in such cases is make a learned speculation with respect to the etymology of these words based on the phonotactics of the language. In many cases, these words were judged as non-loanwords. However, such instances constitute a small, albeit noteworthy, portion of the total items, which, despite the lack of empirical reliability, does not reduce the quality of the findings but rather call for further research endeavour.

In many cases, it was revealed that the translation of one item did not necessarily yield in one item. One item in English can translate to two or more items in Chaoui. If the two resulting items are both judged as non-loanwords, here, the case is of a linguistic synonym or hyponymy which is not closely relevant to the scope of the present study. However, when the resulting items pertain to two or more linguistic systems (French, Arabic or Berber), it is more likely that the case corresponds to an instance of variation. Cases of variation between two languages represent the basis of the analysis of language change as these datasets constitute both an explanatory aid for the role of linguistic and social variables in the materialisation of change and a predictive tool that can identify possible routes of change. The present study showed that non-loanwords exist along with Arabic and French loan-words in a number of semantic field, but the instances are few and far between.

The sixth category that was shown in the present study is items that have phrasal rather than lexical representations. The data analysed in the previous chapter showed that a lexical items in English that is represented in one-word form can have a two-word form in Chaoui. It is established in the literature that items that are of a very close relevance to the speech community are more likely to be lexicalised. This also meant that two-word form words in English can have a one-word form in Chaoui. This was mostly noticeable in the kinship semantic field where the contrasting social structures are reflected in the contrasting kinship lexicon. The present study recommends a more exhaustive account of the kinship terms in Chaoui and other

Berber varieties with the goal of further investigating how social peculiarities are encoded in the lexicon.

The final category includes words that have no equivalence. What is noted in the present study is that a number of items are irrelevant to the speakers of Chaoui by means of containing meanings that are not part of the speakers' environment. Words in the semantic fields of religion, food, animal or even house can have no corresponding form in Chaoui. This category is not to be confused with the previous one inasmuch as the latter, despite not being lexicalised, are of relevance to the speakers whereas the former includes meanings that are not recognisable in the dialect. In addition to that, a number of items were not translated by dint of being socially sensitive and entailing meanings that are social taboos. These items have a place in the sociolinguistic analysis, but excluding them did not pose any practical disadvantages, for their number is small and has been compensated for by other meaning items.

The main conclusion of the translation list is that borrowability is partly dependent on the word class of the item and the semantic content thereof. It is concluded that nouns are inherently more susceptible to change than verbs and function words. This was evident in the fact that there is a pattern across all semantic fields that nominal loanwords are more ubiquitous than the verbal or the functional. Moreover, it is concluded that semantic fields such as modern world, religion and belief and clothing contain elements that are more prone to change.

The qualitative analysis of the translated list is supplemented with a quantitative analysis at two levels: the questionnaire and the sociolinguistic interview. The analysis of the participants' mother tongues revealed that the greatest portion of the participants are bilinguals by virtue of being native speakers of both Algerian Arabic and Chaoui. One of the outcomes of the present study was the revelation that not all of the speakers of Chaoui have native status. One third of the young participants are not native speakers of Chaoui, and middle-aged individuals are predominantly native speakers of both. It was concluded that age, residence and education are the main social parameters that help account for the distribution of

linguistic competence. Gender was concluded as not being of a close relevance to the issue of the mother tongue.

The analysis of the mother tongue helped extend the sketching of the linguistic profile of the Chaoui community by one generation as older participants reported the mother tongues of their parents. Such analysis revealed that none of the older generations are not native speakers of Chaoui. These findings amount to the conclusion that there is a tendency among the younger generation not to be so vested into the learning of Chaoui as a native tongue. This concern was shared by a number of Chaoui speakers who voiced concerns about the Chaoui linguistic identity not being preserved by the upcoming generations.

Although not all participants reported being native speakers of Chaoui, none of them reported not having any level of proficiency in it. The majority of the speakers were shown to have good levels of proficiency in Chaoui. Older and rural participants are the highest in proficiency. The proficiency in MSA and French are strongly linked to education as formal education is the main source of linguistic instruction in MSA and French. However, it was found that MSA proficiency extended beyond the context of formal instruction as a number of uneducated Chaoui speakers were found to have some levels of proficiency in MSA. It was concluded that mobility was the main source of proficiency in Algerian Arabic where middle-aged males are the most proficient group.

The use of MSA was found to be very restricted in terms of the communicative events. Social media platforms, school and mosques were the main settings that licensed the use of MSA. However, it was concluded that the use of MSA in the mosque does not include actual production of linguistic tokens. Rather, it was a setting were language use was more reception-dominant. French was found as being used mostly in social media context, and its use was very limited elsewhere. Education, which is the main factor governing proficiency, was found as the primary correlate of French use. One of the main conclusions of the present study is that Algerian Arabic and Chaoui are used almost equally in the daily life contexts. A considerable level of covariance was found among the social groups that are

attributable mainly to age and region where younger urban individuals use Algerian Arabic more often.

The analysis of attitudes revealed that Chaoui and Berber were associated with the patriotic and ethnic symbolism; standard languages −MSA and French‑ with prestige and beauty; and Chaoui and Algerian Arabic with usefulness. The covariance within the analysed sample was attributed primarily to proficiency and, hence, education while gender was not found as having distinctive markings. The attitudes towards the use of loanwords showed that the Chaoui speakers have very positive attitudes towards MSA as none of the participants found the use of Standard Arabic words distortive of the Chaoui identity and language while French and Algerian Arabic were subject to a significant level of variance that is essentially motivated by the education variable. Interestingly, the expressed attitude contradicted the actual linguistic behaviour as the educated groups showed more negative attitudes towards the use of Arabic or French words. It was concluded that the reported attitudes are not necessarily reflective of actual language use. A second conclusion was that the educated individuals use more loanwords which enabled them to have more sense of awareness about the linguistic conflict and the identity concerns.

The analysis of the questionnaire was supplemented with an analysis of actual linguistic behaviour. It was concluded that the use of the changed variants allowed to sketch a context for the path and phases of language change. The words were categorised into three groups on the basis of how frequently the loanwords are used. It was concluded that the middle-aged urban males are the main group that demonstrates a use of the changed variants and that gender differences are observable only in the initial stages of language change where the loanword variants are judged as representing instances of innovation. In the later stages of language change, gender differences dwindle and the observable covariance in the linguistic behaviour is explained mainly in terms of residence and education. It was concluded that there is a significant level of conformity in the use of the variants between the urban and semi-urban as well as the middle-aged and young groups which can be contrasted to rural and old groups. The final conclusion that was found is that no apparent

language-internal factors were found to stigmatise change or prompt it. In view of that, the present study recommends more research to be conducted with the sole focus of determining what morpho-lexical properties can factor in the initiation and propagation of language change.

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APPENDICES

Appendix A

Loanword Typology Meaning List

	Semantic Field 1: The physical World			
N	**Meaning List**	**Chaouia**	**Source Word**	**Borrowing Status**
1	world	/ddu:ni:ə/ /lʕa:lam/	/dduɲja:/ʕa:lam/ (world)Arabic /ddənja/lʕa:lam/(world)Alg-Ar	Clearly borrowed
2	land	/θamu:rə/	Berber	No evidence for borrowing
3	soil	/ʃʃa:l/	Berber	No evidence for borrowing
4	dust	/ʔaɣəḅḅa:r/	/ɣuba:r/(dust)Arabic /lɣabba:r/(dust)/Alg-Ar	Clearly borrowed
5	mud	/tsla:xə/	Berber	No evidence for borrowing
6	sand	/rmʌl/	/rʌml/(sand)Arabic /rmʌl/(sand)Alg-Ar	Clearly borrowed
7	Mountain/hill	/ʔaðra:r/	Berber	No evidence for borrowing
8	Cliff/precipice	/ʒaði:r/	Berber	No evidence for borrowing
9	plain	/ʔabaʕli/	/baʕlu/(plain)Arabic /baʕli/(plain)Alg-Ar	Clearly borrowed
9	plain	/tdra:rt/	Berber	No evidence for borrowing
10	valley	/ʔi:ɣzər/	Berber	No evidence for borrowing
11	island	/ʒazi:ra/	/ʒazi:ra/(island)Arabic	Clearly borrowed
12	mainland	/θa:mu:rə/	Berber	No evidence for borrowing
13	shore	/ʔalla:ɣ/	Berber	No evidence for borrowing
14	cave	/lka:f/	/kahf/ (cave)Arabic /lkahf/(cave)Alg-Ar	Clearly borrowed
14	cave	/ʔi:fri/	Berber	No evidence for borrowing
15	water	/ʔama:n/	/ʔama:n/(safety)Arabic	Clearly borrowed
16	sea	/ləbħʌr/	/bʌħr/(sea)Arabic /ləbħʌr/(sea)Alg-Ar	Clearly borrowed
17	calm	/ʔissu:səm/	Berber	No evidence for borrowing
18	rough (2)	/ʔi:səlla:n/	Berber	No evidence for borrowing
19	foam	/rraɣwəθ/	/raɣwa/(foam)Arabic /rraɣwa/(foam)Alg-Ar	Clearly borrowed
20	ocean	/ləbħʌr/	/bʌħr/(sea)Arabic /ləbħʌr/(sea)Alg-Ar	Clearly borrowed
21	lake	/ta:la/	Berber	No evidence for borrowing
22	bay	No equivalence	No equivalence	No equivalence
23	lagoon	No equivalence	No equivalence	No equivalence
24	reef	No equivalence	No equivalence	No equivalence
25	cape	/ʔaʃʃəʊ/ʔi:xf/	Berber	No evidence for borrowing
26	wave	/lʒa:ləθ/	Berber	No evidence for borrowing
27	tide	No equivalence	No equivalence	No equivalence
28	Low tide	No equivalence	No equivalence	No equivalence
29	high tide	No equivalence	No equivalence	No equivalence
30	River/stream	/su:f/taɣi:t/ʔi:ɣzər/	Berber	No evidence for borrowing

31	whirlpool	/taxəṛṛɑːrt/	/xarrʌra/(sound of water running) Arabic	Clearly borrowed
32	Spring/well	/θaːfsuːθ/	Berber	No evidence for borrowing
33	swamp	/lgəltəə/	/gəlta/ (swamp)Alg-Ar	Clearly borrowed
34	waterfall	/ʔaʃərʃɑːr̩/	/juʃʌrʃir/(to flow)Arabic /jʃʌrʃʌr/(to flow)Alg-Ar	Clearly borrowed
35	woods or forest	/ʔaðraːr/	Berber	No evidence for borrowing
36	savanna	/tamuːrt taʕərjaːnt/	/tamuːrt taʕərjaːnt/(land with no trees)Berber /ʕaːriː/(naked)Arabic /ʕərjaːn/(naked)Alg-Ar	
37	wood	/lluːħ/	/lawħ/(wood)Arabic /lluːħ/(wood)Alg-Ar	Clearly borrowed
38	stone or rock	/ʔʌzrɒ//ʔasəgriːw/	Berber	No evidence for borrowing
39	earthquake	/zəlzaːl/	/zilzaːl/(earthquake)Arabic /zəlzla/(earthquake)Alg/Ar	Clearly borrowed
40	sky	/ʔaʒənna/	/ʒanna/(heaven)Arabic /lʒənna/(heaven)Alg-Ar	Clearly borrowed
41	sun	/θafuːθ/	Berber	
41	sun	/lqajla/	/qajluːla/(nap)Arabic /lgajla/(nap)Alg/Ar	Clearly borrowed
42	moon	/juːr/	Berber	No evidence for borrowing
43	star	/ʔiːθraːn/	/θurajja/(luster)Alg-Ar	Clearly borrowed
44	lightning	/lbarq/	/barq/(lightning)Arabic /lbraq/g/(lightning)Alg-Ar	Clearly borrowed
45	thunder	/rʕʌd/	/rʌʕd/(thunder)Arabic /rʕʌd/(thunder)Alg-Ar	Clearly borrowed
45	thunder	/ʔadʒeɪn/	Berber	No evidence for borrowing
46	bolt of lightning	/tarəʕðˤiːθ/	/rʌʕd/(thunder)Arabic /rʕʌd/(thunder)Alg-Ar	Clearly borrowed
47	storm	/ðaʕəʒʒaːʒ/	/ʕaʒaːʒ/(storm/cloud of dust) Arabic /ləʕʒaːʒ/(storm/cloud of dust)Alg-Ar	Clearly borrowed
48	rainbow	/tasliːθ noːnzɑːr	Berber	No evidence for borrowing
49	light	/ðˤðˤʌw/	/ðˤʌwʔ/(light)Arabic /ðˤðˤʌw̞)(light)Alg-Ar	Clearly borrowed
50	darkness	/salaːs/	Berber	No evidence for borrowing
51	shade or shadow	/θiːliː/	/ðˤill/(shadow)Arabic /ðˤðˤʌl/(shadow)Alg-Ar	Clearly borrowed
52	dew	/nnða/	/nadaː/(dew)Arabic /nnda/(dew)Alg-Ar	Clearly borrowed
53	air	/ləhwa/	/hawaːʔ/(air)Arabic /ləhwa/(air)Alg-Ar	Clearly borrowed
54	wind	/rriːħ/	/riːħ/(wind)Arabic /rriːħ/(wind)Alg-Ar	Clearly borrowed
55	cloud	/ssħaːb/	/saħaːb/(cloud)Arabic /ssħaːb/(cloud)Alg-Ar	Clearly borrowed
56	fog	/θaːguːθ/	Berber	No evidence for borrowing
57	rain	/nnəwwəə/	/nnawʔ/(heavy rain)Arabic /nnəww/(rain)Alg-Ar	Clearly borrowed

57	rain	/ʔʌnzɑ:r/	Berber	No evidence for borrowing
58	snow	/ʔa:ðfəl/	Berber	No evidence for borrowing
59	ice	/ʔɑ:ʒri:ṣ/	Berber	No evidence for borrowing
60	arctic lights	No equivalence	No equivalence	No equivalence
61	To freeze	/ʔaðiʒəmməd/	/taʒammada/(freeze)Arabic /ʒməd/(freeze)Alg-Ar	Clearly borrowed
61	To freeze	/ʔaðjəqrəf/	Berber	No evidence for borrowing
62	The weather	/lʒaw/	/ʒaw/(weather)Arabic /lʒaw/(weather)Alg-Ar	Clearly borrowed
63	The fire	/lʕ'afi:fə/	/ʕa:fija/(health/welfare)Arabic /lʕa:fja/(health/welfare)Alg-Ar	Clearly borrowed
64	The flame	/ʔʌfṭi:wəʒ/	Berber	No evidence for borrowing
65	The smoke	/ddəxxa:n/	/duxxa:n/(smoke)Arabic /dduxxa:n/(smoke)Alg-Ar	Clearly borrowed
66	The steam	/lɒfɑ:r/	/ləfwɑ:r/(steam)Alg-Ar /vʌpœr/(vapeur) (steam)French	Clearly borrowed
67	The ash	/ʔi:ɣəð/	Berber	No evidence for borrowing
68	the embers	/θi:rʒi:n/	Berber	No evidence for borrowing
69	to burn (1)	/jəħraq/	/ħaraqa/(burn)Arabic /ħraq/(burn)Alg-Ar	Clearly borrowed
70	to burn (2)	/jərɣ'a:/	Berber	No evidence for borrowing
71	to light	/jʃaʕʕəl/ /ʔa:ðʃaʕləɣ/	/juʕil/(to light)Arabic /jʃaʕʕal/(to light)Alg-Ar	Clearly borrowed
72	to extinguish	/jəssəxsi/	Berber	No evidence for borrowing
73	match	/zzʌlʌmi:ṭ/	/zzʌlʌmi:ṭ/(match)Alg-Ar /ʔʌlymɜ:t/(allumette)(match) French	Clearly borrowed
74	firewood	/ʔi:kəʃʃo:ṭən/	Not identified	Not identified
75	charcoal	/θi:rʒi:n/	Berber	No evidence for borrowing
76	ravine	/su:f/	Berber	No evidence for borrowing
77	pool	/ʔa:nu/	Berber	No evidence for borrowing
78	Shooting star	/ʔɑ:ṣfəðˤ/	Berber	No evidence for borrowing

N	Meaning List	Chaouia	Source Word	Borrowing Status
	Semantic Field 2: Kinship			
1	person	/ʔamətʃuːç/	Berber	No evidence for borrowing
2	man	/ʔargaːz/	Berber	No evidence for borrowing
3	woman	/t/haməʈʈoːə/	Berber	No evidence for borrowing
4	male (1)	/ʔaːwəm/	Berber	No evidence for borrowing
5	female (1)	/ta:weəmə/	Berber	No evidence for borrowing
6	boy	/ʔaːhjuːj/	Berber	No evidence for borrowing
7	young man	/ʔaqijjɑːr/	Berber	No evidence for borrowing
8	girl	/tahjuːçə /	Berber	No evidence for borrowing
9	young woman	/taqijjɑːrə/	Berber	No evidence for borrowing
10	child (1)	/ʔaːhjuːj/	Berber	No evidence for borrowing
11	baby	/ʔaːħðˤiːðˤ/	Not identified	Not identified
11	baby	/ldʊfɑːn/	Berber	No evidence for borrowing
12	husband	/ʔargaːz/	Berber	No evidence for borrowing
13	wife	/taməʈʈoːə/	Berber	No evidence for borrowing
14	to marry	/jərʃəl/	Berber	No evidence for borrowing
15	wedding/ marriage	/θaːməɣra/ /ʔərrʃiːl/	Berber	No evidence for borrowing
16	divorce	/ʔuːlliːf/	Berber	No evidence for borrowing
17	father	/baːba/	False cognates	False cognates
18	mother	/jəmma/	False cognates	False cognates
19	parents	/lwaːldiːn/	/waːlidajn/(parents) Arabic /lwaːldiːn/(parents) Alg-Ar	Clearly borrowed
20	married man	/jərʃel/	Berber	No evidence for borrowing
21	married woman	/hərʃel/	Berber	No evidence for borrowing
22	son	/məmmi/	Berber	No evidence for borrowing
23	daughter	/jəlli/	Berber	No evidence for borrowing
24	child (2)	/taːhjuːçə /	Berber	No evidence for borrowing
25	brother	/ʔuːma/	Berber	No evidence for borrowing
26	older brother	/ʔaːmənzu/	Berber	No evidence for borrowing
27	younger brother	/mɑːzoːz/	Berber	No evidence for borrowing
28	sister	/wətma/	Berber	No evidence for borrowing
29	older sister	/tamənzuːə/	Berber	No evidence for borrowing
30	younger sister	/tamʌzoːzə/	Berber	No evidence for borrowing
31	sibling	/tiːwəlliː/taːwmaːt/	Berber	No evidence for borrowing
32	older sibling	/tamənzuːə/	Berber	No evidence for borrowing
33	younger sibling	/tamʌzoːzə/	Berber	No evidence for borrowing
34	twins	/ʔaçniːw/	Berber	No evidence for borrowing
35	grandfather	/dədda/	/ʒadd/(grandfather) Arabic /daːda/(grandmother)Alg-Ar	Not clearly identified Perhaps borrowed
36	old man	/ʔaːmɣaːr/ /ʔaːwəssaːr/	Berber	No evidence for borrowing
37	grandmother	/nənna/	Berber	No evidence for borrowing
38	old woman	/taːmɣaːrə/ /taːwəssaːrə/	Berber	No evidence for borrowing
39	grandparents	/ʔiːdəddaːwən/	/ʒuduːd/(grandparents)Arabic /ʒʒduːd/(grandparents)Alg-Ar	Not clearly identified Perhaps borrowed
40	grandson	/ʔajjaːw/	Berber	No evidence for borrowing

41	granddaughter	/tajja:wt/	Berber	No evidence for borrowing
42	grandchild	/ʔajja:w/	Berber	No evidence for borrowing
43	uncle	No equivalence	No equivalence	No equivalence
44	mother's brother	/ xa:li:/	/xa:l/(mother's brother) Arabic /xa:li/(my mother's brother) Alg-Ar	Clearly borrowed
45	father's brother	/zi:zi:/	Berber	
46	aunt	No equivalence	No equivalence	No equivalence
47	mother's sister	/xa:lθi/	/xa:la/(mother's sister)Arabic /xa:la/(mother's sister)Alg-Ar	Clearly borrowed
48	father's sister	/ʕammθi/	/ʕamma/(father's sister) Arabic /ʕamma/(father's sister)Alg-Ar	Clearly borrowed
49	nephew	/məmmi:s nu:ma/	Berber	No evidence for borrowing
50	niece	/məmmi:s nu:tma/	Berber	No evidence for borrowing
51	sibling's child	/məmmi:s ən ti:wəlli/ /jəlli:s ən ti:wəlli/	/məmmi:s ən/(son of) Berber /ti:wəlli/(siblings) Berber /jəlli:s ən/(daughter of) Berber /ti:wəlli/(siblings) Berber	No evidence for borrowing
52	cousin	/məmmi:s ən zi:zi:/	Berber	No evidence for borrowing
52	cousin	/məmmi:s ən xa:li:/	/məmmi:s ən/(son of) Berber /xa:l/(mother's brother) Arabic /xa:l/(mother's brother) Alg-Ar	Phrasal equivalence
52	cousin	/məmmi:s ən xa:lθi:/	/məmmi:s ən/(son of) Berber /xa:la/(mother's sister)Arabic /xa:la/(mother's sister) Alg-Ar	Phrasal equivalence
52	cousin	/məmmi:s ən ʕamθi:/	/məmmi:s ən/(son of) Berber /ʕamma/(father's sister) Arabic /ʕamma/(father's sister) Alg-Ar	Phrasal equivalence
53	ancestors	/ʔi:dədda:wən/	/ʒudu:d/(grandparents)Arabic /ʒʒdu:d/(grandparents)Alg-Ar	Not clearly identified Perhaps borrowed
54	descendants	/θa:rwa/	Berber	No evidence for borrowing
55	father-in-law (of a man)	/ʔa:nsi:b/	/nasi:b/(kin/relative)Arabic /nsi:b/(relatives in law) Alg-Ar	Clearly borrowed

56	father-in-law (of a woman)	/ʔamɣaːr/	Berber	No evidence for borrowing
57	mother-in-law (of a man)	/tansiːbt/	/nasiːb/(kin/relative)Arabic /nsiːb/(relatives in law) Alg-Ar	Clearly borrowed
58	mother-in-law (of a woman)	/hamɣɑːrt/	Berber	No evidence for borrowing
59	parents-in-law	/ʔaːnsiːb/	/nasiːb/(kin/relative)Arabic /nsiːb/(relatives in law) Alg-Ar	Clearly borrowed
60	son-in-law (of a man)	/ʔaːnsiːb/	/nasiːb/(kin/relative)Arabic /nsiːb/(relatives in law) Alg-Ar	Clearly borrowed
61	son-in-law (of a woman)	/ʔansiːb/	/nasiːb/(kin/relative)Arabic /nsiːb/(relatives in law) Alg-Ar	Clearly borrowed
62	daughter-in-law (of a man)	/taːçnna/	/kanna/(daughter in law)Arabic /kənna/(daughter in law)Alg-Ar	Clearly borrowed
63	daughter-in-law (of a woman)	/taːçnna/	/kanna/(daughter in law)Arabic /kənna/(daughter in law)Alg-Ar	Clearly borrowed
64	brother-in-law (of a woman)	/ʔaːluːs/	/luːsi/(brother-in-law) Alg-Ar	Very little evidence for borrowing
65	sister-in-law (of a woman)	/taːluːst/	/luːsti/(sister-in-law) Alg-Ar	Very little evidence for borrowing
66	stepfather	/ʔargaːz jəmmaːs/	/ʔargaːz/(man/husband) Berber /jəmmaːs/(mom) false cognate	Phrasal equivalence
67	stepmother	/laːllaːs/	/ʔaːla/(to govern/lead/guide) Arabic	Clearly borrowed
68	stepson	/ʔaːrbiːb/	/rabiːb/(stepson)Arabic /rbiːb/(stepson)Alg-Ar	Clearly borrowed
69	stepdaughter	/taːrbiːbə/	/rabiːb/(stepson)Arabic /rbiːb/(stepson)Alg-Ar	Clearly borrowed
70	orphan	/ʔaguʒiːl/	Berber	No evidence for borrowing
71	widow	/taːdʒaːlə/	/haʒala/(to throw) Arabic /ʔahʒala/(to ignore/neglect/ lose) Arabic /haʒuːl/hawʒal/(prostitute) Arabic /həʒʒaːla/(not married/ divorced/widow) Alg-Ar	Perhaps borrowed
72	widower	/ʔaːdʒaːl/	/haʒala/(to throw) Arabic /ʔahʒala/(to ignore/neglect/ lose) Arabic /haʒuːl/hawʒal/(prostitute) Arabic /həʒʒaːl/(not married/ divorced/widower) Alg-Ar	Perhaps borrowed

73	relatives	/ɵi:wəlli:/	Berber	No evidence for borrowing
74	family	/taxxa:mɵ	Berber	No evidence for borrowing
75	I	/nətʃ/	Berber	No evidence for borrowing
76	you (singular) mas/fem	/ʃəkk//ʃəmm/	Berber	No evidence for borrowing
77	he/she/it	No equivalence	No equivalence	No equivalence
78	he	/nətta/	Berber	No evidence for borrowing
79	she	/nətta:ɵ/	Berber	No evidence for borrowing
80	it	/nətta/	Berber	No evidence for borrowing
81	we	/nəʃni/	Berber	No evidence for borrowing
82	we (inclusive)	No equivalence	No equivalence	No equivalence
83	we (exclusive)	No equivalence	No equivalence	No equivalence
84	you (plural) mas-fem	/çinwi/çi:nnəmɵi:/	Berber	No evidence for borrowing
85	they	/nahni/na:hənti/	Berber	No evidence for borrowing
86	child-in-law	/taçənna/	/kanna/(daughter-in-law) Arabic /kənna/(daughter in law) Alg-Ar	Clearly borrowed
86	Child-in-law	/ʔansi:b/	/nasi:b/(kin/relative)Arabic /nsi:b/(relatives in law) Alg-Ar	Clearly borrowed
87	sibling-in-law	/ʔa:lu:s/	/lu:s/(brother-in-law) Alg-Ar	Very little evidence for borrowed
89	Fellow wife	/taçənna/	/kanna/(daughter-in-law) Arabic /kənna/(daughter in law) Alg-Ar	Clearly borrowed
90	Brother in law (man's side)	/ʔansi:b/	/nasi:b/(kin/relative)Arabic /nsi:b/(relatives in law) Alg-Ar	Clearly borrowed
91	Sister in law (man's side)	/tansi:bt/	/nasi:ba/(kin/relative)Arabic /nsi:ba/(relatives in law) Alg-Ar	Clearly borrowed

	Semantic Field 3: Animals			
N	**Meaning List**	**Chaouia**	**Sourse Word**	**Borrowing Status**
1	Animal	/lħajawa:n/	/ħajawa:n/(animal)Arabic /lħajawa:n/(animal)Alg-Ar	Clearly borrowed
1	Animal	/ʔaɣərsi:w/	Berber	No evidence for borrowing
2	Male (2)	/ʔa:wəəm/	Berber	No evidence for borrowing
3	Female (2)	/ta:wəəmə/	Berber	No evidence for borrowing
4	Livestock	/ʔikəʕa:z/	Berber	No evidence for borrowing
5	Pasture	/ʔi:gər/	Berber	No evidence for borrowing
6	Herdsman	/ʔasərra:ħ/	/jəsraħ/(to lead herd)Alg-Ar	Clearly borrowed
7	Stable/stall	/ta:zri:bt/	/zari:ba/(stable)Arabic /zri:ba/(stable)Alg-Ar	Clearly borrowed
8	cattle	/ʔulli/	Berber	No evidence for borrowing
9	bull	/ʔafuna:s/	Berber	No evidence for borrowing
10	ox	/ʔafuna:s/	Berber	No evidence for borrowing
11	cow	/tafuna:st/	Berber	No evidence for borrowing
12	calf	/ʔaʕəʒmi/taʕəʒmi:ə/	/ʕaʒmi/(calf)Alg-Ar	Clearly borrowed
13	sheep	/ʔulli/	Berber	No evidence for borrowing
14	ram	/ʔufri:ç/	Berber	No evidence for borrowing
15	ewe	/hufri:çə/	Berber	No evidence for borrowing
16	lamb	/ʔi:zmər/ti:zmərə/	Berber	No evidence for borrowing
17	boar	/ʔaxəntu:ʃ/	/xantu:ʃ/(snab nose/small pig) Alg-Ar	Very little evidence for borrowing
17	boar	/ʔi:ləf/	Berber	No evidence for borrowing
18	sow	/haxəntu:ʃə/	/xantu:ʃ/(snab nose/small pig)Alg-Ar	Very little evidence for borrowing
19	pig	/ʔaxəntu:ʃ/	/xantu:ʃ/(snab nose)Alg-Ar	Very little evidence for borrowing
19	pig	/ʔi:ləf/	Berber	No evidence for borrowing
20	goat	/ʔakəʕʕo:z/	Berber	No evidence for borrowing
21	he-goat	/ʔaʕəəru:s/	/ʕatru:s/(he-goat)Alg-Ar	Clearly borrowed
21	she-goat	/tɣa:ʈ/	Berber	No evidence for borrowing
22	kid	/ʔiɣi:ðˤ/tiɣi:ðˤt/	Berber	No evidence for borrowing
23	horse	/ʔi:s/	Berber	No evidence for borrowing
24	stallion	/ʔi:s/	Berber	No evidence for borrowing
25	mare	/lʕu:ð'a/	/lʕawda/(mare)Alg-Ar	Clearly borrowed
26	Foal/colt	/ʔaʒħi:ħ/	/ʒaħʃ/(foal)Arabic /ʒʒaħʃ/(foal)Alg-Ar	Clearly borrowed
27	donkey	/ʔaɣju:l/	Berber	No evidence for borrowing
28	mule	/ʔasərdu:n/	Berber	No evidence for borrowing
29	fowl		Ar	
30	cock/rooster	/ɡa:ẓi:ðˤ/	Berber	No evidence for borrowing
31	hen	/tga:ẓi:ʈ/	Berber	No evidence for borrowing
32	chicken	/ʔiɡɒẓa:ðˤ/	Berber	No evidence for borrowing
33	goose	/ʔasərdu:k/	/sərdu:k/(rooster)Alg-Ar	Very little evidence for borrowing
34	duck	/lbʌʈʈ/	/bʌʈʈ/(duck)Arabic /lbʌʈʈ/(duck)Alg-Ar	Clearly borrowed
35	nest	/ʔa:çəəf/	Berber	No evidence for borrowing
36	bird	/ʔa:fro:x/	/farx/(little bird)Arabic	Clearly borrowed

37	seagull	No equivalence	No equivalence	No equivalence
38	heron	No equivalence	No equivalence	No equivalence
39	Eagle	/faliçu/	/fʌlkɒŋ/(eagle)French	Clearly borrowed
39	eagle	/giːðər/	Berber	No evidence for borrowing
40	hawk	/faliçu/	/fʌlkɒŋ/(eagle)French	Clearly borrowed
41	vulture	/birbiːʕ/	Berber	No evidence for borrowing
42	Bat	/tajlaːlt n jiːðˤ/	Berber	No evidence for borrowing
43	parrot	No equivalence	No equivalence	No equivalence
44	Crow	/ʒaːrəf/	Berber	No evidence for borrowing
45	Dove	/tmiːlli/	Berber	No evidence for borrowing
46	Owl	/hbuːçəə/	Berber	No evidence for borrowing
47	cormorant	No equivalence	No equivalence	No equivalence
48	toucan	No equivalence	No equivalence	No equivalence
49	Dog	/ʔaɣərzoːl/ʔajði/	Berber	No evidence for borrowing
50	rabbit	/ʔagərʒiːẓ/	Berber	No evidence for borrowing
51	Cat	/moːʃ/	Berber	No evidence for borrowing
52	opossum	/guːndi/	Berber	No evidence for borrowing
53	Mouse/rat	/ʔaɣərðˤʌ/ʔadɣaːɣ/	Berber	No evidence for borrowing
54	Fish	/ʔaːsləm/	Berber	No evidence for borrowing
55	Fin	/taːfərt/	Berber	No evidence for borrowing
56	Scale	/ʔfəqʃiːr/	Berber	No evidence for borrowing
57	Gill	No equivalence	No equivalence	No equivalence
58	Shell	/ʒaɣlaːl ləbħʌr/	/ɣilaːla/(underclothing) /taɣallala/(to get into something) /ʒaɣləllu/(snail)Alg-Ar	Clearly borrowed
59	shark	/qirʃ/	/qirʃ/(shark)Arabic	Clearly borrowed
60	Porpoise/dolphin	/dulfiːn/	/dulfiːn/(dolphin)Arabic	Clearly borrowed
61	whale	/ʔaːsləm ʔamɒqrɑːn/	Berber	No evidence for borrowing
62	stingray	No equivalence	No equivalence	No equivalence
63	freshwater eel	No equivalence	No equivalence	No equivalence
64	Wolf	/ʔaːçʕəb/	Berber	No evidence for borrowing
65	Lion	/ʔaːr/	Berber	No evidence for borrowing
66	Bear	/dubb/	/dub/(bear)Arabic	
67	Fox	/ʔaːçʕəb/	Berber	No evidence for borrowing
68	Deer	/taːðmuːə/	Berber	No evidence for borrowing
69	monkey	/lqərð/	/qird/(monkey)Arabic /lqərd/(monkey)Alg-Ar	Clearly borrowed
69	monkey	/zʌʕtoːṭ/	Berber	No evidence for borrowing
70	elephant	/fiːl/	/fiːl/(elephant)(Arabic)	Clearly borrowed
71	camel	/ʔaːlɣəm/	Berber	No evidence for borrowing
72	insect	/ʔabəxuːʃ/	Berber	No evidence for borrowing
73	head louse	/tiːlləçt/	Berber	No evidence for borrowing
74	body louse	/tiːlləçt/	Berber	No evidence for borrowing
75	Nit	/ʔiːməqðən/	Berber	No evidence for borrowing
76	Flea	/çoːrði/	Berber	No evidence for borrowing

77	centipede	/nna:qṣa/	/na:qiṣa/(incomplete/imperfect)Arabic /na:qṣa/(incomplete/imperfect) Alg-Ar	Clearly borrowed
78	scorpion	/tɣi:rðˤəmt/	Berber	No evidence for borrowing
79	cockroach	/ʔi:bəxxa:ʃ/	Berber	No evidence for borrowing
80	Ant	/ti:çəðˤfət/	Berber	No evidence for borrowing
81	spider	/rrəi:la/	/rutajla:ʔ/(big spider)Arabic /rti:la/(spider)Alg-Ar	Clearly borrowed
81	Spider	/ʔi:wləlli:/	Berber	No evidence for borrowing
82	spider web	/rrəi:la/	/rutajla:ʔ/(big spider)Arabic /rti:la/(spider web) Alg-Ar	Clearly borrowed
83	Bee	/tzi:zwi/	Berber	No evidence for borrowing
84	beeswax	/ʃʃmaʕ n tzi:zwa/	/ʃamʕ/(wax)Arabic /ʃʃmaʕ/(wax)Alg-Ar	Clearly borrowed
85	beehive	/tazja:t/	Berber	No evidence for borrowing
86	wasp	/ʔabərzi:zu/ /ʔi:rzˤəẓẓi/	/rzˤəẓẓi/(wasp)Alg-Ar	Very little evidence for borrowing
87	Fly	/ʔizi:/	Berber	No evidence for borrowing
88	Sandfly/midge/gnat	/tbʌʕo:t/	/baʕo:ðˤa/(midge/gnat) Arabic	Clearly borrowed
89	mosquito	/tnamu:st/	/na:mu:sa/(mosquito)Arabic /namu:sa/(mosquito)Alg-Ar /mu:sti:k/(moustique)French	Clearly borrowed
90	Prawns/shrimp	/kreva:t/	/kreva:t/(shrimp)French (crevette)	Clearly borrowed
91	termites	/ti:çəðˤfi:n ti:məllali:n/	Berber	No evidence for borrowing
92	Tick	/tasəllu:ft/	Berber	No evidence for borrowing
93	worm	/takəʧa/	Berber	No evidence for borrowing
94	snake	/ta:ləfsa/fi:ɣər/ /ṣɑ:ðˤ/ʔi:zrəm/ /ʔaləfsi:w/	Berber	No evidence for borrowing
95	coyote	No equivalence	No equivalence	No equivalence
96	Hare	/ʔagərẓi:ẓ/	Berber	No evidence for borrowing
97	quail	No equivalence	No equivalence	No equivalence
98	raccoon	No equivalence	No equivalence	No equivalence
99	squirrel	No equivalence	No equivalence	No equivalence
100	reindeer/caribou	No equivalence	No equivalence	No equivalence
101	elk/moose	/ʔa:ðmu/	Berber	No evidence for borrowing
102	beaver	/qundus/	/qundus/(beaver)Arabic	Clearly borrowed
103	kangaroo	/skippi/	/skipi:/(skippy)(characterized by skipping movements)English	Not identified
104	anteater	No equivalence	No equivalence	No equivalence
105	jaguar	/ʔajçsəl/	Berber	No evidence for borrowing
106	firefly	No equivalence	No equivalence	No equivalence
107	chameleon	/tbu:jja/	/lbu:ja/(chameleon)Alg-Ar /buwja/(colouring paint)Turkish	Clearly borrowed
108	buffalo	/ʔafuna:s/	Berber	No evidence for borrowing

109	butterfly	/ʔafərṭəṭṭɒ/	/fərṭəṭṭɒ/(butterfly)Alg-Ar	Very little evidence for borrowing
110	grasshopper	/bu:rçi/ /tmu:rɣi/	Berber	No evidence for borrowing
111	snail	/dʒaɣla:l/	/ɣila:la/(underclothing) /taɣallala/(to get into something) /ʒaɣləllu/(snail)Alg-Ar	Clearly borrowed
112	frog	/ʔa:ʒrɒ/	Berber	No evidence for borrowing
113	lizard	/bu:rju:n/	Berber	No evidence for borrowing
114	Crocodile/alligator	/timsa:ħ/	/timsa:ħ/(crocodile)Arabic	Clearly borrowed
115	turtle	/fakro:n/	/kafro:n/(hard cover for protection) classical Arabic /kofr/(to cover something) /fakro:n/(turtle)Alg-Ar	Clearly borrowed
116	tapir	No equivalence	No equivalence	No equivalence
117	Peregrine Falcon	/giða:r/	Berber	No evidence for borrowing
118	crab	/ti:ko:rẓmɑ/	Berber	No evidence for borrowing

	Semantic Field 4: Body			
N	Meaning List	Chaouia	Source Word	Borrowing Status
1	body	/ləbðen/	/badan/(body)Arabic	Clearly borrowed
2	skin or hide	/ʔa:gli:m/	Berber	No evidence for borrowing
3	flesh	/ʔa:çsu:m/	Berber	No evidence for borrowing
4	hair	/ʔi:za:wən/	Berber	No evidence for borrowing
5	beard	/tma:rə/	Berber	No evidence for borrowing
6	body hair	/za:w/	Berber	No evidence for borrowing
7	pubic hair	Not translated	Not translated	Not translated
8	dandruff	/ti:sənsənt/	/ti:nəsnəst/(dandruff)Alg-Ar	Very little evidence for borrowing
9	blood	/ʔiða:mmən/	/damm/(blood)Arabic /ddəm/(blood)Alg-Ar	Clearly borrowed
10	Vein/artery	/ʔiẓo:rɑ:n/	Berber	No evidence for borrowing
11	bone	/ʔi:ɣəʂ/	Berber	No evidence for borrowing
12	rib	/ʔiɣa:llən/	Berber	No evidence for borrowing
13	horn	/ʔaʃʃəu /	Berber	No evidence for borrowing
14	tail	/ʔabəʕʂo:ʂ/	/buʕʂo:ʂ/(tailbone)Arabic /lbaʕʂo:ʂ/(tailbone)Alg-Ar	Clearly borrowed
15	back	/ti:ɣərðˤi:n/	Berber	No evidence for borrowing
16	spine	/ʔi:məsla:n/	/məsla:n/(lower back)Alg.Ar	Very little evidence for borrowing
17	head	/ʔi:xf/	Berber	No evidence for borrowing
18	temples	/ʔi:xsa:n/	Berber	No evidence for borrowing
19	skull	/taməlɣi:ɣt/	/məlɣi:ɣa/(skull)Alg.Ar	Very little evidence for borrowing
20	brain	/ʔa:llən/	Berber	No evidence for borrowing
21	face	/ʔu:ðəm/	Berber	No evidence for borrowing
22	forehead	/timmi:/	Berber	No evidence for borrowing
23	jaw	/hma:gri:wə/	Berber	No evidence for borrowing
24	cheek	/ʔima:ggən/	Berber	No evidence for borrowing
25	chin	/tmagri:wt/	Berber	No evidence for borrowing
26	eye	/ti:ʈʈʌwi:n/	Berber	No evidence for borrowing
27	eyebrow	/ləħwa:ʒəb/	/ħawaʒib/(eyebrows)Arabic /ləħwa:ʒəb/(eyebrows)Alg-Ar	Clearly borrowed
28	eyelid	/ʔabli:w/	Berber	No evidence for borrowing
29	eyelash	/ʔabli:w/	Berber	No evidence for borrowing
30	to blink	/ʔissa:bla:w/	Berber	No evidence for borrowing
31	ear	/ʔa:məʒʒi:/	Berber	No evidence for borrowing
32	earlobe	/tagəlgu:lt/	Berber	No evidence for borrowing
33	earwax	/ʔʌʂəlɣa:ɣ nu:məʒʒi/	Berber	No evidence for borrowing
34	nose	/ʔa:xənfu:f/	/xanafa/(to boast/brag/)Arabic	Clearly borrowed
35	nostril	/ti:nza:r/	Berber	No evidence for borrowing
36	nasal mucus	/ ʔi:xonʃɑ:r/	Not identified	No identified
37	mouth	/ʔi:mi:/	Berber	No evidence for borrowing
38	beak	/ʔaqənsu:s/	Berber	No evidence for borrowing
39	lip	/ʃwa:rəb/	/ʃawa:rib/(lip)Arabic /ʃwa:rəb/(lip)Alg-Ar	Clearly borrowed

39	lip	/ʃnɑ:fər/	/ʃnɑ:fər/(lips)Alg-Ar	Very little evidence of borrowing
40	tongue	/ʔi:ləs/	Berber	No evidence for borrowing
41	tooth	/ti:ɣma:s/	Berber	No evidence for borrowing
42	gums	/ʔa:ksu:m ən ti:ɣma:s/	Berber	No evidence for borrowing
43	molar tooth	/ti:ɣməst/	Berber	No evidence for borrowing
44	neck	/ʔi:ri/	Berber	No evidence for borrowing
45	nape of neck	/ta:çru:mə/	Berber	No evidence for borrowing
46	throat	/ʔagərʒu:m/	/go:rʒ/(throat)French /gərʒu:ma/(throat)Alg-Ar	Very little evidence for borrowing
47	shoulder	/taɣro:ṭ/	Berber	No evidence for borrowing
48	Shoulder blade	/ta:ɣro:ṭ/	Berber	No evidence for borrowing
49	collarbone	/tigərʒa:m/	/go:rʒ/(throat)French /gərʒu:ma/(throat)Alg-Ar	Very little evidence for borrowing
50	arm	/ʔaɣi:l/	Berber	No evidence for borrowing
51	armpit	/ta:ddəxt/	Berber	No evidence for borrowing
52	elbow	/ʔi:xf ʔu:ɣi:l/	Berber	No evidence for borrowing
53	wrist	/ləqbəṭ/	/qabḍʌ/(fist)Arabic	Clearly borrowed
54	hand	/fu:s/	Berber	No evidence for borrowing
55	palm of hand	/ti:mədʒəlt/	Berber	No evidence for borrowing
56	finger	/ʔi:ðˤo:ðˤa:n/	Berber	No evidence for borrowing
57	thumb	/ʔi:gməz/	Berber	No evidence for borrowing
58	fingernail	/ʔʼa:ʃʃɜ:rn/	Berber	No evidence for borrowing
59	claw	/ʔi:xəbba:ʃən/	/jaxdiʃu/(scratch)Arabic /jxabbəʃ/jəqbəʃ/(scratch)Alg-Ar	Clearly borrowed
60	leg	/ṣṣa:g/	/sa:q/(leg)Arabic /ṣṣɑ:g/(leg)Alg-r	Clearly borrowed
61	thigh	/ʔaməʂi:ðˤ/ /θaməʂɑ:t/	/məʂʂɑ:tʌ/(butt)Alg-Ar	Very little evidence of borrowing
	thigh	/ʔaməʃʃa:ʃ/	Berber	No evidence for borrowing
62	calf of leg	/ʔ:ksu:m nʂʂa:g/	Berber and Arabic	Phrasal equivalence
63	knee	/fu:ð/	Berber	No evidence for borrowing
64	foot	/ðˤa:r/	Berber	No evidence for borrowing
65	ankle	/nnəfʂəl/	/mifʂʌl/(foot joint)Arabic /lmafʂʌl/(foot joint)Alg-Ar	Clearly borrowed
66	heel	/ʔini:rz/	Berber	No evidence for borrowing
67	footprint	/lmɑ:rəə/	Berber	No evidence for borrowing
68	toe	/ti:fəðni:n/	Berber	No evidence for borrowing
69	wing	/ʔafri:w/	Berber	No evidence for borrowing
70	feather	/ʔabətʃi:m/	Berber	No evidence for borrowing
71	chest	/ʔa:ðmər/	Berber	No evidence for borrowing
72	breast	/ʔaʕəbbu:ʃ/ /ʔa:bbu:ʃ/	Berber	No evidence for borrowing
73	nipple/teat	/ʔi:xf na:bbu:ʃ/	Berber	No evidence for borrowing
74	udder	/ʔaʕəbbu:ʃ/	Berber	No evidence for borrowing
75	navel	/ta:ʕʒu:ʒt/ /tmi:ṭ/	Berber	No evidence for borrowing
76	belly	/ʔa:ʕəddi:s/ /ʔa:çəbbu:ʃ/	Berber	No evidence for borrowing

77	heart	/ʔu:l/	Berber	No evidence for borrowing
78	lung	/turawi:n/	/riʔa/(lung)Arabic /rijja/(lung)Alg-Ar	Clearly borrowed
79	liver	/tsa/	Berber	No evidence for borrowing
80	kidney	/ti:qəẓẓəlt/	Berber	No evidence for borrowing
81	spleen	/ʔi:nərfəḍ/	Berber	No evidence for borrowing
82	stomach	/lmi:ʕda/	/maʕida/(stomach)Arabic /lmaʕda/(stomach)Alg-Ar	Clearly borrowed
83	intestines	/li:wi/ /ʔi:çsi/	Berber	No evidence for borrowing
83	intestines	/ʔa:məsrɑ:n/	/muṣrɑ:n/(intestine)Arabic /lmuṣrɑ:n/(intestine)Alg-Ar	Clearly borrowed
84	waist	/ləçrɑ:bi/	/lkʌrba/(buttocks)Alg-Ar	Very little evidence for borrowing
85	hip	/ti:məʃʃu:ʃa/	Berber	No evidence for borrowing
86	buttocks	Not translated	Not translated	Not translated
87	sinew or tendon	/ʔi:fula:n nu:ksu:m/	Berber	No evidence for borrowing
88	womb	/ʔakətʃi:tʃ/	Berber	No evidence for borrowing
89	testicles	Not translated	Not translated	Not translated
90	penis	Not translated	Not translated	Not translated
91	vagina	Not translated	Not translated	Not translated
92	vulva	Not translated	Not translated	Not translated
93	to breathe	/ʔu:nfi/	/ʔanf/(nose)Arabic /naffa/(blow nose)Arabic /tanaffasa/(breathe)Arabic	Clearly borrowed
94	to yawn	/ʔi:tmaʕɑ:ðˤ/	/ʔimtaʕaðˤa/(resent)Arabic	Very little evidence for borrowing
95	to hiccough	/ti:xsət/	Berber	No evidence for borrowing
96	to cough	/ʔi:ttu:si/	Berber	No evidence for borrowing
97	to sneeze	/ʔiʕˈaṭṭəṣ/	/jaʕṭis/(sneeze)Arabic /jaʕṭəs/(sneeze)Alg-Ar	Clearly borrowed
98	to perspire	/ʔi:təddəð/	Berber	No evidence for borrowing
99	to spit	/ʔi:su:si:f/	Berber	No evidence for borrowing
100	to vomit	/ʔi:rrəd/	/jarɒddu/(return)Arabic /jrɒdd(return/vomit)Alg-Ar	No evidence for borrowing
100	to vomit	/ʔi:ʕuqqəd/	Berber	No evidence for borrowing
101	to bite	/ʔijðərrəm/	Berber	No evidence for borrowing
102	to lick	/ʔi:ttəllaɣ/	/jaliɣu/(lick)Arabic	Clearly borrowed
103	to dribble	/ʔi:slu:ddei/	Not identified	No identified
104	to sleep	/ʔi:ṭṭəṣ/	Berber	No evidence for borrowing
105	to snore	/ʔi:jtʃaxɑ:r/	/jaʃxɒr/(snore)Arabic /jəʃxɒr/(snore)Alg-Ar	clearly
106	to dream	/ʔitta:tʒi/	Berber	No evidence for borrowing
107	to wake up	/ʔi:krədd/	Berber	No evidence for borrowing
108	to fart	/jfəʃʃ/	/faʃʃa/(to blow)Arabic /yfəʃʃ/(deflate)Alg-Ar	Clearly borrowed
109	to piss	/jbazẓʌṭ/	/jbazẓʌṭ/(squirt)Alg-Ar	Very little evidence for borrowing
110	to shit	/jbarrʌṭ/	Berber	No evidence for borrowing
111	to have sex	Not translated	Not translated	Not translated
112	to shiver	/ʔi:ttərʒi:ʒi/	/jartaʒʒu/(shiver)Arabic	Clearly borrowed

			/jarʒufu/(shiver)Arabic /jərʒəf/(shiver)Alg-Ar	
113	to bathe	/ʔi:ssa:ra:ð/	Berber	No evidence for borrowing
114	to beget	/ʔaðja:ru/	Berber	No evidence for borrowing
115	to be born	/ju:ro:/	Berber	No evidence for borrowing
116	pregnant	/su:ʕaddi:s/	Berber	No evidence for borrowing
117	to conceive	/ʔatta:ru/	Berber	No evidence for borrowing
118	be alive	/jəddər/	Berber	No evidence for borrowing
119	life	/taməddu:rt/	Berber	No evidence for borrowing
120	to die	/jəsra:g_rro:ħ/	/jəssra:g/(to take) Berber /rro:ħ/(soul)Arabic	Clearly borrowed
121	dead	/jəmmu:ə/	/jamu:tu/(die)Arabic /jmu:t/(die)Alg-Ar	Clearly borrowed
122	to drown	/jəɣmaq/	/jaɣraqu/(drown)Arabic /jəɣrəq/(drown)Alg-Ar /ɣa:miq/(deep)Arabic /ɣa:məq/(deep)Alg-Ar	Clearly borrowed
123	to kill	/jənɣʌ/	Berber	No evidence for borrowing
124	corpse	/lmajjət/	/majjit/(dead body)Arabic /lməjjət/(dead body) Alg-Ar	Clearly borrowed
125	carcass	/ləbðen/	/badan/(body)Arabic	Clearly borrowed
126	to bury	/jəɣbʌr/	/ɣabʌra/(raise dust)Arabic	Clearly borrowed
127	grave	/ʔani:l/	Berber	No evidence for borrowing
128	strong	/ʔaxərʃo:m/	Berber	No evidence for borrowing
129	weak	/ta:xna/	Berber	No evidence for borrowing
130	healthy	/ṣṣʌħħəə/	/ṣiħħa/(health)Arabic /ṣħi:ħ/(healthy)Alg-Ar	Clearly borrowed
131	sick/ill	/ʔamədo:n/	/ðˤʌna:/(very sick)Arabic	Not identified
132	fever	/ti:məst/	Berber	No evidence for borrowing
133	goitre/goiter	/ti:gərʒa:m nji:ri/	/go:rʒ/(throat)French /gərʒu:ma/(throat)Alg-Ar /ʔi:ri/(neck)Berber	Not identified
134	cold	/ʔaṣəmmi:ðˤ/	/samm/(poison)Arabic /səmm/(poison/coldness)	Clearly borrowed
135	disease	/ʔa:m̥ðˤɑ:n/	/ðˤʌna:/(very sick)Arabic	Clearly borrowed
136	wound/sore	/ləʒrʔaħ/	/ʒurħ/(wound)Arabic /lʒurħ/(wound)Alg-Ar	Clearly borrowed
136	wound/sore	/ʔadəddi:ʃ/	Berber	No evidence for borrowing
137	bruise	/ti:çəi:/	Berber	No evidence for borrowing
138	swelling	/ʔi:mməðˤrɑ:n/ /ju:f/	Berber	No evidence for borrowing
139	itch	/ʔaçma:z/	Berber	No evidence for borrowing
140	to scratch	/ʔi:çəmməz/	Berber	No evidence for borrowing
141	blister	/ti:fi:dlʌwi:n/ /tfi:ḍli/	Berber	No evidence for borrowing
	boil	/ti:səɣləçt/	Berber	No evidence for borrowing
143	pus	/ʔa:rsəl/	Berber	No evidence for borrowing
144	scar	/ʃʃi:nəə/	Berber	No evidence for borrowing
145	to cure	/ʔi:tða:wa/	/juda:wi:/(to cure)Arabic /jədda:wa/(to be cured)Alg-Ar /jda:wi/(to cure)Alg-Ar	Clearly borrowed

146	physician	/ʔa:ṭbi:b/	/ṭʌbi:b/(doctor)Arabic /ṭbi:b/(doctor)Alg-Ar	Clearly borrowed
147	medicine	/ʔəddwa/	/dawa:ʔ/(medicine)Arabic /ddwa/(medicine)Alg-Ar	
148	poison	/rrhədʒ/	/rahʒ/(poisonous dust)Arabic /rrahʒ/(poison)Alg-Ar	
149	tired	/ʔədrəç/	Berber	No evidence for borrowing
150	to rest	/ʔaðiṣrɑ:ħ/	/jarta:ħ/jastari:ħ/(to rest)Arabic /yərta:ħ/jrijaħ/(to rest)Alg-Ar	Clearly borrowed
151	lazy	/ʔafənja:n/	/fɛ:njãn/(lazy)French /fənja:n/(lazy)Alg-Ar	Cleary borrowed
152	bald	/ʔafərṭa:ṣ/	/fərṭa:ṣ/(bold)Alg-Ar	Very little evidence for borrowing
152	bald	/ʔagərʕi:t/	/ʔaqrʌʕ/(bold)Arabic /grʌʕ/(bold)Alg-Ar	Clearly borrowed
153	lame	/ʔazəħa:f/	/zaħa:f/(creeper/crawler)Arabic /zaħa:f/(creeper/crawler)Alg-Ar	Clearly borrowed
154	deaf	/ʔa:ʕəgu:n/	/ʕajju:n/(who speaks with difficulty)Arabic /ʕaggu:n/(deaf/mute/who stutters) Alg-Ar	Clearly borrowed
155	mute	/ʔa:ʕəgu:n/	/ʕajju:n/(who speaks with difficulty)Arabic /ʕaggu:n/(deaf/mute/who stutters) Alg-Ar	Clearly borrowed
156	blind	/ʔaðˤərɣa:ḷ/	Berber	No evidence for borrowing
157	drunk	/ʔaṣəkra:n/	/sakrɑ:n/(drunk)Arabic /səkra:n/(drunk)Alg-Ar	Clearly borrowed
158	naked	/ʔaʕərja:n/	/ʕurja:n/(naked)Arabic /ʕərja:n/(naked) Alg-Ar	Clearly borrowed
159	people	/ʔi:wðˤa:n/	Berber	No evidence for borrowing
160	Human being	/buna:dəm/	/ʔibnu ʔa:dam/(son of Adam)Arabic /bna:dəm/(human)Alg-Ar	Clearly borrowed
161	Tip of the tongue	/ʔa:nəɣ/	Berber	No evidence for borrowing
162	Paranasal sinusis	/lxrɑ:ʃəm/	/xaja:ʃi:m/(paranasal sinusis)Arabic	Clearly borrowed
163	saliva	/tisusa:f/	Berber	No evidence for borrowing
164	phlegm	/ʔanəxxi:m/	/nuxa:ma/(phlegm)Arabic /tənxi:ma/(phlegm)Alg-Ar	Clearly borrowed
165	throat	/ʔ:gərʒu:m/	/go:rʒ/(throat)French /gərʒu:ma/(throat)Alg-Ar	Clearly borrowed
166	tonsils	/ləgra:ʒəm/	/go:rʒ/(throat)French /gərʒu:ma/(throat)Alg-Ar	Clearly Borrowed
167	throat	/ʔi:ri:/	Berber	No evidence for borrowing
168	hump	/taʕərʕu:rə/	/ʕurʕura/(top of a thing)Arabic	Very little evidence for borrowing
169	pancreas	/ʔi:nərfəðˤ/	Berber	No evidence for borrowing

170	gallbladder	/ʔi:ẓi:/	Berber	No evidence for borrowing
171	muscle	/ta:ləħi:mɵ/	/laħm/(flesh/meat)Arabic /llħam/(fles/meat)Alg-Ar	Clearly borrowed
172	rib cage	/ʔa:ðma:rn/	Berber	No evidence for borrowing
173	fat belly	/ʔa:ʕəʃʃu:l/	Berber	No evidence for borrowing
174	sprain	/ʔʌməłməẓ	/mməlməẓ/(sprained)Alg-Ar	Very little evidence for borrowing
174	sprain	/ʔa:ʕnu:nni/	Berber	No evidence for borrowing
175	joint	/ŋəfʂəl/	/mifʂʌl/(foot joint)Arabic /lmafʂʌl/(foot joint)Alg-Ar	Clearly borrowed
176	fracture	/hɑ:rẓi:ɵ/	Berber	No evidence for borrowing
177	fist	/bu:nja/	/pwaɲɛ:/(fist) (poignée)French /pu:nja/(fist)Spanish /bu:nja/(fist)Alg-Ar	Clearly borrowed
178	a hit	/hi:çɵi:/	Berber	No evidence for borrowing
179	kick	/ʔarki:l/	/rakla/(kick)Arabic /rəkla/(kick)Alg-Ar	Clearly borrowed
179	kick	/ku:tbi:/	/ku de pjɛ:/(kick) (coup de pied) French	Clearly borrowed
180	to fall down	/hagəʈʈo:ɵ/	Berber	No evidence for borrowing

			Semantic Field 5: Clothing and Grooming	
N	**Meaning List**	**Chaouia**	**Source Word**	**Borrowing Status**
1	to put on	/ʔiːʈrɑːðˤ/	Berber	No evidence for borrowing
2	clothes	/ʔʌroːðˤ/	Berber	No evidence for borrowing
3	tailor	/ʔaxijjɑːʈ/	/xajjɑːʈ/(tailor) Arabic /lxajjɑːʈ/(tailor) Alg-Ar	Clearly borrowed
3	tailor	/ʔagənnei/ /wajʔiːgənniːn/	Berber	No evidence for borrowing
4	cloth	/ʈʌ ̭bbəə/	/ʈʌbba/(piece of clothes)Arabic /tʌbba/(cloth) Alg-Ar	Clearly borrowed
5	wool	/taðˤoːft/	/ʂoːf/(wool) Arabic /ʂʂoːf/(wool) Alg-Ar	Clearly borrowed
6	linen	/ʔaʃəlliːq/	/ʃəlliːga/(cloth) Alg-Ar	Very little evidence for borrowing
6	linen	/lkəttaːn/	/kattaːn/(linen) Arabic /lkəttaːn/(linen) Alg-Ar	Clearly borrowed
7	cotton	/ləqʈən/	/qɒʈn/(cotton) Arabic /ləqʈən/(cotton) Alg-Ar	Clearly borrowed
8	silk	/ləħriːr/	/ħariːr/(silk) Arabic /ləħriːr/(silk) Alg-Ar	Clearly borrowed
8	silk	/lʌʂwʌ/	/lʌʂwʌ/(silk) French /lʌʂwʌ/(silk) Alg-Ar	Clearly borrowed
9	felt	/lkəttaːn ntaðˤoːft/	/kattaːn/(linen) Arabic /lkəttaːn/(linen) Alg-Ar /ʂoːf/(wool) Arabic /ʂʂoːf/(wool) Alg-Ar (meaning: cloth made of wool)	Clearly borrowed Phrasal equivalence
10	fur	/ʔaːzdi/	Berber	No evidence for borrowing
11	leather	/ʔagliːm/	Berber	No evidence for borrowing
12	to spin	/jzəʈ/	Berber	No evidence for borrowing
13	spindle	/ʔʌzəʈʈʌ/	Berber	No evidence for borrowing
14	to weave	/ʔiːtqardaːʃ/	/qardaːʃ/(to fluff wool)Alg-Ar	Very little evidence for borrowing
15	loom	/ʔamʃəðˤ/	/miʃadd/(tool to make tight the woolen thread) Arabic	Not clearly identified Perhaps borrowed
15	loom	/ʔaqərdaːʃ/	/qardaːʃ/(tool to fluff wool)Alg-Ar	Very little evidence for borrowing
16	to sew	/ʔiːgənni/	Berber	No evidence for borrowing
17	needle (1)	/tiːssəgniːɵ/	/serɛːng/(injection/syringe)French (seringue)	Not clearly identified Perhaps borrowed
18	awl	/tissuːbla/	Berber	No evidence for borrowing
19	thread	/fuːliː/	Berber	No evidence for borrowing
20	to dye	/ʔiːsəbbaɣ/	/jaʂbiɣu/(to dye) Arabic /jəʂbaɣ/(to dye) Alg-Ar	Clearly borrowed
21	cloak	/taʕbaːjt/ /taʒəllaːbiːt/	/ʕabaːʔa/(cloak) Arabic /ləʕbaːja/(cloak) Alg-Ar	Clearly borrowed
21	cloak	/taʒəllaːbiːt/	/ʒallaːbijja/(loose cloak)Arabic /ʒəllaːba/(type of clothing) Alg-Ar	Clearly borrowed
22	poncho	/taçəbɒːʈ/	/kapɒt/(coat) French	Clearly borrowed

23	(woman's) dress	/taʒbi:bə/	/ʒubba/(loose outer garment) Arabic /lʒəbba/(woman's dress) Alg-Ar	Clearly borrowed
24	coat	/lfi:st'a/	/vɛ:st/(jacket/coat) French (veste) /lvi:sta/(coat/jacket) Alg-Ar	Clearly borrowed
25	shirt	/tri:ku/	/tri:kɒ/(shirt) French(tricot) /tri:ku/ (shirt) Alg-Ar	Clearly borrowed
26	collar	/fiko:l/	/kɔ:l/(collar) French	Clearly borrowed
27	skirt	/ʒippõ/	/ʒippõ/ (skirt) French(jupon) /ʒippa/ (skirt) Alg-Ar	Clearly borrowed
28	grass-skirt	No equivalence	No equivalence	No equivalence
29	trousers	/ʔasərwa:l/	/sirwa:l/(trousers) Arabic /ssərwa:l/ (trousers) Alg-Ar	Clearly borrowed
30	sock/stocking	/titəqʃiri:n/	/qiʃr/(all what can be worn/the outer cover) Arabic /tqa:ʃər/ (socks) Alg-Ar	Clearly borrowed
31	shoe	/ʔa:rças/	/hurka:s/(shoe) Alg-Ar	Very little evidence for borrowing
32	boot	/bɒtijõ/	/butijõ/(boot) French(bottillon) /butiju/(boot) Alg-Ar	Clearly borrowed
33	shoemaker	/ʔasʕanʒi/	Not clearly identified	Not clearly identified
34	Hat/cap	/hʃa:ʃʃi:ə/	/ʃa:ʃijja/ (hat) Arabic /ʃʃa:ʃijja/ (hat) Alg-Ar	Clearly borrowed
34	Hat/cap	/taqəlmu:nt/	/juqillu lmaʔu:na/ (to hold/put supplies) Arabic (meaning: place of putting stuff) /galmu:na/(jacket bonnet) Alg-Ar	Clearly borrowed
35	belt	/tahəzza:mt/	/ħiza:m/(belt) Arabic /ləħza:m/(belt) Alg-Ar	Clearly borrowed
36	glove	/liga:t/	/lɛ: gõ/(gloves) French(les gants) /li:gõ/li:ga:t/(gloves) Alg-Ar	Clearly borrowed
37	veil	/xima:ṛ/	/xima:ṛ/(veil) Arabic /lxima:ṛ/(veil) Alg-Ar	Clearly borrowed
37	veil	/ti:məħrəmt/	/maħruma/(napkin/serviette) Arabic /məħħərma/(head band) Alg-Ar	Clearly borrowed
38	pocket	/lʒi:b/	/ʒajb/ (pocket) Arabic lʒi:b/(pocket) Alg-Ar	Clearly borrowed
39	button	/zaki:r/	Berber	No evidence for borrowing
40	pin	/lappi:na:z/	/pynɛ:z/(pin) French (punaise)	
41	ornament or adornment	/mʌkija:ʒ/	/mʌkija:ʒ/(makeup) French (maquillage) /lmʌkija:ʒ/(makeup) Alg-Ar	Clearly borrowed
42	jewel	/ʔɔ:rɣʌwən/	Berber	No evidence for borrowing
43	ring	/txa:əmə/	/xa:tam/(ring) Arabic /lxa:təm/(ring) Alg-Ar	Clearly borrowed
44	bracelet	/təggu:rma:t/	/gu:rmɛ:t/(bracelet) French /gu:rma:t/(bracelet) Alg-Ar	Clearly borrowed

45	necklace	/tamsajəst/	/msa:jəs/(bracelets) Alg-Ar	Very little evidence for borrowing
46	bead	/səmsəm/	/ʔassammu/(bead) Arabic	Clearly borrowed
47	earring	/tafla:jkɵ/	Berber	No evidence for borrowing
48	headband or headdress	/ taʕəʂʂa:bt /	/ʕuʂa:ba/(headcloth)Arabic /ʕaʂʂa:ba/(headband)Alg-Ar	Clearly borrowed
49	tattoo	/lu:ʃa:m/	/waʃm/(tattoo) Arabic /ləwʃəm/(tattoo) Alg-Ar	Clearly borrowed
50	Handkerchief /rag	/ʔanəʃʃa:f/	/naʃʃa:f/(rag) Arabic /nəʃʃa:f/ (rag) Alg-Ar	Clearly borrowed
50	Handkerchief /rag	/ʔasəffa:ðˤ/	Berber	No evidence for borrowing
51	towel	/ti:mənʃəft/	/naʃʃa:f/(rag) Arabic /nəʃʃa:f/ (rag) Alg-Ar	Clearly borrowed
52	comb	/ṭa:məʃṭ/	/miʃṭ/(comb) Arabic /lmaʃṭʌ/(comb) Alg-Ar	Clearly borrowed
53	brush	/ʃʃi:ta/	/ʃi:tatun/(tooth brush) Arabic /ʃʃi:ta/(brush) Alg-Ar	Clearly borrowed
54	plait/braid	/ti:nəlli/	Berber	No evidence for borrowing
55	razor	/ʔu:zza:l/	Berber	No evidence for borrowing
55	razor	/ʔaxəðmi/	/jaxdimu/(to make)Arabic /jəxdəm/(to make)Alg-Ar /ɣadi:mi:/(type of knife in Yemen)Arabic (meaning: something to work with)	Not clearly identified Perhaps borrowed
55	razor	/rrʌzwa:r/	/rʌzwɑ:r/(razor) French (rasoir) /rrʌzwa:r/(razor) Alg-Ar	Clearly borrowed
56	ointment	/lʌppɒṃa:d/	/pɒma:d/(ointment) French (pomade) /ppɒma:d/(ointment) Alg-Ar	Clearly borrowed
57	soap	/ʂʂʌḅo:n/	/ʂɑ:bu:n/(soap) Arabic /ʂʂʌbu:n/(soap) Alg-Ar	Clearly borrowed
58	mirror	/ʔaləmma:ʕ/	/la:miʕ/lamma:ʕ/(bright) Arabic /ləmma:ʕ/(bright/shiny) Alg-Ar	Clearly borrowed
59	snowshoe	/ʔarça:s nu:ðfəl/	Berber	No evidence for borrowing

N	Meaning List	Chaouia	Source Word	Borrowing Status
		Semantic Field 6: Food and Drink		
1	to eat	/ʔiːtət/	Berber	No evidence for borrowing
2	food	/ʔiːjʧa/	Berber	No evidence for borrowing
3	cooked	/juːmma/	Berber	No evidence for borrowing
4	raw	/ʔuːðjummiːʃ/	Berber	No evidence for borrowing
5	ripe	/juːmma/	Berber	No evidence for borrowing
6	unripe	/ʔuːðjummiːʃ/	Berber	No evidence for borrowing
7	rotten	/ʔuðiːħliːʃ/	Berber	No evidence for borrowing
8	to drink	/ʔijsəss/	Berber	No evidence for borrowing
9	to be hungry	/jalloːz/	Berber	No evidence for borrowing
10	famine	/maʒaːʕa/	/maʒaːʕa/(famine) Arabic /lmaʒaːʕa/(famine) Alg-Ar	Clearly borrowed
11	to be thirsty	/jəffuːð/	Berber	No evidence for borrowing
12	to suck	/ʔiːtmmoːssʌ/	/jamuʂʂɒ/(to suck) Arabic /jmɒʂʂ/(to suck) Alg-Ar	Clearly borrowed
13	to chew	/jʈaffəz/	Berber	No evidence for borrowing
14	to swallow	/ʔiːsbəlʕiːθ/	/jablaʕu/(to swallow) Arabic /jəblaʕ/(to swallow) Alg-Ar	Clearly borrowed
15	to choke	/jəʃləq/	/juʃriqu/(to choke with water) Arabic /jəʃrəg/(to choke with water Alg-Ar	Clearly borrowed
15	To choke	/jəxnəq/	/jaxtaniq/(to choke) Arabic /jəttəxnəq/(to choke) Alg-Ar	Clearly borrowed
16	to cook	/jəssuːmaːj/	Berber	No evidence for borrowing
17	to boil	/jəttaːjzaːg/	Berber	No evidence for borrowing
18	to roast or fry	/jessuːmaːj/	Berber	No evidence for borrowing
18	to roast/to fry	/ʔijqella/	/jaqliː/(to fry) Arabic /jəqli/(to fry) Alg-Ar	Clearly borrowed
18	to roast/to fry	/ʔijʃəwwa/	/jaʃwiː/(to roast) Arabic /jəʃwi/(o roast) Alg-Ar	Clearly borrowed
19	to bake	/jəttuːg/	Berber	No evidence for borrowing
20	oven	/ʔiːlmes/	Berber	No evidence for borrowing
20	oven	/ʈʌbuːna/	/ʈɑːbuːna/(oven/bakery) Arabic /ʈʈʌbuːna/(oven/stove)Alg-Ar	Clearly borrowed
20	oven	/riːʃuː/	/rɛːʃɒ/(stove/cooker) French (réchaud) /rriːʃu/(stove) Alg-Ar	Clearly borrowed
20	oven	/lfuːr/	/fuːr/(oven) French (le four) /lfuːr/(oven) Alg-Ar	Clearly borrowed
21	pot	/hasiːlə/	Berber	No evidence for borrowing
21	pot	/haqənnuːʃt/	/qinniːna/(flask) Arabic	Not clearly identified Perhaps borrowed

22	kettle	/hgami:lə/	/gamɛ:l/(mess tin/canteen/ billycan/pan)French (gamelle) /gami:la/(pan) Alg-Ar	Clearly borrowed
23	pan	/ʈʌwa/	/tɑ:va/(pan) Turkish /ʈɑ:wa/(pan) Alg-Ar	Perhaps borrowed
24	dish	/ha:ṣħi:nθ/	/ṣʌħn/(dish/plate/saucer) Arabic /ṣṣħʌn/(dish/plate/bowl) Alg-Ar	Clearly borrowed
25	plate	/ʔaʈəbsi:/	/təpsi/(plate/dish/saucer) Turkish /ʈɒpsi/(dish/plate) Alg-Ar	Perhaps borrowed
26	bowl	/ta:sħi:nt/	/ṣʌħn/(dish/plate/saucer) Arabic /ṣṣħʌn/(dish/plate/bowl) Alg-Ar	Clearly borrowed
27	jug/pitcher	/ʈɑ:s/	/ʈɑ:s/(glass/cup/jug)French (tasse) /ʈʈɑ:s/(glass/cup/jug)Alg-Ar	Clearly borrowed
28	cup	/lka:s/	/kaʔs/(cup)Arabic /ka:s/(cup) Alg-Ar	Clearly borrowed
28	cup	/ʔafənza:l/	/finʒa:l/(cup)Arabic /fənʒa:l/ (cup) Alg-Ar	Clearly borrowed
29	saucer	/ha:sħi:nθ/	/ṣʌħn/(dish/plate/saucer) Arabic /ṣṣħʌn/(dish/plate/bowl) Alg-Ar	Clearly borrowed
30	spoon	/haɣunʒa:jθ/	Berber	No evidence for borrowing
31	knife (1)	/ʔa:xuðmi/	/jaxdimu/(to make)Arabic /jəxdəm/(to make)Alg-Ar /ɣadi:mi:/(type of knife in Yemen) Arabic (meaning: something to work with)	Not clearly identified Perhaps borrowed
	Knife (1)	/hu:zza:lə/	Berber	No evidence for borrowing
	Knife (1)	/ʔa:ʒommi:/	Berber	No evidence for borrowing
32	fork	/ha:fərʃi:t/	/fu:rʃɛ:t/(fork) French (fourchette) /fʌrʃi:ʈʌ/ (fork) Alg-Ar	Clearly borrowed
33	tongs	/ha:mənqa:ʃθ/	/minqa:ʃ/(tongs/tweezers)Arabic	Clearly borrowed
34	**meal**	No equivalence	No equivalence	No equivalence
35	breakfast	/ləfḍo:r/	/faṭo:r/(breakfast) Arabic /lfṭo:r/ (breakfast) Alg-Ar	Clearly borrowed
36	lunch	/ʔaməɟli:/	/maʔku:l/(eaten) Arabic /məkli/(eaten) Alg-Ar	Perhaps borrowed
37	dinner	/ʔamənsi:/	/mansi:/(forgotten) Arabic /mənsi/(forgotten) Alg-Ar	Perhaps borrowed
38	supper	No equivalence	No equivalence	No equivalence
39	to peel	/jetta:zi/	Berber	No evidence for borrowing
40	to sieve/ strain	/ʔijruzzi:/	Berber	No evidence for borrowing
41	to scrape	/ʔijçəmməz/	Berber	No evidence for borrowing
42	to stir/ to mix	/jəssmɑ:ðˤra:n/	Berber	No evidence for borrowing
43	bread	/ʔaɣru:m/	Berber	No evidence for borrowing
44	dough	/ʔa:rəɟθi:/	Berber	No evidence for borrowing

45	to knead	/ji:ttu:ɡ/	Berber	No evidence for borrowing
46	flour	/ʔa:ren/	Berber	No evidence for borrowing
47	to crush/grind	/ʔijbərri:/	Berber	No evidence for borrowing
48	mill	/ta:si:rɵ/	Berber	No evidence for borrowing
49	mortar (1)	/ha:məħha:ʈ/	Berber	No evidence for borrowing
50	pestle	/ʔa:zdu:ð/	Berber	No evidence for borrowing
51	meat	/ʔa:ksu:m/	Berber	No evidence for borrowing
52	sausage	/mərga:z/	/mərga:z/ (sausage) Alg-Ar	Very little evidence for borrowing
53	soup	/ʃo:rbəθ/	/ʃu:rʌba/(soup) Arabic /ʃʃɒrba/(soup) Alg-Ar	Clearly borrowed
54	vegetables	/lxɒðˤrəɵ/	/xɒðˤʌr/(vegies) Arabic /lxɒðˤra/(vegies) Alg-Ar	Clearly borrowed
55	bean	/ʔiba:wən/	Berber	No evidence for borrowing
56	potato	/bʌʈʌʈʌ/	/baʈa:ʈa:/(potato) Arabic /bʌʈʌʈʌ/(potato) Alg-Ar	Clearly borrowed
57	fruit	/fa:kja/	/fa:kiha/(fruit) Arabic /fa:kja/ (fruit) Alg-Ar	Clearly borrowed
58	bunch	/ta:zdəmɵ/	Berber	No evidence for borrowing
59	fig	/ʔi:mətʃa:n/ /tazza:rɵ/	Berber	No evidence for borrowing
60	grape	/hizɒri:n/ /tizɒri:n/	Berber	No evidence for borrowing
61	nut	/ʔiflu:sijjən/	Berber	No evidence for borrowing
62	olive	/ʔa:zəmmu:r/	Berber	No evidence for borrowing
63	oil	/zzi:ɵ/	/zajt/(oil) Arabic /zzi:t/(oil) Alg-Ar	Clearly borrowed
64	grease or fat	/ddu:nəɵ/	Berber	No evidence for borrowing
65	salt	/ti:sənt/	Berber	No evidence for borrowing
66	pepper	/ʔi:fəlfəl/	/fulful/(pepper) Arabic /fəlfəl/(pepper) Alg-Ar	Clearly borrowed
67	chili pepper	/ʔi:fəlfəl ʔiħa:rrən/	/fulful ħa:rr/ (hot pepper) Arabic /fəlfəl ħa:r/(hot pepper) Alg-Ar	Clearly borrowed
68	honey	/ta:mməmɵ/	Berber	No evidence for borrowing
69	sugar	/sukkʌr/	/sukkʌr/(sugar) Arabic /ssukkɒr/ (sugar) Alg-Ar	Clearly borrowed
70	milk	/ʔa:ɣi/	Berber	No evidence for borrowing
71	to milk	/ʔijʈʌʐʐi/	Berber	No evidence for borrowing
72	cheese	/fərma:ʒ/	/frɒma:ʒ/(cheese) French (fromage) /fɒrma:ʒ/(cheese) Alg-Ar	Learly borrowed
73	butter	/dha:n/	/diha:n/(oily substance) Arabic /ddha:n/ (butter) Alg-Ar	Clearly borrowed
74	drink	/hi:səssi:/	Berber	No evidence for borrowing
75	mead	/ʔa:ði:çfəl/	Berber	No evidence for borrowing
76	wine	No equivalence	No equivalence	No equivalence

77	beer	/tabiri:ɵ/	Berber	No evidence for borrowing
78	fermented drink	/ʃrɑ:b/	/ʃarɑ:b/(fermented drink) Arabic /ʃrɑ:b/(alcoholic drink) Alg-Ar	Clearly borrowed
79	egg	/hi:məlla:li:n/	Berber	No evidence for borrowing
80	yolk	/ʔawra:ɣ n tməlla:lt/	Berber	No evidence for borrowing
81	manioc bread	No equivalence	No equivalence	No equivalence
82	eggwhite	/ʔaməlla:l n tməlla:lt/	Berber	No evidence for borrowing
83	beans	/lu:bja/	/ʔallu:bija:/ (beans) Arabic /llu:bja/ (beans) Alg-Ar	Clearly borrowed
84	sweet	/hi:ẓẓi:ðˤ/	Berber	No evidence for borrowing
85	salty	/ʒi:rʒi:r/	/ʒirʒi:r/ (arugula) Arabic (meaning because arugula is salty)	Perhaps borrowed
85	Salty	/hmu:leħ/	/ma:liħ/(salty) Arabic /ma:laħ/ (salty) Alg-Ar	Clearly borrowed
86	Basin for washing	/qa:za:n/	/kaza:n/(pig pot) Turkish /qaza:n/ (pig pot) Alg-Ar	Perhaps borrowed
87	Basin for flour and kneading	/ta:rbu:ɵ/ /ha:rbu:ɵ/	Berber	No evidence for borrowing
88	Chunk /lump in the throat	/hu:ħla:s/	/waħila/(get stuck in mud/trouble)Arabic /waħlətlu/ (it got stuck in his throat/he got into trouble) Alg-Ar	Not clearly identified Perhaps borrowed
89	grenade	/ʔa:rmu:n/	/rɒmma:n/(grenade) Arabic /rrɒmma:n/ (grenade) Alg-Ar	Clearly borrowed
90	apple	/ʔa:ðəffu:/	/tuffa:ħ/ (apple) Arabic /ttəffa:ħ/ (apple) Alg-Ar	Not clearly identified Perhaps borrowed
91	pear	/fi:ra:s/tafi:r:st/	Berber	No evidence for borrowing
92	carrots	/sənna:rija/	/zanaho:rjas/(carrot) Spanish /ssənna:rija/) (carrot) Alg-Ar	Perhaps borrowed
93	onion	/bʂʌl/	/baʂʌl/ (onion) Arabic /bʂʌl/ (onion) Alg-Ar	Clearly borrowed
94	celery	/krɑ:fəs/	/kʌrfas/ (celery) Arabic /krɑ:fəs/ (celery) Alg-Ar	Clearly borrowed
95	cauliflower	/ʃi:flo:r/	/ʃu:flœr/(cauliflower) French (chou-fleur) /ʃi:flo:r/(cauliflower) Alg-Ar	Clearly borrowed
96	cabbage	/məlfu:f/	/malfu:f/ (cabbage) Arabic /məlfu:f/ (cabbage) Alg-Ar	Clearly borrowed
97	Garlic	/ti:ʃʃərt/	Berber	No evidence for borrowing
98	Eggplant	/ba:ðinʒa:n/	/ba:ðinʒa:n/(eggplant) Arabic	Clearly borrowed
99	Beetroot	/biṭrɑ:f/	/bɛ:trɑ:v/(beetroot) French (betterave) /biṭrɑ:f/ (beetroot) Alg-Ar	Clearly borrowed

101	Apricot	/tabərqu:qɵ/	/burqu:q/(plum) Arabic /lbərqu:q/ (plum) Alg-Ar	Clearly borrowed
102	dates	/ʔi:ħəbba/	/ħabb/(small seeds of food plant) /balaħ/(dates) Arabic	Not clearly identified Perhaps borrowed
103	dried apricots	/fərma:s/	/ħərma:s/(dried apricot) Alg-Ar	Very little evidence for borrowing
104	spices	/ʔi:ʕəqqɑ:rn/	/ʕaqɑ:qi:r/(substances for medical purposes/medicaments) Arabic /jʕaqqʌr/(adding spices to food) Alg-Ar	Clearly borrowed
104	spices	/dwawa:ɵ/	/dawa:ʔ/(medicament) substances for medical purposes) Arabic /ddwawa:t/(medicaments/substances for medical purposes/spices) /jda:wi/ (adding spices to food) Alg-Ar	Clearly borrowed
105	Red hot pepper	/ʔi:fəlfəl dwa ʔʌzoɡa:ɣ/	/fulful/(pepper) Arabic /fəlfəl/(pepper) Alg-Ar /dawa:ʔ/(medicaments/substances for medical purposes) Arabic /ddwa/ddwawa:t/(medicaments/spices) Alg-Ar /ʔʌzɒɡa:ɣ/(red) Berber	Phrasal equivalence
106	Grind black pepper	/ʔi:fəlfəl ʔabərça:n/	/fulful/(pepper) Arabic /fəlfəl/(pepper) Alg-Ar /ʔabərça:n/(black) Berber	Phrasal equivalence
107	hot	/ʔi:twəzwəz/ /ʔitta:qqəs/ /ʔittəbbi/	Berber	No evidence for borrowing
107	hot	/ʔiħʌrr/	/ħɑ:rr/ (hot) Arabic /ħɑ:r/(hot) Alg-Ar	Clearly borrowed

	Semantic Field 7: House			
N	**Meaning List**	**Chaouia**	**Source word**	**Borrowed status**
1	to live	/jti:li/	Berber	No evidence for borrowing
2	house	/ʔaxxa:m/	Berber	No evidence for borrowing
3	hut	/gu:rbi/	/gurbi/(hut)Alg-Ar /kulubi)(hut)Turkish	Very little evidence of borrowing
4	garden-house	No equivalence	No equivalence	No equivalence
5	tent	/ʔaqqiðˤo:n/	/qajṭo:n/(type of tent) Arabic /giṭo:n/(big tent)Alg-Ar	Clearly borrowed
6	yard or court	/ħu:ʃ/	/ħawʃ/(yard)Arabic /lħawʃ/(yard)Alg-Ar	Clearly borrowed
6	Yard/court	/ʔa:fra:g/	Berber	No evidence for borrowing
8	Men's house	No equivalence	No equivalence	No equivalence
9	Cookhouse/kitchen	/takuzi:nt/	/kwizi:n/(kitchen)French	Clearly borrowed
10	meeting house	/ʔanna:r/	Berber	No evidence for borrowing
11	room	/tadda:rə/	/dɑ:r/(room/house)Arabic /ddɑ:r/(room/house)Alg-Ar	Clearly borrowed
11	room	/hʃɑ:mbərə/	/ʃãmbr/(room)French /ʃãmbra/(room)Alg-Ar	Clearly borrowed
12	Door/gate	/lba:b/	/ba:b/(door)Arabic /lba:b/(door)Alg-Ar	Clearly borowed
13	doorstep	/lʕətbəə/	/ʕataba/(doorstep)Arabic /lʕətba/(doorstep)Alg-Ar	Clearly borrowed
14	lock	/zɒkrəm/	/zzokrəm/(lock)Alg-Ar	Very little evidence for borrowing
15	Latch/door-bolt	/ʔasəqqa:ðˤ/	Berber	No evidence for borrowing
16	padlock	/tʃərləlla/	Berber	No evidence for borrowing
17	key	/nnəfəa:ħ/	/mufta:ħ/(key)Arabic /məfta:ħ/(key)Alg-Ar	Clearly borrowed
18	window	/hi:mba:bət/	Berber	No evidence for borrowing
19	floor	/tamu:rə/	Berber	No evidence for borrowing
20	wall	/ʔʌfʂi:l/	/fɑ:ʂil/(separation wall)Arabic	Clearly borrowed
21	fireplace	/ʔi:lməs/	Berber	No evidence for borrowing
22	stove	/ʔi:lməs/	Berber	No evidence for borrowing
23	chimney	/ʃʃmi:ni/	/ʃeminɛ:/(chimney)Arabic /ʃʃmi:ni/(chimney)Alg-Ar	Clearly borrowed
23	chimney	/tɑnno:zərt/	Berber	No evidence for borrowing
24	ladder	/sla:ləm/	/sala:lim/(ladders)Arabic	Clearly borrowed
25	bed	/la:çəu:/	Berber	No evidence for borrowing
26	pillow	/hsu:məi:/	Berber	No evidence for borrowing
27	blanket	/ẓẓɑ:wrʌ/	Ar	Very little evidence for borrowing
28	chair	/lbʌŋk/	/bãŋk/(bench)French /lbʌŋk/(bench)Alg-Ar	Clearly borrowed
29	table	/ṭʌbla/	/ṭʌbl/(table)French /ṭʌbla/(table)Alg-Ar	Clearly borrowed

30	Lamp/torch	/ka:nki:/	/kandɛ:lɑ:br/(lamp)French	Very little evidence for borrowing
30	Lamp/torch	/ɣa:nʒu/	Berber	No evidence for borrowing
31	candle	/taʃəmma:ʕə/	/ʃamʕa/(candle)Arabic /ʃəmʕa/(Candle)Alg-Ar	Clearly borrowed
32	shelf	/ta:sfi:ft/	/sattafa/(arrange/sort)Arabic /səttəf/(arrange/sort)Alg-Ar	Clearly borrowed
33	trough	/ʔa:nu://ta:la/	Berber	No evidence for borrowing
34	roof	/ssaqf/	/saqf/(roof)Arabic /ssqaf/(roof)Alg-Ar	Clearly borrowed
35	thatch	/ʔaqərmu:ð/ /ʔaʕʃu:ʃ/	/qarmu:d/(roof-tile)Arabic /ʕuʃʃ/(nest)Arabic	Clearly borrowed
36	ridgepole	/tagiði:ə/	Berber	No evidence for borrowing
37	rafter	/taħəmmɑ:rə/	Berber	No evidence for borrowing
38	beam	No equivalence	No equivalence	No equivalence
39	Post/pole	/ʔaşɣɑ:r/	Berber	No evidence for borrowing
40	board	/talwi:ħt/	/lawħa/(wooden board)Arabic /lu:ħa/(wooden board)Alg-Ar	Clearly borrowed
41	arch	/lqu:s/	/qaws/(arch)Arabic /lqaws/(arch)Alg-Ar	Clearly borrowed
42	mason	/mʌşşɔ̃n/	/mʌşşɔ̃n/(Mason) French	Clearly borrowed
43	brick	/lbri:k/	/bri:k/(brick)French /lbri:k/(brick)Alg-Ar	Clearly borrowed
44	mortar (2)	/ssi:ma/	/si:mɔ̃n/(mortar)French /ssima/(mortar)Alg-Ar	Clearly borrowed
45	adobe	/lo:ðˤ/	Berber	No evidence for borrowing
46	camp	No equivalence	No equivalence	No equivalence
47	hammock	/taʕlu:la/	Berber	No evidence for borrowing
47	to tan	/ti:bbərkənt/	Berber	No evidence for borrowing

N	Meaning List	Chaouia	Source Word	Borrowing Status
	Semantic Field 9: Basic Actions and Technology			
1	to do	/jətsa:wa/	/sawwa:/(to fix/to regulate)Arabic	Clearly borrowed
2	to make	/ʔijxaddəm/	/xadama/(to make)Arabic /xdəm/(to make)Alg-Ar	Clearly borrowed
3	work	/ʔijxaddəm/	/jaxdimu/(to make)Arabic /jəxdəm/(to make)Alg-Ar	Clearly borrowed
4	to bend	/ʔi:tta:ðər/	Berber	No evidence for borrowing
5	to fold	/ʔijţðˤəb̞b̞a:q/	/ţʌbbaqa/(to fold)Arabic /jţʌbbag/(to fold) Alg-Ar	Clearly borrowed
6	to tie	/ʔijçərfi:ɵ/	Berber	No evidence for borrowing
7	to untie	/ʔi:jṛəẓẓəm/	Berber	No evidence for borrowing
8	chain	/ʔaçərra:f/	Berber	No evidence for borrowing
9	rope	/ʔʌ ş ɣo:n/	Berber	No evidence for borrowing
9	knot	/taçru:st/	Berber	No evidence for borrowing
10	to strike/hit/beat	/jətja:ɵ/	Berber	No evidence for borrowing
11	to pound	/ʔisgərgu:ʕ/	Berber	No evidence for borrowing
12	to cut	/ʔijtəbbi:/	Berber	No evidence for borrowing
13	to cut down	/ʔəqla:ʕ/	/qallaʕa/(cut down/take off) Arabic /jəglaʕ/(take off/cut down) Alg-Ar	Clearly borrowed
14	to chop	/ʔi:ssəftu:tti:ç/	Berber	Clearly borrowed
14	to stab	/ju:ɵi:ɵ/	Berber	No evidence for borrowing
15	knife (2)	/ʔaxəðmi/	/jaxdimu/(to make)Arabic /jəxdəm/(to make)Alg-Ar /ɣadi:mi:/(type of knife in Yemen)Arabic	Not clearly identified Perhaps borrowed
	knife	/tu:zza:lt/ /ʔʌ ʒ ɒmmi/	Berber	No evidence for borrowing
16	Scissors/shears	/ləmqassəs/	/miqʌş/(scissors)Arabic /mqas/(scissors) Alg-Ar	Clearly borrowed
17	axe/ax	/hʃa:qo:rɵ/	/ʃaqu:r/(ax)Alg-Ar	Very little evidence for borrowing
18	Adze	/tqaðu:mt/	/qa:du:m/(tool for carving) Arabic /lgadu:m/(tool for plowing /cultivating)Alg-Ar	Clearly borrowed
19	to break	/ʔi:rẓʌ/	Berber	No evidence for borrowing
20	broken	/jəṛṛəẓ/	Berber	No evidence for borrowing
21	to split	/ʔijb̞əţţʌ/	Berber	No evidence for borrowing
22	to tear	/ʔi:tməzz'a:q/	/mazzaqa/(to tear)Arabic	Clearly borrowed
23	to skin	/jətta:zi/	Berber	No evidence for borrowing
24	to rub	/ʔijləttəf/	Berber	No evidence for borrowing

25	to wipe	/ʔijməss'aħ/	/jamsaħu/(wipe)Arabic /jəmsaħ/(wipe) Alg-Ar	Clearly borrowed
26	to stretch	/ʔijtmaʕɑ:ðˤ/	Berber	No evidence for borrowing
27	to pull	/ʔijʒəbði:ə/	/jaʒðibu/(to pull)Arabic /jəʒbəd/(to pull) Alg-Ar	Clearly borrowed
28	to spread out	/ʔisçərço:r/	Berber	No evidence for borrowing
29	to hang up	/ʔijʕalqi:ə/	/juʕalliqu/(to hang up)Arabic /jʕalləq/g/(to hang up)Alg-Ar	Clearly borrowed
30	to press	/ʔijtʕkka:z/	/taʕakkaza/(lean on)Arabic	Clearly borrowed
31	to squeeze	/ʔiʕəʂri:ə/	/jaʕʂir/(squeeze)Arabic /jəʕʂɒr/(squeeze)Alg-Ar	Clearly borrowed
32	to pour	/jətfərrɑ:ɣ/	/jufriɣ/(to pour) Arabic /jfərraɣ/(to pour)Alg-Ar	Clearly borrowed
33	to wash	/ʔi:ssarɑ:ð/	Berber	No evidence for borrowing
34	to sweep	/ʔijfərrʌðˤ/	Berber	No evidence for borrowing
35	Broom	/ti:məʂlʌħt/	/muʂliħa/(to adjust/ amend/ repair/to make something better)Arabic /maʂʌlħa/(broom)Alg-Ar	Clearly borrowed
36	Tool	/ti:ɣəwsiwi:n/	Berber	No evidence for borrowing
37	Carpenter	/ʔanədʒɑ:r/	/naʒɑ:r/(carpenter)Arabic /nnaʒɑ:r/(carpenter)Alg-Ar	Clearly borrowed
38	to build	/ʔijbənna/	/jabni:/(build)Arabic /jəbni/(build)Alg-Ar	Clearly borrowed
39	to bore	/ʔijnaqqəʃ/	/naqaʃa/(to bore)Arabic /jənquʃ/(to bore) Alg-Ar	Clearly borrowed
40	to hollow out	/ʔitwəzzɑ:ʕ/	/juwazziʔu/(distribute)Arabic /jwəzzaʕ/(distribute)Alg-Ar	Not clearly identified
41	saw	/mənʃɑ:r/	/minʃɑ:r/(saw)Arabic /lmənʃɑ:r/(saw)Alg-Ar	Clearly borrowed
41	hammer	/tʌfðˤi:st/	Berber	No evidence for borrowing
42	nail	/ʔəməʂmɑ:r/	/mismɑ:r/(nail)Arabic /məsmɑ:r/(nail)Alg-Ar	Clearly borrowed
43	glue	/lləsqəə/	/laʂiq/(glue)Arabic /lləsqa/(glue)Alg-Ar	Clearly borrowed
44	blacksmith	/ʔasudɑ:r/	/sudœr/(welder)French	Clearly borrowed
45	to forge	/ʔi:məssel/	Berber	No evidence for borrowing
45	anvil	/ʔuzzɑ:l/	Berber	No evidence for borrowing
46	to cast	/ʔi:ssəfsu:j/	Berber	No evidence for borrowing
47	gold	/ʔo:rəɣ/	Berber	No evidence for borrowing
48	silver	/ʔɑ:zɽəf/	Berber	No evidence for borrowing
49	copper	/ʔənnħa:s/	/nuħa:s/(copper)Arabic /nnħa:s/(copper)Arabic	Clearly borrowed
50	iron	/ʔu:zzɑ:l/	Berber	No evidence for borrowing
51	lead	/ʔəɽɽʂɑ:ʂ/	/raʂɑ:ʂ/(lead)Arabic /rrʂɑ:ʂ/(lead)Alg-Ar	Clearly borrowed
52	Tin/tinplate	/ʔaqəzdi:r/	/qiʂdi:r/(tin)Arabic	Clearly borrowed

53	potter	/ʔifɑːggən/	Berber	No evidence for borrowing
54	to mold	/ʔitfʌʂʂɑːl/	/jufaʂʂilu/(to mold/form)Arabic /jfaʂʂʌl/(to mold/form)Alg-Ar	Clearly borrowed
55	clay	/tlaːxt/	Berber	No evidence for borrowing
56	glass	/ʈʒɑːʒ/ləqzaːz/	/zuʒaːʒ/(glass)Arabic /zʒaːʒ/(glass)Alg-Ar	Clearly borrowed
57	to weave/ plait/ braid	/ʔiːgənni/	Berber	No evidence for borrowing
57	basket	/taqfiːft/	/quffa/(basket)Arabic /lquffa/(basket)Alg-Ar	Clearly borrowed
58	mat	/ʔaləmsiːr/	Berber	No evidence for borrowing
59	rug	/ʔaʒərөiːl/	Berber	No evidence for borrowing
	rug	/tazərbiːө/	/zarbijja/(rug)Arabic /zzarbijja/(rug)Alg-Ar	Clearly borrowed
60	netbag	/tɑːxriːt/	Berber	No evidence for borrowing
61	fan	/tafərfaːrt/	/rafrafa/(to flap)Arabic /fərfaːra/(fan)Alg-Ar	Clearly borrowed
61	to fan	/ʔisfaffaːj/	Not clearly identified	Not clearly identified
62	to carve	/ʔijməssəl/	Berber	No evidence for borrowing
63	sculptor	/ʔamsaːl/	Berber	No evidence for borrowing
64	statue	/timөʾaːl/	/timөaːl/(statue)(Arabic	Clearly borrowed
65	chisel	/ʔamənqɑːr/	/minqɑːr/(drilling tool)Arabic	Clearly borrowed
66	boomerang	/ʔaʕqəð/	Berber	No evidence for borrowing
67	paint	/ʂbiːɣөө/	/ʂʌbɣa/(paint)Arabic /ʂbiːɣa/(paint)Alg-Ar	Clearly borrowed
67	Paint	/bəntuːra/	/pɛːntyr/(paint)French /bəntuːra/(paint)Alg-Ar	Clearly borowed
68	To paint	/jbəntər/	/pɛːntyr/(to paint)French /jbəntər/(to paint)Alg-Ar	Clearly borrowed
	To paint	/jəʂbaɣ/	/jaʂbiɣ/(to paint)Arabic /jəʂbaɣ/(to paint)Alg-Ar	Clearly borrowed
69	to draw water	/ʔijtaːgməd/	Berber	No evidence for borrowing
70	peg	/ʔaməssaːk/	/massaːk/(peg)Arabic /məssaːk/(peg/pin)Alg-Ar	Clearly borrowing
71	tumpline	/taːçluːө/	Berber	No evidence for borrowing
72	whetstone	/məbrɑːm/	/mibram/(tool for spinning)Arabic	Not clearly identified

				Semantic Field 10: Motion	
N	**Meaning list**	**Chaouia**	**Source Word**	**Borrowing Status**
1	to move	/ʔi:ttəngu:ga/	Berber	No evidence for borrowing
2	to turn	/ʔi:zəlləg/	/zalaqa/(to slip/slide)Arabic /zlʌg/(to slip)Alg-Ar /jətzʌllʌg/(to slide/to move)Alg-Ar	No clearly identified Perhaps borrowed
2	To turn	/ʔi:tməðˤrɑ:n /	Berber	No evidence for borrowing
3	to turn around	/ʔijzəlgəd/	Berber	No evidence for borrowing
4	to wrap	/ʔijɣalləf/	/juɣallifu/(to wrap)Arabic /jɣalləf/(to wrap)Alg-Ar	Clearly borrowed
5	to roll	/ʔijzəlgəd/	Berber	No evidence for borrowing
6	to drop	/ʔişşa:jðˤɒ/	Berber	No evidence for borrowing
7	to twist	/ʔijzəlga:s/	Berber	No evidence for borrowing
8	to rise	/ʔijbəddəd/	Berber	No evidence for borrowing
9	to raise or lift	/jərfəð/	/rafada/(to give/take/catch)Arabic /jərfəd/(to take/raise/lift)Alg-Ar	Clearly borrowed
10	to fall	/ʔi:jðˤɒ/	Berber	No evidence for borrowing
11	to drip	/ʔittu:ddi:m/	Berber	No evidence for borrowing
12	to throw	/ʔi:jţajjəʃ/	/ʔaţa:ʃa/(to throw and not hit the target)Arabic. /jţajjəʃ/(to throw)Alg-Ar	Clearly borrowed
13	to catch	/jəţţəf/	/jaqţifu/to catch/to pick) Arabic	Not clearly identified Perhaps borrowed
14	to shake	/ʔissru:gi:l/	Berber	No evidence for borrowing
15	to flow	/ʔijətʃʌrʃʌr/	/juʃʌrʃiru/(to flow)Arabic /jʃʌrʃʌr/(to flow)Alg-Ar	Clearly borrowed
16	to sink	/jəɣmaq/	/jaɣraqu/(drown)Arabic /jəɣrəq/(drown)Alg-Ar /ɣa:miq/(deep)Arabic /ɣa:məq/(deep)Alg-Ar	Clearly borrowed
	To sink	/jəðˤɣʌş/	/jaɣţişɒ/(to dive)Arabic /jəɣţʌş/(to dive/Alg-Ar	Not clearly identified Perhaps borrowed
17	to float	/ju:li:d/	Berber	No evidence for borrowing
18	to swim	/jətʕu:mma/	/jaʕu:mu/(to swim)Arabic /jʕu:m/(to swim)Alg-Ar	Clearly borrowed
19	to dive	/jəðˤɣʌş/	/jaɣţişɒ/(to dive)Arabic /jəɣţʌş/(to dive/Alg-Ar	Not clearly identified Perhaps borrowed
20	to splash	/ʔitrɒʃʃʌ/	/jarɒʃʃu/(to splash) Arabic /jrɒʃʃ/(to splash) Alg-Ar	Clearly borrowed

21	to sail	/jəbbi:d lebħʌr/	/jəbbi:d/(to travel/to cut)Berber /lebħʌr/(sea)Arabic	Not clearly identified
22	to fly	/ʔitfərfər/	/rafrafa/(to flap wings)Arabic /jfərfər/(to fly)Alg-Ar	Clearly borrowed
23	to blow	/ʔissu:fei/	/nasf/(burst of strong wind)Arabic /jənsəf/(to blow)Alg-Ar	Not clearly identified Perhaps borrowed
24	to crawl	/ʔi:ħəbbu:/	/jaħbu:/(to crawl)Arabic /jəħbu/(to crawl)Alg-Ar	Clearly borrowed
25	to kneel	/ʔi:rkaʕ/	/jʌrkaʕu/(to kneel)Arabic /jərkaʕ/(to kneel)Alg-Ar	Clearly borrowed
26	to crouch	/ʔitta:ðər/	Berber	No evidence for borrowing
27	to slide or slip	/ʔi:nnəslax/	/jansalixu/(to strip/shed/peel/ slough)Arabic /nslaxt/(stripped skin after falling) Alg-Ar	Not clearly identified Perhaps borrowed
28	to jump	/ʔi:nəggəz/	/naqaza/(to jump)Arabic /nəggəz/(to jump)Alg-Ar	Clearly borrowed
29	to kick	/ʔju:ɵi:ɵ/	Berber	No evidence for borrowing
30	to dance	/ʔi:rɑqqəʂ/	/jarɒʂu/(to dance) Arabic /jərɒʂ/(to dance) Alg-Ar	Clearly borrowed
31	to walk	/ʔiggu:r/	Berber	No evidence for borrowing
32	to limp	/ʔizzu:ħi:f/	/zaħa:f/(creeper/crawler)Arabic /zaħa:f/(creeper/crawler)Alg-Ar	Clearly borrowed
33	to run	/ʔittazza:l/	Berber	No evidence for borrowing
34	to go	/ʔijro:ħ/	/jaro:ħu/(to go)Arabic /jro:ħ/(to go)Alg-Ar	Clearly borrowed
35	to go up	/ʔitta:li:/	Berber	No evidence for borrowing
36	to climb	/ʔittəlmu:ma/	/jalummu/(take and collect things) Ar /jləmm/(to take/to gather)Alg-Ar	Not clearly identified Perhaps borrowed
37	to go down	/ʔihu:gga/	Berber	No evidence for borrowing
38	to go out	/ʔi:rga/	Berber	No evidence for borrowing
39	to come	/ju:səd/	Berber	No evidence for borrowing
40	to come back	/ʔi:wəlla:d/	/walla:/(to go back/to escape)Arabic /wəlla/(to come back)Alg-Ar	Clearly borrowed
41	to leave	/ʔi:kkər/	Berber	No evidence for borrowing
42	to disappear	/ʔi:ro:ħ/	/jaro:ħu/(to go)Arabic /jro:ħ/(to go)Alg-Ar	Clearly borrowed
43	to flee	/ʔi:rwəl/	/juharwilu/(to flee/to run) Arabic	Not clearly identified

44	to follow	/ʔi:ləħqi:ə/	/jalħaqu/(to follow)Arabic /jəlħaq/(to follow)Alg-Ar	Clearly borrowed
45	to pursue	/ʔimmi:r/	Berber	No evidence for borrowing
46	to arrive	/ʔi:xləðˤ/	Berber	No evidence for borrowing
47	to approach	/ʔi:wa:la/	/wala:/(to approach)Arabic	Clearly borrowed
48	to enter	/ju:ðəf/	Berber	No evidence for borrowing
49	to go/return home	/ʔiwəlla/	/walla:/(to go back/to escape)Ar /wəlla/(to come back)Alg-Ar	Clearly borrowed
50	to carry	/ʔi:rfəð/	/rafada/(to give)Arabic /jərfəd/(to take/raise/lift) Alg-Ar	Clearly borrowed
51	to carry in hand	/ʔi:rfəð ðəg fu:s nnəs/	/rafada/(to give/to take/to catch)Arabic /fu:s/(hand)Berber /ðəg/(in)Berber /nnəs/(his)Berber	Phrasal equivalence
52	to carry on shoulder	/ʔi:rfəð fa ʈʈʌbəq nnəs/	/rafada/(to give/to take/catch)Arabic /ʈʈɑ:baq/(half sheep)Arabic /fa/(on)Berber. /nnəs/(his)Berber	Phrasal equivalence
53	to carry on head	/ʔi:rfəð zənnəg ən ʔi:xf nnəs/	/rafada/(to give/take/catch)Arabic /zənnəg/(on/over)Berber /ʔi:xf/(head)Berber. /nnəs/(his)Berber	Phrasal equivalence
54	to carry under arm	/ʔi:rfəð səddu: n ʔaɣi:l nnəs/	/rafada/(to give/take/catch)Arabic /ʔaɣi:l/(arm)Berber. /səddu:/(under)Berber /nnəs/(his)Berber	Phrasal equivalence
55	to bring	/ʔiwwi:d/	Berber	No evidence for borrowing
56	to send	/ʔiʂrəf/ʔi:nkʌ/	Berber	No evidence for borrowing
57	to lead	/ʔissənʕa:ə/ /ʔissugara:j/	Berber	No evidence for borrowing
58	to drive	/ʔi:ʈʈəʑʑʌ/ /ʔi:ʈʈərrʌ/	Berber	No evidence for borrowing
59	to ride	/ju:li/	Berber	No evidence for borrowing
60	to push	/ʔidu:z/	/dazara/(to push)Arabic /jdəzz/(to push)Alg-Ar	Clearly borrowed
61	road	/ʔabri:ð/	Berber	No evidence for borrowing
62	path	/ʔabri:ð/	Berber	No evidence for borrowing
63	bridge	/qandərə/	/qanʈʌra/(bridge)Arabic /ganʈrʌ/(bridge)Alg-Ar	Clearly borrowed
63	bridge	/ti:ʂɒɣɑ:rə/	Berber	No evidence for borrowing
64	Cart/wagon	/takərju:lt/	/karwi:la/(cart)Alg-Ar	Not clearly identified

65	wheel	/rroːðˤəə/	/ru/(wheel)French /rrʌwðˤa/(wheel)Alg-Ar	Clearly borrowed
66	axle	/ʔammaːs ən rroːðˤəə/	/ʔammaːs/(centre)Berber /ru/(wheel)French /rrʌwðˤa/(wheel)Alg-Ar	Phrasal equivalence
67	yoke	/ʔaʃəʕbi/	/ʃaʕabu/(the distance or space between the animal horns) Arabic	Clearly borrowed
68	sledge/sled	/qʌzɑːn/	Berber	No evidence for borrowing
69	ship	/bʌboːr/	/babuːr/(ship)Italian /vapuːr/(steam ship)Turkish / bʌboːr/(ship)Alg-Ar	Clearly borrowed
70	boat	/tafluːkt/	/faluːka/fulk/(boat/ship)Arabic /fluːka/(boat)Alg-Ar	Clearly borrowed
71	canoe	/tafluːkt/	/faluːka/fulk/(boat/ship)Arabic /fluːka/(boat)Alg-Ar	Clearly borrowed
72	outrigger	/tafluːkt/	/faluːka/fulk/(boat/ship)Arabic /fluːka/(boat)Alg-Ar	clearly borrowed
73	raft	No equivalence	No equivalence	No equivalence
74	oar	No equivalence	No equivalence	No equivalence
75	paddle	No equivalence	No equivalence	No equivalence
76	to row	No equivalence	No equivalence	No equivalence
77	rudder	No equivalence	No equivalence	No equivalence
78	mast	/ʔaṣɣɑːr/	Berber	No evidence for borrowing
79	sail	/tafluːkt/	/faluːka/fulk/(boat/ship)Arabic /fluːka/(boat)Alg-Ar	Clearly borrowed
80	anchor	/ʔˈaməxðˤɑːf/	Berber	No evidence for borrowing
81	port	/ləppoːr/	/poːr/(port)French /lpoːr/(port)Alg-Ar	Clearly borrowed
82	to land	/θahwaːd/	/hawwada/haːwada/(to low down/walk slowly)Arabic /jhəwwəd/(to land)Alg-Ar	Clearly borrowed
82	To land	/hərsedd/	Berber	No evidence for borrowing

N	Meaning list	Chaouia	Source Word	Borrowing Status
			Semantic Field 11: Possession	
1	to have	/ɣa:ri/	Berber	No evidence for borrowing
2	to own	/ɣa:rəs/	Berber	No evidence for borrowing
3	to take	/jawwi/	Berber	No evidence for borrowing
4	to grasp	/jəṭṭəf/	/jaqṭifu/to catch/to pick) Arabic	Not clearly identified Perhaps borrowed
5	to hold	/jəlmu:m/	/jalummu/(take and collect things)Ar /jləmm/(to take/to gather)Alg-Ar	Not clearly identified Perhaps borrowed
6	to get	/jəwwi:d/	Berber	No evidence for borrowing
7	to keep	/ʔi:tħafa:ðˤ/	/juħa:fiðˤɒ/(to keep)Arabic /jħa:fəðˤ/(to keep)Alg-Ar	Clearly borrowed
7	to keep	/ʔi:ṭṭəf/	Berber	No evidence for borrowing
8	thing	/ɣa:wsa/	Berber	No evidence for borrowing
9	to give	/ju:ʃa/	Berber	No evidence for borrowing
10	to give back	/juʕa:s/	Berber	No evidence for borrowing
11	to preserve	/jəttəffər/	Berber	No evidence for borrowing
12	to rescue	/ʔi:fu:kkəd/	/jafukku/(to rescue)Arabic /jfəkk/(to rescue)Alg-Ar	Clearly borrowed
13	to destroy	/ʔitxanta:ʃ/	/jxantəʃ/(to ruin)Alg-ar	Very little evidence for borrowing
14	to injure	/ʔi:ʒərħi:ə/	/jaʒraħu/(to injure)Arabic /jəʒraħ/(to injure)Alg-Ar	Clearly borrowed
15	to damage	/ʔifəsði:ə/	/jufsid/(to damage)Arabic /jfəssəd/(to damage)Alg-Ar	Clearly borrowed
16	to look for	/ʔijruzzi:/	Berber	No evidence for borrowing
17	to find	/ju:fɑ/	Berber	No evidence for borrowing
18	to lose	/ʔijrɒħa:ṣ/	/rɑ:ħat/(to go/to lose)Ar /rɑ:ħət/(lost)Alg-Ar	Clearly borrowed
19	to let go	/jədʒa/	Berber	No evidence for borrowing
20	money	/so:rði/	/ṣo:rdu/(money/coin)Italian /ṣɒli:d/(hard)French /ṣo:rdi/(money)Alg-Ar	Not clearly identified Perhaps borrowed
21	coin	/ṣwa:rəð/	/ṣo:rdu/(money/coin)Italian /ṣɒli:d/(hard)French /swa:rəd/(money)Alg-Ar	Clearly borrowed
22	rich	/ʔiməərəffaħ/	/mutraf/(rich)Arabic /mətrəffaħ/(rich)Alg-Ar	Clearly borrowed
23	poor	/ʔaʃuma:r/	/ʃɒmɛ:r/(unemployed)French	Clearly borrowed
23	poor	/ʔʌẓiw̧ali/	/zawa:l/(demise of blessing)Arabic /zʌvali/(poor)Turkish /zʌwali/(poor)Alg-Ar	Not clearly identified Perhaps borrowed
24	beggar	/ʔadərwi:ʃ/ /ʔaṭəlla:b/	/darwi:ʃ/(ascetic/beggar) Arabic /ṭʌlla:b/(beggar)Arabic	Clearly borrowed
25	stingy	/ʔaʃħi:ħ/	/ʃiħħi:ħ/(stingy)Arabic	Clearly borrowed
26	to lend	/ʔirəðˤla:s/	Berber	No evidence for borrowing
27	to borrow	/ʔirəðˤləd/	Berber	No evidence for borrowing
28	to owe	/ʔi:tsala:s/	/jasʔalu/(to ask for something) Arabic. /jsa:l/(to owe)Alg-Ar	Clearly borrowed
29	debt	/ʔamərwa:s/ʔarðˤa:l	Berber	No evidence for borrowing

30	to pay	/juʃaːs/	Berber	No evidence for borrowing
31	bill	/hfɑːtoːrə/	/fʌtuːra/(bill)Arabic /fʌktyr/(bill)French	Clearly borrowed
32	tax	/ləɣrɑːməə/	/ɣarɑːma/(tax)Arabic /lɣarɑːma/(tax)Alg-Ar	Clearly borrowed
33	to hire	/jɑxrəʂ/	Berber	No evidence for borrowing
34	wages	/slaːç/	/slaːk/(survival/salary)AlgAr /saːlik/(with no obstacles)Ar /səlləkni)(paid me/saved me)AlgAr	Clearly borrowed
35	to earn	/jəwwiːd/	Berber	No evidence for borrowing
36	to buy	/ʔissaːɣ/	Berber	No evidence for borrowing
37	to sell	/ʔiznuːza/	Berber	No evidence for borrowing
38	to trade/ barter	/ʔitbərraːz/	/baraza/(to overtop/be superior to)Arabic /jbərrəz/(to barter)Alg-Ar	Not clearly identified Perhaps borrowed
39	merchant	/ʔaħwaːnti/	/ħanuːtijj/(owner of worker in shop) Arabic /ħwaːnti/(owner of/ worker in shop) Alg-Ar	Clearly borrowed
39	merchant	/qawaːw/	Berber	No evidence for borrowing
40	market	/suːq/	/suːq/(market)Arabic /ssuːq/(market)Alg-Ar	Clearly borrowed
41	shop/store	/ħanuːt/	/ħaːnuːt/(shop)Arabic	Clearly borrowed
42	price	/ssuːməə/	/ssuːmatu/(value/price)Arabic /ssuːma/(price)Alg-Ar	Clearly borrowed
43	expensive	/ʔiːɣla/	/ɣaːliː/(expensive)Arabic	Clearly borrowed
44	cheap	/jərxʌʂ/	/raxiːʂ/(cheap)Alg-Ar	Clearly borrowed
45	to share	/ʔijbəʈʈʌ/	Berber	No evidence for borrowing
46	to weigh	/jəttaːzən/	/jazinu/(to weigh)Arabic /jəwzən/(to weigh)Alg-Ar	Clearly borrowed

N	Meaning list	Chaouia	Source Word	Borrowing Status
		Semantic Field 12: Spatial Relations		
1	after	/mbaʕd/	/baʕda/(after)Arabic. /baʕd/(after)Alg-Ar	clearly borrowed
2	behind	/ʔu:rna:s/	Berber	No evidence for borrowing
3	in	/ði:/	Berber	No evidence for borrowing
4	at	/ði:/ /ɣəll/ /ɣər/	Berber	No evidence for borrowing
5	beside	/zza:ɵ/	Berber	No evidence for borrowing
6	down	/ɣərwa:dda/	Berber	No evidence for borrowing
7	before	/zza:ɵ/	Berber	No evidence for borrowing
8	in front of	/zza:ɵ/	Berber	No evidence for borrowing
8	in front of	/jqa:bəl/	/muqa:bil/(in front of)Arabic /jqa:bəl/(in front of)Alg-Ar	Clearly borrowed
9	inside	/ðða:xəl/	/da:xila/(inside)Arabic /lda:xəl/(inside)Alg-Ar	Clearly borrowed
10	outside	/bʌrrʌ/ /ði:bʌrrʌ/	/bʌrr/(outside)Arabic. /lbʌrr/(outside)Alg-Ar	Clearly borrowed
11	under	/swa:dda/	Berber	No evidence for borrowing
12	up	/zəng/	Berber	No evidence for borrowing
13	above	/zəng/	Berber	No evidence for borrowing
14	place	/ʔamka:n/	/maka:n/(place)Arabic	Clearly borrowed
15	to put	/jəssərs/	Berber	No evidence for borrowing
16	to sit	/jəqqi:m/	/juqi:m/(stay)Arabic	Clearly borrowed
17	to lie down	/jəttəkka/	/ʔittakaʔ/(to lie down)Arabic /jəttəkka/(to lie down)Alg-Ar	Clearly borrowed
18	to stand	/jbədd/	Berber	No evidence for borrowing
19	to remain	/jqqi:m/	/juqi:m/(stay)Arabic	clearly borrowed
20	remains	/baju:ɵ/	/ba:ʔit/(stale)Arabic. /ba:jət/(stale)Arabic	Clearly borrowed
21	to gather	/jətlu:mma/	/jalummu/(take and collect things) Arabic /jləmm/(to take/to gather)Alg-Ar	Not clearly identified Perhaps borrowed
22	to pick up	/jərfəð/	/rafada/(to give/take/catch)Arabic /jərfəd/(to take/raise/lift)Alg-Ar	Clearly borrowed
23	to pile up	/jətʃo:r/	Berber	No evidence for borrowing
24	to join	/ʔa:ðjə ħʕʌr/	/ʃaʕra/(to gather/cram)Arabic	Clearly borrowed
25	to separate	/jəfraq/	/fa:raqa/(to separate)Arabic /jəfraq/(to separate)Alg-Ar	Clearly borrowed
26	to divide	/jbəṭṭʌ/	Berber	No evidence for borrowing
27	to open	/jərẓəṃ/	Berber	No evidence for borrowing
28	to shut	/jəqqən/	Berber	No evidence for borrowing
29	to cover	/jɣəṭṭʌ/	/juɣaṭṭi:/(to cover)Arabic /jɣaṭṭi/(to cover) Alg-Ar	Clearly borrowed
30	to hide	/jəffer/	Berber	No evidence for borrowing
31	high	/ʔijʕa:la/	/ʕa:li:/(high)Arabic. ʕa:li/(high)Alg-Ar	Clearly borrowed
32	low	/jəhwa/	/ha:wi:/(low)Arabic. /ha:wi/(low)Alg-Ar	Clearly borrowed

33	top	/jˤaːla/	/ˤaːliː/(high)Arabic. /ˤaːli/(high)Alg-Ar	Clearly borrowed
34	bottom	/ɣəlwaːdda/	Berber	No evidence for borrowing
35	end (1)	/θanəggaːruːθ/	Berber	No evidence for borrowing
36	pointed	/jəmðˤaː/	/maːðˤi/(sharp)Arabic	Clearly borrowed
37	edge	/lħaʃjəə/	/ħaːʃijja/(edge)Arabic. /lħaːʃja/(edge)AlgAr	Clearly borrowed
38	side	/lʒiːhəə/	/ʒiha/(side)Arabic. /lʒiːha)(side)Alg-Ar	Clearly borrowed
39	middle	/lwəşṭ/ /n̥şaːş/	/wʌşʌṭ/(middle)Arabic /lwəşṭ/(middle)Alg-Ar /nnɒş/(half) Alg-Ar /muntaşʌf/(middle)Arabic	Clearly borrowed
40	right (1)	/ðəljiːmna/	/jamiːn/(right)Arabic /liːmna/(right)Alg-Ar	Clearly borrowed
41	left	/ðaʃlaːguː/	Berber	No evidence for borrowing
42	near	/jəqrab/	/qariːb/(close/near)Arabic /qriːb/(close/near)Alg-Ar	Clearly borrowed
43	far	/jəbʕəð/	/baʔiːd/(far)Arabic. /bʔiːd/(far)Alg-Ar	Clearly borrowed
44	east	/ʃʃarq/	/ʃarq/(east)Arabic /ʃʃarq/(east)Alg-Ar	Clearly borrowed
44	east	/saːmmər/	Berber	No evidence for borrowing
45	west	/lɣarb/ʔaːɣərbi/	/ɣarb/(west)Arabic /lɣarb/(west)Alg-Ar	Clearly borrowed
46	north	/ʃʃamaːl/	/ʃamaːl/(north)Arabic /ʃʃamaːl/(north)Alg-Ar	Clearly borrowed
46	north	/maːlu/	Berber	No evidence for borrowing
47	south	/lʒanuːb/	/ʒanuːb/(south)Arabic /lʒanuːb/(south)Alg-Ar	Clearly borrowed
47	south	/ʔaşəħrˤaːwi/	/şʌhraːwiː/(desert/desert dweller)Arabic /şʌħrˤaːwi/(desert/desert dweller)Alg-Ar	Clearly borrowed
48	to grow	/jətgaʕmiːr/	Berber	No evidence for borrowing
49	to measure	/jətqijjaːs/	/jaqiːsu/(to measure)Arabic /jqajjəs/(to measure)Alg-Ar	Clearly borrowed
50	fathom	/ṭṭoːl/	/ṭṭoːl/(size/height)Arabic	Clearly borrowed
51	big	/ðawəqrɑːn/	/muqrɑːn/(with horns)(big)Alg-Ar	Very little evidence for borrowing
52	small	/ð'aməẓẓaːn/	Berber	No evidence for borrowing
53	long	/ðazəgraːr/	Berber	No evidence for borrowing
53	long	/jəṭṭəwaːl/jṭʌwwəl	/ṭʌwiːl/(long/tall)Arabic	Clearly borrowed
54	tall	/ðazəgraːr/	Berber	No evidence for borrowing
55	short	/ðagəzlaːn/	Berber	No evidence for borrowing
56	wide	/jəṛṛaːw/	Berber	No evidence for borrowing

57	narrow	/jʈi:q/ /ʔanəħʃɑ:ro/	/ðˤi:q/(narrow)Arabic. /ḍḍiq/(narrow)Alg-Ar /ħaʃʃara/(collect/gather in a tight place) Arabic. /jəħʃʌr/(to be cornered)Alg-Ar	Clearly borrowed
58	thick	/ju:zi:r/	Berber	No evidence for borrowing
59	thin	/ðaza:ð/	Berber	No evidence for borrowing
60	deep	/jəʕməq/	/ʕami:q/(deep)Arabic	Clearly borrowed
61	shallow	/əəʕðəl/	Berber	No evidence for borrowing
62	flat	/jəʕðəl/	Berber	No evidence for borrowing
63	straight	/jsərraħ/	/musarraħ/(straight)Arabic /msərraħ/(straight)Alg-Ar	Clearly borrowed
64	crooked	/ʔanəfrɑ:ɣo/	Berber	No evidence for borrowing
65	hook	/tasənna:nt/	/musannan/(pointed/sharp)Arabic	Clearly borrowed
66	corner	/ʃʃu:kiəə/	Berber	No evidence for borrowing
67	cross	/jəfraq/	/fa:raqa/(to separate)Arabic /jəfraq/(to separate/divide)Alg-Ar	Clearly borrowed
68	square	/ðəlkʌrija:ə/	/kʌrɛ:/(square)French	Clearly borrowed
69	round	/jənnəʈ/	Berber	No evidence for borrowing
70	circle	/əadəwwi:rə/	/da:ʔira/(circle)Arabic. /dawwi:ra/(circle)Alg-Ar	Clearly borrowed
71	ball	/ðəlbɑ:lu/	/bʌlãn/(ball)French	Clearly borrowed
72	line	/sʈʌr/	/sʌʈr/(line)Arabic. /sʈʌr/(line)Alg-Ar	Clearly borrowed
73	hole	/lɣɑ:r/	/ɣɑ:r/(hole/pothole)Arabic	Clearly borrowed
74	similar	/jətʃaba:h/	/juʃbih/(similar to)Arabic /jʃəbbah/(similar to)Alg-Ar	Clearly borrowed
75	to change	/jbəddəl/	/badala/(change)Arabic /bəddəl/(change)Alg-Ar	Clearly borrowed

N	Meaning list	Chaouia	Source Word	Borrowing Status
			Semantic Field 13: Quantity	
1	zero	/ẓi:rɒ/ṣifṛ/	/zɛ:rɒ/(zero)French./ṣifṛ/(zero)Arabic	Clearly borrowed
2	one	/ʔi:ʃə/jədʒ/	Berber	No evidence for borrowing
3	two	/sənn/	Berber	No evidence for borrowing
4	three	/tla:ɵa/	/ɵala:ɵa/(three)Arabic /tla:ɵa/(three)Alg-Ar	Clearly borrowed
5	four	/rʌbʕʌ/	/ʔarbʌʕa/(four)Arabic /rʌbʕʌ/(four)Alg-Ar	Clearly borrowed
6	five	/xamsa/	/xamsa/(five)Arabic /xamsa/(five)Alg-Ar	Clearly borrowed
7	six	/sətta/	/sitta/(six)Arabic /sətta/(six)Alg-Ar	Clearly borrowed
8	seven	/səbʕa/	/sabʕa/(seven)Arabic /səbʕa/(seven)Alg-Ar	Clearly borrowed
9	eight	/ɵmənja/	/ɵamanijja/(eight)Arabic /ɵmənja/(eight)Alg-Ar	Clearly borrowed
10	nine	/təsʕa/	/tisʕa/(nine)Arabic /təsʕa/(nine)Alg-Ar	Clearly borrowed
11	ten	/ʕʌʃrʌ/	/ʕaʃʌra/(ten)Arabic /ʕʌʃrʌ/(ten)Alg-Ar	Clearly borrowed
12	eleven	/ħda:ʃ/	/ʔiħda:ʔaʃʌr/(eleven)Arabic /ħdaʕəʃ/(eleven)Alg-Ar	Clearly borrowed
13	twelve	/ʈnɑ:ʃ/	/ʔiɵna:ʕaʃʌr/(twelve)Arabic /ʈnɑ:ʕəʃ/(twelve)Alg-Ar	Clearly borrowed
14	fifteen	/xməsʈɑ:ʕʃ/	/xamsataʕaʃʌr/(fifteen)Arabic /xməsʈɑ:ʕʃ/(fifteen)Alg-Ar	Clearly borrowed
15	twenty	/ʕəʃri:n/	/ʕiʃru:n/(twenty)Arabic /ʕəʃri:n/(twenty)Alg-Ar	Clearly borrowed
16	a hundred	/mja/	/miʔa/(hundred)Arabic /mja/(hundred)Alg-Ar	Clearly borrowed
17	a thousand	/ʔalf/	/ʔalf/(thousand)Arabic /ʔa:ləf/(thousand)Alg-Ar	Clearly borrowed
18	to count	/jħassəb/	/jaħsibu)(to count)Arabic /jəħsəb/(to count)Alg-Ar	Clearly borrowed
19	all	/ʔu:kkəl/	/kullu/(all)Arabic /kull//ʔukkul/(all)Alg-Ar	Clearly borrowed
20	many	/xi:rəllʌ/	/xajru llɑ:h/(the good of Allah) /xi:rəllʌh/(many)	Clearly borrowed
21	more	/kɵʌr/	/ʔakɵʌr/(more)Arabic /kɵʌr/(more)Alg-Ar	Clearly borrowed
22	few	/qi:tʃaħ/	/ʃaħħa/(shorten/decrease)Arabic	Perhaps borrowed
23	enough	/ða:jən/	Berber	
24	some	/qi:tʃaħ/	/ʃaħħa/(shorten/decrease)Arabic	Clearly borrowed
25	crowd	/lɣa:ʃi/	/ɣa:ʃijja/(people/visitors)Arabic /lɣa:ʃi/(people)Arabic	Clearly borrowed
26	full	/jətʃɔ:r/	Berber	No evidence for borrowing
27	empty	/ti:ləmɵ/	Berber	No evidence for borrowing

28	part	qi:tʃˤaħ/	/ʃaħħa/(shorten/decrease)Arabic	Not clearly identified
28	part	/rri:ħə//	/ra:ʔiħa/(smell)Arabic /ri:ha/(smell)Alg-Ar /ri:ħtu/(finished)Alg-Ar	Clearly borrowed
28	part	/qli:/	/qali:l/(a few/some)Arabic /qli:l/(a few/some)Alg-Ar	Clearly borrowed
29	piece	/qi:tʃˤaħ/ /qli:/	/ʃaħħa/(shorten/decrease)Arabic /qali:l/(a few/some)Arabic /qli:l/(a few/some)Alg-Ar	Clearly borrowed
29	piece	/rri:ħə/	/ra:ʔiħa/(smell)Arabic /ri:ha/(smell)Alg-Ar /ri:ħtu/(finished)Alg-Ar	Clearly borrowed
30	half	/ʔa:zgən/	Berber	No evidence for borrowing
31	only	/ɣi:r/	/ɣajr/(only/but)Arabic / ɣi:r/(only)Alg-Ar	Clearly borrowed
32	alone	/waħðəs/	/waħi:d/(alone)Arabic /waħdu/(alone)Alg-Ar	Clearly borrowed
33	first	/ʔaməzwa:ru:/	Berber	No evidence for borrowing
34	last	/ʔanəgga:ru:/	Berber	No evidence for borrowing
35	second	/θθa:ni/	/ʔaθθa:ni/(second)Arabic	Clearly borrowed
36	pair	/sən/	Berber	No evidence for borrowing
37	twice/two times	/m̩ʌr̩θijjən/ /sənn lməra:θ/	/mʌrrʌtajn/(twice)Arabic /mʌrrti:n/(twice)Alg-Ar	Clearly borrowed
38	third	/θa:ləθ/	/θa:liθ/(third)Arabic /θθa:ləθ/(third)Alg-Ar	Clearly borrowed
39	three times	/tla:θa nlmərra:θ/	/θala:θ mʌrra:t/(three times)Arabic /tla:θa dəlmʌrra:t/(three times)Alg-Ar	Clearly borrowed

Semantic Field 14: Time			
N	Meaning list	Chaouia	Source Word	Borrowing Status
1	time	/lwaqə/	/waqt/(time)Arabic. /waqt/(time)Alg-Ar	Clearly borrowed
2	age	/ləʕmʌr/	/ʕumr/(age)Arabic./ləʕmɒr/(age)Alg-Ar	Clearly borrowed
3	new	/ðaʒði:ð/	/ʒadi:d/(new)Arabic /ʒdi:d/(new)Alg-Ar	Clearly borrowed
4	young	/ðˤʌməza:n/	Berber	No evidence for borrowing
5	old	/ðˤʌmuqrɑ:n/	/muqrɑ:n/(with horns)(big)Alg-Ar	Not clearly identified
6	early	/zi:k/	Berber	No evidence for borrowing
7	late	/warzi:ç/	Berber	No evidence for borrowing
8	now	/ʔi:mi:ra/	Berber	No evidence for borrowing
8	now	/lu:qqa/	/ʔadraka ʃʃajʔ/(it is time for something)Arabic /durka/(now)Alg-Ar /duqqa/(now)Alg-Ar	Not clearly identified Perhaps borrowed
9	immediately	/ði:nði:n/	Berber	No evidence for borrowing
10	fast	/ʔijzərreb/	/zariba/jazrabu/(to run)Arabic /jəzrəb/(to hurry)Alg-Ar	Clearly borrowed
11	slow	/ʔi:ẓa:j/	Berber	No evidence for borrowing
12	to hurry	/jəzreb/	/zariba/jazrabu/(to run)Arabic /jəzrəb/(to hurry)Alg-Ar	Clearly borrowed
13	to be late	/jṭʌwwel/	/ṭa:la/jaṭo:lu/(take time)Arabic /jṭʌwwəl/(to take/time/late)Alg-Ar	Clearly borrowed
14	to begin	/jəbðu:/	/jabdaʔ/(to begin)Arabic /jəbda/(to begin)Alg-Ar	Clearly borrowed
15	beginning	/θazwərə/	Beber	No evidence for borrowing
16	to last	/ʔitðu:m/	/jadu:mu/(to last)Arabic /jdu:m/(to last) Alg-Ar	Clearly borrowed
17	end (2)	No equivalence	No equivalence	No equivalence
18	to finish	/ʔijxalləṣ/	/xalaṣʌ/(to finish/to end)Arabic /jxalləṣ/(to finish/to end)Alg-Ar	Clearly borrowed
19	to cease	/ʔi:sħabsi:ə/	/jaħbisu/(to cease)Arabic /jəħbəs/jħabbəs/(to cease)Alg-Ar	Clearly borrowed
20	ready	/ju:ʒəð/	/ʔawʒada/(to make something present)Arabic /jwəʒʒəd/(to get ready)Alg-Ar /wa:ʒəd/(ready)(Alg-Ar)	Clearly borrowed
21	always	/ṭo:l/ /di:ma/	/ʔaṭṭʌwa:lu/(eternity) /ṭo:l/(always)Alg-Ar /daʔiman/(always)Arabic /da:jmən/(always)Alg-Ar /di:ma/(always)Alg-Ar	Clearly borrowed
22	often	/saʕa:ə/	/sa:ʕa:t/ (sometimes/often) Arabic /saʕa:t/ (often/somtimes) Alg-Ar	Clearly borrowed

23	sometimes	/saʕa:ɵ/	/sa:ʕa:t/ (sometimes/often) Arabic /saʕa:t/ (often/somtimes) Alg-Ar	Clearly borrowed
23	sometimes	/lxatraɵ/	/xaṭra/(sometimes)Arabic /xatra:t/(sometimes)Alg-Ar	Clearly borrowed
24	soon	/jəqrab/	/qari:b/(soon)Arabic./qri:b/(soon/Alg-Ar	Clearly borrowed
25	for a long time	/ʃwa:həm/	Berber	No evidence for borrowing
26	never	/ʕɒmri/	/lʕamru/(lifelong)Arabic /ʕɒmri/(never) Alg-Ar	Clearly borrowed
26	never	/si lli:ɣ/	Berber	No evidence for borrowing
27	again	/lmʌrrəɵ ɵi:ʃɵ/	/mʌrrʌ/(one time/once)Arabic /ɵi:ʃɵ/(one)Alg-Ar (meaning another one/another time)	Phrasal equivalence
28	day (1)	/tanzdajɵ/	Berber	No evidence for borrowing
29	days	/ʔussa:n/ʔa:s/	Berber	No evidence for borrowing
30	night	/ʔi:ðˤ/ɵalla:s/	Berber	No evidence for borrowing
31	dawn	/ʔa:ṣəbba:ħ/ /lfʌʒr/	/ṣʌbɑ:ħ/ṣṣɒbħ/(morning/dawn)Arabic /ṣṣba:ħ/ṣṣɒbħ/(morning/dawn)Alg-Ar	Clearly borrowed
32	morning	/ti:fʼa:wət/	Berber	No evidence for borrowing
32	morning	/ɵaṣəbħi:ɵ/	/ṣʌbɑ:ħ/ṣṣɒbħ/(morning/dawn)Arabic /ṣṣba:ħ/ṣṣɒbħ/(morning/dawn)Alg-Ar	Clearly borrowed
33	midday	/ʔa:zgən nwa:s/	/ʔa:s/ Berber	No evidence for borrowing
	midday	/nṣɑ:ṣ nwa:s/	/niṣf/(half/mid)Arabic /nɒṣṣ/(hald/mid)Alg-Ar	Clearly borrowed
34	afternoon	/ɵaʕəʃwi:ɵ/	/ʕaʃijja/(evening)Arabic /ləʕʃijja/(evening)Alg-Ar /tʕaʃwijja/(evening)Alg-Ar	Clearly borrowed
35	evening	/ɵaməddi:ɵ/	Berber	No evidence for borrowing
36	today	/ʔassa/	Berber	No evidence for borrowing
37	tomorrow	/ʔa:lətʃa/ʔaðətʃa/	Berber	No evidence for borrowing
38	day after tomorrow	/ʔaṣiji:ðˤən/ /ʔʌṣijji:ṭən/	Berber	No evidence for borrowing
39	yesterday	/ʔi:ðˤəlli/ /ʔʌṣṣənɑ:ṭ/	Berber	No evidence for borrowing
40	day before yesterday	/ʔo:r nji:ṭən/	Berber	No evidence for borrowing
41	hour	/ssa:ʕəɵ/	/sa:ʕa/(hour)Arabic /ssa:ʕa/(hour/time/clock)Alg-Ar	Clearly borrowed
42	clock	/ssa:ʕəɵ/	/sa:ʕa/(hour)Arabic /ssa:ʕa/(hour/clock/time)Alg-Ar	Clearly borrowed
43	week	/ʔi:səmma:ðən/ /ɵasma:nɵ/	/semɛ:n/(week)French /sima:na/(weak)Alg-Ar	Clearly borrowed
44	Sunday	/lħadd/	/ʔaħad/(Sunday)Arabic /lħadd/(Sunday)Alg-Ar	Clearly borrowed

45	Monday	/ləθni:n/	/ʔiθnajn/(Monday)Arabic /ləθni:n/(Monday)Alg-Ar	Clearly borrowed
46	Tuesday	/ttla:θa/	/θula:θa:ʔ/(Tuesday)Arabic /ttla:θa/(Tuesday)Alg-Ar	Clearly borrowed
47	Wednesday	/larəbʕa/	/ʔarbiʕa:ʔ/(Wednesday)Arabic /larəbʕa/(Wednesday)Alg-Ar	Clearly borrowed
48	Thursday	/lxmi:s/	/xami:s/(Tursday)Arabic /lxmi:s/(Thursday)Alg-Ar	Clearly borrowed
49	Friday	/lʒəmʕa/	/ʒumuʕa/(Friday)Arabic /lʒəmʕa/(Friday)Alg-Ar	Clearly borrowed
50	Saturday	/ssəbt/	/sabt/(Saturday)Arabicssəbt/(Saturday)AlgAr	Clearly borrowed
51	month	/ʔaja:rn/ /ju:r/	Berber	No evidence for borrowing
52	years	/ʔi:sugga:sən/	Berber	No evidence for borrowing
53	winter	/ta:ʒrəst/	Berber	No evidence for borrowing
53	winter	/lməʃθa/	/ʃita:ʔ/(winter)Arabic /maʃta:/(place to spend winter)Arabic /lməʃta/(winter)Alg-Ar	Clearly borrowed
54	spring (2)	/θa:fsu:θ/	Berber	No evidence for borrowing
55	summer	/ʔa:nəbðu/	Berber	No evidence for borrowing
56	autumn/fall	/hça:rza/θamənzo:θ/	Berber	No evidence for borrowing
57	season	/ʔamu:r/	Berber	No evidence for borrowing
58	January	/jənnɑ:r/	/jən/(one)Berber./jər/ju:r/(month)Berber (meaning first month)	No evidence for borrowing
59	February	/fɒrɑ:r/	/fibru:s(God of purity)Roman /fivrijɛ:/(February)French /fibrɑ:jər/(February Arabic	Not clearly identified Perhaps borrowed
60	March	/mɑ̣:rəs/	/ma:ris/(march) Arabic /mɑ:rs/(March)French /maritjus/(war God)Roman	Clearly borrowed
60	March	/məɣrəs/	Not clearly identified	Not clearly identified
61	April	/ʔabri:r/	Not clearly identified	Not clearly identified
62	May	/ma:jju/	/ma:ja/(Godess of fertility)Roman /ma:j/(May)French /ma:j/(May)Arabic	Not clearly identified
63	June	/ju:nju:/	Not clearly identified	Not clearly identified
64	July	/ju:ljəz/	Not clearly identified	Not clearly identified
65	August	/ɣuʃt/	Not clearly identified	Not clearly identified
66	September	/ʃtambʌr/	Not clearly identified	Not clearly identified
67	October	/çu:bar/	Not clearly identified	Not clearly identified
68	November	/wu:mbar/	Not clearly identified	Not clearly identified
69	December	/ʒəmbər/	Not clearly identified	Not clearly identified
70	Prayer time	/hzʌḷḷi:t/	/sṣʌla:t/(praying)Arabic /sṣla:t/(praying)Alg-Ar	Clearly borrowed
71	noon prayer	/ḍho:r/	/ðˤðˤɒhr/(noon prayer)Arabic /ḍho:r/ḍhɒr/(noon prayer)Alg-Ar	Clearly borrowed

72	After miday	/lʕɑ:ṣər/	/ʕʌṣr/(after miday)Arabic /lʕɑ:ṣər/(after miday)Alg-Ar	Clearly borrowed
73	After sunset	/lməɣrəb/	/maɣrib/(after sunset)Arabic /lməɣrəb/(after sunset)Alg-Ar	Clearly borrowed
74	night-time	/ləʕʃa/	/ʕiʃa:ʔ/(night-time)Arabic /ləʕʃa/(night-time) Alg-Ar	Clearly borrowed
78	Earlier/shortly before	/ʔəttura:n/	Berber	No evidence for borrowing
79	minute	/dqi:qəѳ/	/daqi:qa/(minute)Arabic /dqi:qa/(minute)Alg-Ar	Clearly borrowed
80	century	/ləqran/	/qʌrn/(century)Arabic /lqʌrn/(centrury)Alg-Ar	Clearly borrowed

N	Meaning List	Chaouia	Word Source	Borrowing Status
			Semantic Field 15: Sense Perception	
1	to smell (2)	/jətʃumma/	/jaʃummu/(to smell/sniff) Arabic /jʃəmm/(to smell/sniff) Alg-Ar	Clearly borrowed
2	to sniff	/jətʃumma:/	/jaʃummu/(to smell/sniff) Arabic /jʃəmm/(to smell/sniff) Alg-Ar	Clearly borrowed
3	to smell (1)	/rri:ħθ nnəs/	/rri:ħa/(smell)Arabic /ri:ħət/(smell of)Alg-Ar /nnəs/(of/his/her) Berber	Clearly borrowed
4	fragrant	/rri:ħθ nnəs θħla/	/rri:ħa/(smell) Arabic /ri:ħət/(smell of)Alg-Ar /nnəs/(of/his/her) Berber /ħalla:/(to make beautiful) Arabic (meaning nice smell)	Clearly borrowed
5	stinking	/rri:ħθ nnəs θfu:ħ//	/rri:ħa/(smell) Arabic /ri:ħət/(smell of)Alg-Ar /nnəs/ (of) Berber /jafu:ħu/(it smells like)Arabic /jfu:ħ/(smells bad)Alg-Ar	Clearly borrowed
6	to taste	/jəmṯi/	Berber	No evidence for borrowing
7	sweet	/jzi:ṯ/	Berber	No evidence for borrowing
8	salty	/jməllaħ/	/ma:liħ/(salty)Arabic /ma:ləħ/(salty)Alg-Ar	Clearly borrowed
8	salty	/jħanṭʌl/	/ħanðˤʌl/(bitter)Arabic /jħanṭʌl/(bitter)Alg-Ar	Clearly borrowed
9	bitter	/θi:rẓɑ:g/	Berber	No evidence for borrowing
10	sour	/jəħməðˤ/	/ħɑ:miðˤ/(sour)Arabic /ħɑ:məðˤ/(sour)Alg-Ar	Clearly borrowed
11	brackish	/ðaməssa:st/	/masu:s/(not very salty)Arabic /məssu:s/(brackish)Alg-Ar	Clearly borrowed
12	to hear	/jəssa:l/	Berber	No evidence for borrowing
13	to listen	/jəssɣa:ða/	/jusɣi:/(to listen) Arabic	Clearly borrowed
14	sound or noise	/lħəss/	/ħiss/(low noise/sound)Arabic /lħəss/(noise)Alg-Ar	Clearly borrowed
15	loud	/jʕa:la/	/ʕa:li:/(loud)Arabic /ʕa:li:/(loud) Alg-Ar	Clearly borrowed
15	loud	/jəqwa/	/qawijj/(strong/lound)Arabic /qa:wi/(strong/loud)Alg-Ar	Clearly borrowed
16	quiet	/jətʃaxʃ/jəssu:səm/	Berber	No evidence for borrowing
16	quiet	/ðəlʕa:qəl/	/ʕa:qil/(sane)Arabic /ʕa:qəl/(quiet)Alg-Ar	Clearly borrowed
17	to see	/jəẓẓɑ:ṛ/	Berber	No evidence for borrowing
18	to look	/jəẓẓɑ:ṛ/	Berber	No evidence for borrowing
19	to show	/jəssənθa:ʕ/	Berber	No evidence for borrowing
20	to shine	/θəbrirri:q/	/jabruqu/(to shine)Arabic /jəbraq/(to shine/bright) Alg-Ar	Clearly borrowed
21	bright	/tbərraq/	/jabruqu/(to shine)Arabic /təbraq/(bright/to shine) Alg-Ar	Clearly borrowed

22	color	/llu:n/	/lawn/ (colour) Arabic /llu:n/ (colour) Alg-Ar	Clearly borrowed
23	light (2)	/ðˤʌwʔ/	/ðˤʌwʔ/(light)Arabic /ðˤʌw/(light)Alg-Ar	Clearly borrowed
24	dark	/talla:s/	/ddals/(darkness)Arabic /jtəlləs/(lose sight in the dark)Alg-Ar	Clearly borrowed
25	white	/ʔaməllal/	Berber	No evidence for borrowing
26	black	/ʔabərka:n/	Berber	No evidence for borrowing
27	red	/ʔazuga:ɣ/	Berber	No evidence for borrowing
28	blue	/ʔaziza/	Berber	No evidence for borrowing
29	green	/ʔaħʃi:ʃi:/	/ħaʃi:ʃ/(green grass)Arabic /ħʃi:ʃi:/(green)Alg-Ar	Clearly borrowed
30	yellow	/ʔʌwṛɑ:ɣ/	Berber	No evidence for borrowing
31	to touch	/tħarra:k/	/ħarraka/(to move something)Arabic /ħarrək/(to move/touch)Alg-Ar	Clearly borrowed
32	to pinch	/ʔʌşkoţţəf/ʔiqsa:s/	Berber	No evidence for borrowing
33	to feel	/jətħu:ssa/	/jaħussu/(to feel)Arabic /jħəss/(to feel) Alg-Ar	Clearly borrowed
34	hard	/jəqqo:r/	Berber	No evidence for borrowing
35	soft	/jərţɒb/	/rɒţb/(soft/smooth)Arabic /rţɒb/(soft/smooth)Alg-Ar	Clearly borrowed
36	rough (1)	/ju:zi:r/	Berber	No evidence for borrowing
37	smooth	/jərţɒb/	/rɒţb/(soft/smooth)Arabic /rţɒb/(soft/smooth)Alg-Ar	Clearly borrowed
38	sharp	/jəmðˤʌ/	/mɑ:ðˤi/(sharp)Arabic / mɑ:ðˤi/(sharp)Alg-Ar	Clearly borrowed
39	blunt	/ʔuliṛəbbi:ʃa/	Berber	No evidence for borrowing
40	heavy	/jzɑ:j/	Berber	No evidence for borrowing
41	light (1)	/ðugga:s/	Berber	No evidence for borrowing
42	wet	/θəbẓəg/	Berber	No evidence for borrowing
43	dry	/jəqqo:r/	Berber	No evidence for borrowing
44	hot	/jəħm'a/	/ħa:mi:/(hot)Arabic /ħa:mi/(hot)Alg-Ar	Clearly borrowed
45	warm	/jədfa/	/da:fiʔ/(warm)Arabic /da:fi/(warm)Alg-Ar	Clearly borrowed
46	cold	/jəsməţ/	/samm/(poison)Arabic /ssəmm/(cold/poison)Alg-Ar	Not clearly identified very little evidence for borrowing
47	clean	/ʔi:nðˤi:f/	/nʌðˤi:f/(clean)Arabic /nðˤi:f/(clean)Alg-Ar	Clearly borrowed
48	dirty	/jəxmədʒ/	/xamaʒ/(rot)Arabic /xa:məʒ/(dirty/rotten)Alg-Ar	Clearly borrowed
49	wrinkled	/jəkmu:mməʃ/	/jankamiʃ(to be wrinkled)Arabic /mkəmməʃ/(wrinkled)Alg-Ar	Clearly borrowed

N	Meaning List	Chaouia	Source Word	Borrowing Status
			Semantic Field 16: Emotions and Values	
1	soul or spirit	/ʔima:n/	/ʔi:ma:n/(faith/belief)Arabic /lʔima:n/(faith/belief)Alg-Ar	Clearly borrowed
2	surprised	/jəxlaʕ/	/xalaʔa/(to take off) (figurative: his heart was taken off) Arabic /jəxlaʔ/(to surprise)Alg-Ar	Clearly borrowed
3	astonished	/jərrebza/	Berber	No evidence for borrowing
3	astonished	/jħa:r/	/jaħɑ:ru/(astonished/confused/ Worried)Arabic /jħi:r/(astonished/confused/ Worried)Alg-Ar	Clearly borrowed
4	good luck	/rəbba ʃi:ʕawən/	/rʌbbi: juʔa:winu/(May God help you) Arabic /rʌbbi: jʔa:wən/(May God help you) Arabic	Clearly borrowed
5	bad luck	/ʔu:la:ʃ ən zhʌr/	/ʔu:la:ʃ/(there isn't)Berber /zʌhr/(dice)Arabic./ən/(the)Berber /zhʌr/(luck)(Alg-Ar	Phrasal equivalence
6	Happy	/jəzha/	/za:hi:/(living/vivid/glowing)Arabic /za:hi/(happy)Alg-Ar	Clearly borrowed
7	to laugh	/ʔijðˤəʂ/	Berber	No evidence for borrowing
8	to smile	/ʔi:əəbəsa:m/	/jatabassamu/(to smile)Arabic /jətbəssəm/(to smile)Alg-Ar	Clearly borrowed
9	to play	/jəttira:r/	Berber	No evidence for borrowing
10	to love	/jaxs/	Berber	No evidence for borrowing
10	To love	/jətħi:bba/	/juħibbu/(to love)Arabic /jħəbb/(to love)Alg-Ar /jətħabb/(to be loved)Alg-Ar	Clearly borrowed
11	to kiss	/ʔi:tsəlla:m/	/sallama/(to greet)Arabic /jsəlləm/(to greet/to kiss)Alg-Ar	Clearly borrowed
12	to embrace	/juʕa:ə ɣa:rəs/	/ju:ʕaə/(to bring back)Berber /ɣa:rəs/(to him) Berber	No evidence for borrowing
13	Pain	/ʔəssəm/	/summ/(poison)Arabic /ssəmm/(poison/pain/cold)Alg-Ar	Clearly borrowed
14	Grief	/jəħzən/	/jaħzanu/(to grief)Arabic /jəħzən/(to grief)Alg-Ar	Clearly borrowed
15	anxiety	/jəqlaq/	/jaqlaqu/(to worry)Arabic /jəqluq/(to worry)Alg-Ar	Clearly borrowed
16	to regret/be sorry	/ʔi:ndəm/	/jandamu/(to regret)Arabic /jəndəm/(to regret)Alg-Ar	Clearly borrowed
16	to regret/be sorry	/hgərʐa:ʂ/	Berber	No evidence for borrowing

17	Pity	/ʔiːɣanni/	Berber	No evidence for borrowing
18	to cry	/jiːl/	Berber	No evidence for borrowing
18	To cry	/jətʕajaːðˤ/	/ʕajjaṭʌ/(to cry and scream)Arabic /jʕajjʌṭ/(to cry/scream)Alg-Ar	Clearly borrowed
19	Tear	/ʔiːməṭṭʌwən/	Berber	
20	to groan	jətnaːzəʕ/	/junaːziʕu/(to groan/struggle/to be moribund) Arabic /jnaːzaʕ/(to groan/to be moribund) Alg-Ar	Clearly borrowed
20	To groan	/jətnaħnaħ//	/ʔanaħa/(to moan/groan)Arabic /jnaħnaħ/(hemming/the sound of a slight cough) Alg-Ar	Clearly borrowed
21	to hate	/jərwaː/	Berber	No evidence for borrowing
22	Anger	/jəqlaq/	/jaqlaqu/(to worry)Arabic /jəqluq/(to worry)Alg-Ar	Clearly borrowed
23	envy or jealousy	/ʔiːħməz/laħməz/	Berber	No evidence for borrowing
24	shame	/lʕaːr/	/ʕaːr/(shame)Arabic /lʕaːr/(shame)Alg-Ar	Clearly borrowed
24	shame	/ʔijssətħa/	/jastaħiː/(to be ashamed)Arabic /jəstħa/(to be ashamed)Alg-Ar	Clearly borrowed
25	Proud	/fʌxr/ /jəttəftaːxər/	/jaftaxir/(to be proud)Arabic /jəftɑxər/(to be proud)Alg-Ar /fʌxr/(pride)Arabic	Clearly borrowed
26	to dare	/jəqðər/	/jaqdiru/(to be able)Arabic /jəqdər/(to be able)Alg-Ar	Clearly borrowed
27	Brave	/ʔaːxərʃuːm/	Berber	No evidence for borrowing
28	Fear	/hjəwði/	Berber	No evidence for borrowing
29	danger	/doːnʒiː/	/dãnʒɛ/(danger)French	Clearly borrowed
30	to want	/jaxs/	Berber	No evidence for borrowing
31	to choose	/ʔiːtxəjjaːr/	/jaxtɑɾɒ/(to choose)Arabic /jəxtɑːr/(to choose)Alg-Ar	Clearly borrowed
32	to hope	/jəssaːraːm/ssaːraməɣ/	Berber	No evidence for borrowing
33	faithful	/naːs mlaːħ/	/naːs/(people/individuals)Arabic /nnaːs/(individuals)Alg-Ar /maliːħ/(good looking)Arabic /mliːħ/(good)Alg-Ar	Clearly borrowed
33	faithful	/ðargaːz jəħlaːn/	/ħallaː/(to make beautiful) Arabic /jəħla/(to be pretty/sweet)Alg-Ar	Clearly borrowed
34	True	/ʔuːðiːsərçuːʃ/	Berber	No evidence for borrowing
35	to lie (2)	/jəssərçuːs/	Berber	No evidence for borrowing

36	Deceit	/ʔiːjkəlħiːə/	/kalaħa/(to grim on face)Arabic /jkəllaħ/(to deceive)Alg-Ar	Clearly borrowed
37	to forgive	/jəssuːrfiə/	Berber	No evidence for borrowing
37	To forgive	/jəssaːmħaːs/	/jusaːmiħu/(to forgive)Arabic /jsaːmaħ/(to forgive)Alg-Ar	Clearly borrowed
38	Good	/jaħla/	/ħallaː/(to make beautiful) Arabic /jəħla/(to be pretty/sweet)Alg-Ar	Clearly borrowed
39	Bad	/ʔuːðiːjħliːʃ/	/ħallaː/(to make beautiful) Arabic /jəħla/(to be pretty/sweet)Alg-Ar /ʃ/(for negation)Berber /ʔuːð/(negation)Berber	Clearly borrowed
40	right (2)	/ðəʂʂʌħ/	/ʂʌhiːħ/(right)Arabic /ʂʌħ/(right)Alg-Ar	Clearly borrowed
41	Wrong	/lɣaltəə/	/ɣʌlaʈʌ/(to make a mistake)Arabic /ɣɑːləʈ/(wrong)Alg-Ar	Clearly borrowed
42	Fault	/ddifɒ/	/dɛːfɒ/(fault)French	Clearly borrowed
43	mistake	/lɣaltəə/	/ɣalʈʌ/(mistake)Arabic /ɣalʈʌ/(mistake)Alg-Ar	Clearly borrowed
44	Blame	/jətlawamiːə/ /ʔalaːwəm/	/jaluːmu/(to blame)Arabic /jluːm/(to blame)Alg-Ar	Clearly borrowed
45	Praise	/ʔijtməʒʒaːd/	/jumaʒʒidu/(to praise)Arabic /jməʒʒəd/(to praise)Alg-Ar	Clearly borrowed
46	beautiful	/jəbha/	/baːhiː/(glamorous)Arabic /baːhi/(beautiful)Alg-Ar	Clearly borrowed
47	Ugly	/jəbʃaʕ/	/baʃiʕ/ (ugly)Arabic /bʃʕa/(ugly)Alg-Ar	Clearly borrowed
48	greedy	/ʈəmmaːʕ/	/ʈʌmmɑːʕ/(greedy)Arabic /ʈəmmaːʕ/(greedy)Alg-Ar	Clearly borrowed
49	Clever	/ɣarəs ðiː ggəxf/	/ɣarəs/(he has something) Berber /ðaːg/(in)Berber /ʔiːxf/(his head)Berber	No evidence for borrowing
49	Clever	/miːzraːj/	Berber	No evidence for borrowing
50	talkative	/ʔaləɣlaːɣ/	/laɣlaɣatun/(ineloquent speech) Arabic	Clearly borrowed
51	whiney	/ʔaləɣlaːɣ/	/laɣlaɣatun/(ineloquent speech) Arabic	Clearly borrowed
52	To be full	/jərwʌ/	/jarwɑː/(quench thirst/to be full) Arabic /jərwʌ/(quench thirst/to be full) Alg-Ar	Clearly borrowed
53	sad	/jətʃoːr wuːl nnəs/	/jətʃoːr/(full) Berber /ʔuːl nnəs/(his heart) Berber	No evidence for borrowing

| 54 | Hope | /ʔaːsiːrəm/ | Berber | No evidence for borrowing |

			Semantic Field 17: Cognition	
N	Meaning List	Chaouia	Source Word	Borrowing Status
1	mind	/ʔaːllən/	Berber	No evidence for borrowing
2	to think (1)	/jətxammam/	/xammana/(to think/guess)Arabic /xamməm/(to think/guess) Alg-Ar	Clearly borrowed
3	to think (2)	/jətbanaːs/	Berber	No evidence for borrowing
4	to believe	/jəttaːmən/	/juʔminu/(to believe)Arabic /jʔammən/(to believe)Alg-Ar	Clearly borrowed
5	to understand	/jəfham/	/jafhamu/(understand)Arabic /jəfhəm/(understand)Alg-Ar	Clearly borrowed
6	to know	/jsənn/	Berber	No evidence for borrowing
7	to guess	/ʔiːtgəzaːn/	/jgəzzən/(to predict/guess)Alg-Ar	Very little evidence for borrowing
8	to imitate	/jəssəmʒaːr/	Berber	No evidence for borrowing
9	to seem	/ʔiːtbaːnəd/	/baːna/(to appear)Arabic /jbaːn/to appear/clear)Alg-Ar	Clearly borrowed
10	idea	/ləfkərə/	/fikra/(idea)Arabic /lfəkra/(idea)Alg-Ar	Clearly borrowed
11	wise	/lħiːkməə/	/ħikma/(wisdom)Arabic /ħakiːm/(wise)Arabic	Clearly borrowed
12	stupid	/ʔabuʒaːði/	/puːʒadiːzm/(French political party in 1950 after Pierre Poujade)French /buʒaːdi/(naïve/stupid)Alg-Ar	Not clearly identified Perhaps borrowed
13	mad	/jəqlaq/	/jaqlaqu/(to worry)Arabic /jəqluq/(to worry)Alg-Ar	Clearly borrowed
14	to learn	/jəʕallaːm/	/juʕallimu/(to teach)Arabic /jataʕallamu/(to learn)Arabic /jətʕalləm/(to learn)Alg-Ar	Clearly borrowed
14	to learn	/jəlməð/	/jatatalmaðu/(to learn)Arabic	Clearly borrowed
15	to study	/ʔiːqərraʌ/	/jaqrʌʔu/(to read)Arabic /jəqrʌ(to study)Alg-Ar	Clearly borrowed
16	to teach	/ʔiːsqərrʌ/	/juqriʔu/(to make someone read)Arabic /jqʌrri/(to teach)Alg-Ar	Clearly borrowed
17	pupil	/ʔaqəddaːʃ/	Berber	No evidence for borrowing
18	teacher	/ʔiːmuʕalləm/	/muʕallim/(teacher)Arabic /muʕalliːm/(teacher)Alg-Ar	Clearly borrowed
19	school	/lkuːliʒ/	/kɒlɛːʒ/(college/schoold)French /lkuliːʒ/(school)Alg-Ar	Clearly borrowed
19	school	/hiːməðˤrəst/	/madrasa/(school)Arabic /lmədraːsa/(schoold)Alg-Ar	Clearly borrowed
20	to remember	/jətfaːqəd/	/tafaqqada/(to look for)Arabic /tfaqqəd/(to check/look for)Alg-Ar	Clearly borrowed
21	to forget	/ʔijtəttu/	Berber	No evidence for borrowing
22	clear	/jətbaːn/	/baːna/(to appear)Arabic /jbaːn/to appear/clear)Alg-Ar	Clearly borrowed

23	obscure	/jəɣu:bbəʃ/	/ɣabaʃ/(darkness/ambiguousness)Ar abic /mɣu:bəʃ/(obscure)Alg-Ar	Clearly borrowed
24	secret	/ʔəssərr/	/sirr/(secret)Arabic./ssərr/(secret)Alg -Ar	Clearly borrowed
25	certain	/ɣi:r/sna:ɣ/	Berber	No evidence for borrowing
26	to explain	/ʔi:sfa:ham/	/juʃhimu/(to help understand)Arabic /jfahham/(to explain)Alg-Ar	Clearly borrowed
27	intention	/nni:jjəə/	/nijja/(intention)Arabic /nnijja/(intention)Alg-Ar	Clearly borrowed
28	cause	/ʔəssəbbəə/	/sabab/(reason)Arabic /ssəbba/(reason)Alg-Ar	Clearly borrowed
29	doubt	/ʔaʃukki:/	/ʃakk/(doubt)Arabic /ʃʃəkk/(doubt)Alg-Ar	Clearly borrowed
30	to suspect	/ʔi:tʃu:kkɑ/	/jaʃukku/(to suspect/to doubt)Arabic /jʃəkk/(to suspect/to doubt)Alg-Ar	Clearly borrowed
31	to betray	/ʔitxa:n/	/jaxu:nu/(to betray)Arabic /jxu:n/(to betray)Alg-Ar	Clearly borrowed
32	Need/necessi ty	/tɣa:wsa/	Berber	No evidence for borrowing
33	easy	/jəshəl/	/sahl/(easy)Arabic /sa:həl/(eay)Alg-Ar	Clearly borrowed
34	difficult	/jəwʕɒr/	Ar	Clearly borrowed
35	to try	/ʔi:ʕja ða:gəs/	/ʔaʕja:/(to make someone tired) Arabic /ða:g/(with) Berber (meaning: tired of trying with it/him)	Phrasal equivalence
36	manner	/ʔabri:ð/	Berber	No evidence for borrowing
37	and	/ʔəð/	Berber	No evidence for borrowing
38	because	/ʕla xɑ:ṭər/	/ʕala:/(for/according to)Arabic /xɑ:ṭər/(wish/desire/interest/goal)Ar abic /ʕla xɑ:ṭər/(for this reason)Alg-Ar	Clearly borrowed
39	if	/mɑ:/	Berber	No evidence for borrowing
40	or	/nni:ɣ/	Berber	No evidence for borrowing
41	yes	/ʔi:h/	/ʔi:hi/(order to be quiet/keep talking) Arabic /ʔi:h/(yes/sign that one is following and listening) Alg-Ar	Clearly borrowed
42	no	/ʔɑhɑ/ʔara:ħ /	Berber	No evidence for borrowing
43	How?	/mamməç/ /ʔa:mməç/ /mu:kʃɑ/	Berber	No evidence for borrowing

44	How many?	/çəm/gədda:h/	/kam/(how much/many)Arabic /qadd/(amount)Arabic /gədda:h/(how much/many)Alg-Ar	Clearly borrowed
45	How much?	/çəm/gədda:h/	/kam/(how much/many)Arabic /qadd/(amount)Arabic /gədda:h/(how much/many)Alg-Ar	Clearly borrowed
46	What?	/matta/	Berber	No evidence for borrowing
47	When?	/məlmi/	Berber	No evidence for borrowing
48	Where?	/ma:ni/	Berber	No evidence for borrowing
49	Which?	/wði:n/hði:n/	Berber	No evidence for borrowing
50	Who?	/ma:gməs/	Berber	No evidence for borrowing
51	why	/ma:ɣəf/	Berber	No evidence for borrowing
52	from	/si:/s ɣər/	Berber	No evidence for borrowing
53	to	/ɣər/	Berber	No evidence for borrowing
54	Are/do you ?	/mɑ:/	Berber	No evidence for borrowing
55	numbers	/ni:mru/ /nwɑ:mər/	/nymɛ:rɒ/(number) French /nimi:rɒ/(number) Alg-Ar	Clearly borrowed
56	letters/alphabet	/ləħro:f/	/ħɒro:f/(alphabet)Arabic /ləħro:f/(alphabet)Alg-Ar	Clearly borrowed
56	letters/alphabet	/ʔiski:lən/	Berber	No evidence for borrowing
57	quantity	/kɒntiti/	/kãntitɛ:/(quantity)French	Clearly borrowed

N	Meaning List	Chaouia	Source Word	Borrowing Status
			Semantic Field 18: Speech and Language	
1	voice	/ʔasiːwəl/	Berber	No evidence for borrowing
2	to sing	/ʔiːtɣanna/	/juɣanniː/(sing)Arabic /jɣanni/(sing)Alg-Ar	Clearly borrowed
3	to shout	/ʔiːtʕajjɑːðˤ/	/ʕajjatˤʌ/(to cry/scream)Arabic /jʕajjʌtˤ/(to cry/scream)Alg-Ar	Clearly borrowed
4	to whisper	/jqaraːs ðəg məʒʒi/	/jqaraːs/(to say)Berber /ðəg/(in) Berber /məʒʒi/(ear)Berber	No evidence for borrowing
5	to mumble	/ʔiːtwətwaːt/	/wataːwit/(whispers)Arabic /jwətwət/(to whisper)Alg-Ar	Clearly borrowed
6	to whistle	/ʔiːtʂəffɑːr/	/juʂʌffiru/(to whistle)Arabic /jʂʌffʌr/(to whistle)Alg-Ar	Clearly borrowed
7	to shriek	/jətʕjjɑːðˤ/	/ʕajjatˤʌ/(to cry and scream)Arabic /jʕajjʌtˤ/(to cry/scream)Alg-Ar	Clearly borrowed
8	to howl	/ʔissbiːʕwiːq/	/jaʕwiː/(to howl)Arabic /jəʕwi/(to howl)Alg-Arabic	Clearly borrowed
8	To howl	/ʔiːttədza/	Berber	No evidence for borrowing
9	to speak/talk	/ʔiːttuːəla/	Berber	No evidence for borrowing
10	to stutter/ to stammer	/ʔiːsʕuːggiːn/	/ʕajjuːn/(who speaks with difficulty) Arabic /ʕagguːn/(deaf/mute/who stutters) Alg-Ar	Clearly borrowed
11	to say	/ʔijqqaːr/	Berber	No evidence for borrowing
12	to tell	/ʔinnaːs/	Berber	No evidence for borrowing
13	speech	/huːəlaːjə/	Berber	No evidence for borrowing
14	to be silent	/ʔiːssusəm/	Berber	No evidence for borrowing
15	language	/huːəleɪə/	Berber	No evidence for borrowing
16	word	/ʔawaːl/	Berber	No evidence for borrowing
17	name	/ʔism/	/ʔism/(name)Arabic /lʔism/(name)Alg-Ar	Clearly borrowed
18	to ask (1)	/jəssəqsaːj/	/qasqasa/(asking about people)Arabic /jastaqʂiː/(look into/inspect/ask about)Arabic /jsaqsi/(to ask)Alg-Ar	Clearly borrowed
19	to answer	/ʔiːttuʕaːs//	Berber	No evidence for borrowing
20	to admit	/ʔijqiːrrəd/	/juqirrɒ/(admit)Arabic /jqərr/(admit)Alg-Ar	Clearly borrowed
21	to deny	/ʔinçər/	/junkiru/(to deny)Arabic /jənkɒr/(to deny)Alg-Ar	Clearly borrowed
22	to ask (2)	/ʔiːxəs/	Berber	No evidence for borrowing

23	to promise	/luːʕət/	/waʕd/(promise) Arabic /jəwʕəd/(to promise)Alg-Ar	Clearly borrowed
24	to refuse	/ʔuðixasʃ/	Berber	No evidence for borrowing
25	to forbid	/ʔuhidʒiːʃ/	Berber	No evidence for borrowing
26	to scold	/ʔikraːs səlħaːs/	/ʔikraːs/(to raise)Berber /ħiss/(lower sounds)Arabic /lħəss/(noise/problems)Alg-Ar (meaning: to scold/rebuke)	No evidence for borrowing Phrasal equivalence
27	to call (1)	/ʔiːlaɣəs/ /ʔitʔijjaːðˤ/	/laɣaː/(to speak)Arabic /jəlɣa/(to call/invite)Alg-Ar	Clearly borrowed
28	to call (2)	/ʔiːsəmma/	/jusammiː/(to call/to name)Arabic /jsəmmi/(to call)Alg-Ar	Clearly borrowed
29	to announce	/ʔinnaːd/	Berber	No evidence for borrowing
30	to threaten	/ʔithəddaːd/	/juhaddidu/(to threaten)Arabic /jhəddə/(to threaten)Alg-Ar	Clearly borrowed
31	to boast	/ʔiːtfuːx/	/jatafaːxar/(to boast)Arabic /jfuːx/(to boast)Alg-Ar	Clearly borrowed
32	to write	/ʔiçttəb/	/jaktubu/(to write)Arabic /jəktəb/(to write)Alg-Ar	Clearly borrowed
33	to read	/ʔiqəṛṛʌ/	/jaqrʌʔu/(to read)Arabic /jəqrʌ(to study/to read)Alg-Ar	Clearly borrowed
34	paper	/tawərqiːɵ/	/waraqa/(paper)Arabic /lwarqa/(paper)Alg-Ar	Clearly borrowed
35	pen	/ləkriju/ /sstilu/	/krɛjõ/(pencil)French /kriyuːn/(pencil)Alg-Ar /stilɒ)(pen)French /stiːlu/(pen)Alg-Ar	Clearly borrowed
36	book	/zzmaːm/	/jzəmməm/(to write a book)Alg-Ar (used in sorcery)	Very little evidence for borrowing
36	book	/ləçɵaːb/	/kitaːb/(book)Arabic /ləktaːb/(book)Alg-Ar	Clearly borrowed
37	poet	/ʔamədjaːz/	Berber	No evidence for borrowing
38	flute	/taʒuwwaːqt/	/ʒawq/(group of musicians/musical instruments)Arabic	Clearly borrowed
39	drum	/ʔabəndiːr/	/bindiːr/(drum)Arabic /lbəndiːr/(drum)Alg-Ar	Clearly borrowed
40	horn or trumpet	/taːqṣəbt/	/qʌṣʌba/(metal pipe or cane that vibrates to produce musical sounds/flute)Arabic /lgʌṣba/(cane used to produce musical sounds/flute)Alg-Ar	Clearly borrowed
41	rattle	/ʔasqəʃqəʃ/	/qaʃqaʃa/(sound of meat being grilled)(onomatopoeic)Arabic /xaʃxaʃa/(rattle)Arabic	Clearly borrowed

| **Semantic Field 19: Social and Political Relations** |

N	Meaning List	Chaouia	Source Word	Borrowing Status
1	country	/dduwələ/	/dawla/(country)Arabic /ddawla/(country)Alg-Ar	Clearly borrowed
2	native country	/dduwələ/	/dawla/(country)Arabic /ddawla/(country)Alg-Ar	Clearly borrowed
3	town	/ʔafilaːʒ/	/vilaːʒ/(town)Arabic /filaːʒ/(town)Alg-Ar	Clearly borrowed
4	village	/ʔaduw̯aːr/	/dawwaːr/(big house in the countryside) Arabic /dduwwaɑːr/(small village)Alg-Ar	Clearly borrowed
5	boundary	/ʔiːgmiːrən/	Berber	No evidence for borrowing
6	people	/ʔiːwðaːn/ʔaːgðuːð/	Berber	No evidence for borrowing
6	people	/ɣaːʃi/	/ɣaːʃijja/(visitors/people)Arabic /ɣaːʃi/(people)	Clearly borrowed
7	clan	/ʕʌrʃ/	/ʕʌrʃ/(clan)Arabic /lʕʌrʃ/(clan)Alg-Ar	Clearly borrowed
8	chieftain	/ʔʌməɣaːr/	Berber	No evidence for borrowing
8	chieftain	/ʔamuqrɑːn/	/muqrɑːn/(with horns)(big)Alg-Ar (figurative:chief)	Very little evidence for borrowing
9	walking stick	/taʕukkaːzt/	/ʕukkaːz/(walking stick)Arabic /lʕukkaːz/(walking stick)Alg-Ar	Clearly borrowed
10	to rule/govern	/ʔiːṭṭəf/	Berber	No evidence for borrowing
11	king	/ʔagəlliːð/	Berber	No evidence for borrowing
12	queen	/tagəlliːðt/	Berber	No evidence for borrowing
13	noble	/ʔiːmrɑːbðˤən/	/rʌbiːṭ/(ascetic/wise)Arabic /mrɑːbəṭ/(ascetic)Alg-Ar	Perhaps borrowed
14	citizen	/ʔaːʃaʕbi/	/ʃaʕbiː/(citizen/common people)Ar	Clearly borrowed
15	master	/ʔamətʃuːç/	Berber	No evidence for borrowing
16	slave	/ʔasəkkiːw/	Berber	No evidence for borrowing
17	servant	/ʔaxðiːm/	/xaːdim/(servant)Arabic /xdiːm/(servant)Alg-Ar	Clearly borrowed
18	freeman	/ʔaħroːr/	/ħɒrr/(free)Arabic /ħɒrr/(free)Alg-Ar	Clearly borrowed
19	to liberate	/ʔissərħəd/	/saraħa/(to liberate)Arabic /jsərraħ/(to let go)Alg-Ar	Clearly borrowed
20	To command/ order	/saːwa/	Berber	No evidence for borrowing

21	to obey	/ʔitta:ɣ rrɑ:j/	/ʔitta:ɣ/(to take)Berber /rrɑ:j/(opinion) (meaning to listen/to obey)	Phrasal equivalence
22	to permit	/ʔidʒa:s/	Berber	No evidence for borrowing
23	friend	/ʔamdu:kəl/	Berber	No evidence for borrowing
24	enemy	/ʔaɣri:m/	/ɣari:m/(enemy/opponent)Arabic	Clearly borrowed
25	neighbour	/lʒɑ:r/	/ʒɑ:r/(neighbor)Arabic /lʒɑ:r/(neighbor)Alg-Ar	Clearly borrowed
26	stranger	/ʔabərrɑ:ni/	/barrɑ:ni:/(outsider)Arabic /barrɑ:ni/(outsider)Alg-Ar	Clearly borrowed
27	guest	/ʔaniʒʒi:w/	Berber	No evidence for borrowing
28	to invite	/ʔilaɣa:d/	/laɣa:/(to speak)Arabic /jəlɣa/(to call/invite)Alg-Ar	Perhaps borrowed Not clearly identified
29	host	/ba:b n ðˤi:fə/	/ba:b/(door)Arabic. /n/(the)Berber /ðˤʌjf/(guest)Arabic /ðˤi:f/(guest)Alg-Ar (meaning:open door for guests)	Clearly borrowed
30	to help	/ʔitʕawa:n/	/ juʔa:winu/(to help) Arabic /jʔa:wən/(to help)Alg-Ar	Clearly borrowed
31	to prevent	/ʔuhidʒi:ʃ/	Berber	No evidence for borrowing
32	custom	/sba:jər/	Berber	No evidence for borrowing
33	quarrel	/ʔinuɣa:n/	Berber	No evidence for borrowing
34	plot	/ʔira:rnna:s fijəxə/	/ʔira:rnna:s/(they play) /f/ (on). /ʔixf/(head)Berber (meaning: they conspire)	No evidence for borrowing
35	to meet	/ʔimla:qqa/	/jula:qi:/(to meet)Arabic /jətla:qa/(to meet)Alg-Ar	Clearly borrowed
36	prostitute	Not translated	Not translated	Not translated

N	Meaning List	Chaouia	Source Word	Borrowing Status
			Semantic Field 20: Warfare and Hunting	
1	to fight	/ʔitnu:ɣ/	Berber	No evidence for borrowing
2	war or battle	/lgirra/	/gɛ:r/(war)French /girra/(war)Alg-Ar	Clearly borrowed
3	peace	/rrʌħmə/	/rʌħma/(mercy)Arabic /rrʌħma/(mercy)Alg-Ar	Clearly borrowed
4	army	/lʕʌşkar/	/ʕʌşkar/(army)Arabic /lʕʌşkar/(army)Alg-Ar	Clearly borrowed
5	**soldier**	**/ʔamna:jən/**	**/ʔamn/(peace/safety)Arabic /lʔamn/(peace/safety)Alg-Ar**	Clearly borrowed
6	weapons	/ti:ʕəmdaθi:n/	/ʕumda/(what we depend on)Arabic /ʔamad/(sticks)Arabic	Clearly borrowed
7	club	/liki:p/	/ʔɛ:ki:p/(team/club)French /liki:p/(team/club)Alg-Ar	Clearly borrowed
8	battle-axe	/ʔagəlzi:m/	Berber	No evidence for borrowing
9	**sling**	**/łʌʒwɛ̃/**	**/ʒwɛ̃/(sling)French (joint) /łʌʒwɛ̃/(sling)Alg-Ar**	**Clearly borrowed**
10	bow	/ʔi:ldi/	Berber	No evidence for borrowing
11	arrow	/łʌfłɛʃ/	/fłɛʃ/(arrow)French /łʌfłɛʃ/(arrow)Alg-Ar	Clearly borrowed
12	spear	/ɣani:m/	Berber	No evidence for borrowing
13	sword	/ʔagəstu:r/	Berber	No evidence for borrowing
14	gun	/ta:ʕmu:t/	/ta:ʕmu:t/(of death)Alg-Ar /mawt/(death)Arabic /ta:ʕ/(of)Alg-Ar /mu:t)(death)Alg-Ar	Clearly borrowed
15	armour	/lkɒmbʌ/	/kõmbʌ/(battle/military uniform) French /lkɒmbʌ/(armour/military uniform) French	Clearly borrowed
16	helmet	/lkʌşk/	/kʌşk/(helmet)French	Clearly borrowed
17	shield	No equivalence	No equivalence	No equivalence
18	fortress	/taqli:ħt//taqli:ʕt/	/qalʕa/(castle)Arabic	Clearly borrowed
19	tower	/tgɑ:ri:t/	/gʌrɛ:t/(military sentry bow on top of a tower or fortress) French /lgʌri:ʈʌ/	Clearly borrowed
20	victory	/ʔaɣla:b/	/jaɣlibu/(to defeat/win)Arabic /jəɣləb/(to defeat/win)Alg-Ar	Clearly borrowed
21	defeat	/ləxşɑ:rəθ/	/xaşɑ:ra/(defeat)Arabic /lxşɑ:ra/(defeat)Alg-Ar	Clearly borrowed
22	attack	/ʔa:hʒəm/	/jahʒimu/(to attack)Arabic /jəhʒəm/(to attack)Alg-Ar	Clearly borrowed

23	to defend	/ʔitða:faʕ/	/juda:fiʕu/(to defend)Arabic /jda:faʕ/(to defend)Alg-Ar	Clearly borrowed
24	to retreat	/ʔi:wəlla:d/	/walla:/(to go back/to escape)Arabic /wəlla/(to come back)Alg-Ar	Clearly borrowed
25	to surrender	/ʔi:rfəð ʔifa:ssən nən/	/rafada/(to give/take/catch)Arabic /jərfəd/(to take/raise/lift)Alg-Ar /ʔifa:ssən nən/(his hands)Berber	Phrasal equivalence
26	captive or prisoner	/ʔaməħbu:s/	/maħbu:s/(prisoner)Arabic /maħbu:s/(prisoner)Alg-Ar	Clearly borrowed
27	guard	/ʔaʕəssa:s/	/ʕassa:s/(guard)Arabic /ʕassa:s/(guard)Alg-Ar	Clearly borrowed
28	booty	/ṣṣa:bbəə/	/ṣṣa:ba/(plentiful harvest)Alg-Ar	Very little evidence for borrowing
29	ambush	/ʔamənda:f/	/mənda:f/(ambush)Alg-Ar	Very little evidence for borrowing
30	fisherman	/bu:jsəlmən/	Berber	No evidence for borrowing
31	fishhook	/taṣənṇɑ:rt/	/ṣinna:ra/(fishhook)Arabic /ṣṣənṇɑ:ra/(fishhook)Alg-Ar	Clearly borrowed
32	fishing line	/sbi:b/	/sabi:b/(strand of hair)Arabic /sbi:b/(fishing line)Alg-Ar	Clearly borrowed
33	fishnet	/ti:ʃbəçə/	/ʃabaka/(net)Arabic /ʃʃəbka/(net)Alg-Ar	Clearly borrowed
34	fish trap	/ʔafðu:l/	Berber	Clearly borrowed
35	bait	/taqəlla:bt/	/janqalib/(turn over/capsize)Arabic /təngləb/(turn over/capsize)Alg-Ar /lgulla:jba/(trap)Alg-Ar	Clearly borrowed
36	to hunt	/ʔitṣija:ðˤ/	/jaṣṭa:d/(to hunt)Arabic /jṣʌjjəd/(to hunt)Alg-Ar	Clearly borrowed
37	**to shoot**	**/ʔi:tʃa:ɵ səlfu:ʃi/**	**/ʔi:tʃa:ɵ/(to shoot)Berber /s/(through/using)Berber /fyzi de ʃʌṣ/(hunting rifle)French**	Phrasal equivalence
38	to miss	/ʔuhədjuwi:ʃ/	Berber	No evidence for borrowing
39	trap	/ʔˈaməndʾa:f/	Berber	No evidence for borrowing
40	to trap	/ʔitsa:wa ʔamənda:f/	/sawwa:/(to fix/to regulate)Arabic /mənda:f/(ambush)Alg-Ar (meaning: plan an ambush)	Phrasal equivalence

	Semantic Field 21: Law			
N	Meaning List	Chaouia	Source Word	Borrowing Status
1	law	/lqa:nu:n/	/qa:nu:n/(law)Arabic /lqa:nu:n/(law)Alg-Ar	Clearly borrowed
2	court	/ti:məħkəmt/	/maħkama/(court)Arabic /lmaħkama/(court)Alg-Ar	Clearly borrowed
3	to adjudicate	/ʔi:fra/	/ʔafra:/(to fix something)Arabic /jəfri/(to resolve)Alg-Ar /ʔʌfɛ:r/(case)French (affaire)	Clearly borrowed
4	judgment	/lħukm/	/ħukm/(judgment)Arabic /lħukm/(judgment)Alg-Ar	Clearly borrowed
5	judge	/ʒu:ʒ/	/ʒyʒ/(judge)French /ʒʒyʒ/(judge)Alg-Ar	Clearly borrowed
6	plaintiff	/ʔi:rfəð fəlla:s/	rafada/(to give/take/catch)Arabic /jərfəd/(to take/raise/lift)Alg-Ar /fəlla:s/(against/on you) Berber (meaning: to raise a case against)	Phrasal equivalence
7	defendant	/hətwa:rfəð fəlla:s/	rafada/(to give/take/catch)Arabic /jərfəd/(to take/raise/lift)Alg-Ar /hətwa:rfəð/(was raised) /fəlla:s/(against/on you) Berber /meaning: a case raised against him)	Phrasal equivalence
8	witness	/ʔi:ʃhəð/	/jaʃhadu/(to witness) Arabic /jəʃhəd/(to witness)Alg-Ar	Clearly borrowed
9	to swear	/ʔi:dʒu:l/	Berber	No evidence for borrowing
10	oath	/tʒa:lli:t/	Berber	No evidence for borrowing
11	to accuse	/jəttu:ʕa: ða:gəs/	/jəttu:ʕa:/(get back to)Berber /ða:gəs/(to/in you)Berber (meaning: to charge with a crime)	No evidence for borrowing
12	to condemn	/ʔi:ṭfɑ:ṣ/	Berber	No evidence for borrowing
13	to convict	/ʔi:ṭṭəf fəlla:s/	/ʔi:ṭṭəf/(to hold/take/catch)Berber /fəlla:s/(against/on you)Berber (meaning: to render a judgment)	No evidence for borrowing
14	to acquit	No equivalence	No equivalence	No equivalence
15	guilty	/nta ti:sawa:n/	/ʔanta/ (you) Arabic /nta/(you)Alg-Ar /sawwa:/(to fix/to regulate)Arabic (meaning: you did it)	Clearly borrowed Phrasal equivalence
16	innocent	/ʃa:la ʔi:sawa:ɵ/	/ʃa:la/(negation/there isn't)Berber /sawwa:/(to fix/to regulate)Arabic (meaning: you did not do it)	Phrasal equivalence
17	penalty	/lʕuqu:bə/	/ʕuqu:ba/(penalty)Arabic /lʕuqu:ba/(penalty)Alg-Ar	Clearly borrowed

19	fine	/ləɣrɑ:məɵ/	/ɣʌrɑ:ma/(fine)Arabic	Clearly borrowed
20	prison	/tasi:lu:nt/	/sɛ:lyl de prizõ/ (prison cell) French	Clearly borrowed
21	murder	/lʒariməɵ/	/ʒari:ma/ (murder) Arabic /lʒari:ma/ (murder) Alg-Ar	Clearly borrowed
22	adultery	/jətʃu:tʃ/	Berber	No evidence for borrowing
23	rape	/ʔaṭɑ:f/	Berber	No evidence for borrowing
24	arson	/hətwɑ:sərɣ bəlʕa:ni/	/hətwɑ:sərɣ/(to cause fire)Berber /bi/(with)Arabic /ʕanjan/ʕina:ja/(doing something with care and interest) /bəlʕa:ni/(carefully/on purpose)Alg-Ar	Phrasal equivalence
25	perjury	/ʃha:t nə ẓo:r/	/ʃaha:datu zo:r/(perjury)Arabic /ʃhatt zzo:r/(perjury)Alg-Ar	Clearly borrowed
26	To steal	/ʔitta:çər/	Berber	No evidence for borrowing
27	thief	/ʔaməçɑ:r/	/ma:kir/(deceitful)Arabic /mʌkkɑ:r/(deceitful)Alg-Ar	Clearly borrowed

N	Meaning List	Chaouia	Source Word	Borrowing Status
			Semantic Field 22: Religion and Belief	
1	religion	/ddi:n/	/di:n/(religion) Arabic. /ddi:n/(religion)Alg-Ar	Clearly borrowed
2	god	/ʔʌllɑ:h/ /ṛʌbbi/	/ʔʌllɑ:h/(God)Arabic /ṛʌbbi/(God)Alg-Ar	Clearly borrowed
3	temple	No equivalence	No equivalence	No equivalence
4	church	No equivalence	No equivalence	No equivalence
5	mosque	/lʒa:məʕ/	/ʒa:miʕ/(mosque)Arabic /lʒa:məʕ/(mosque)Alg-Ar	Clearly borrowed
6	altar	No equivalence	No equivalence	No equivalence
7	sacrifice	/jɣʌrrʌʂ/	Berber	No evidence for borrowing
8	to worship	/jʕabbəð/	/jaʕbudu/(to worship)Arabic /jəʕbəd/(to worship)Alg-Ar	Clearly borrowed
9	to pray	/jətzʌɬɑ:/	/juʂʌlli:/(to pray)Arabic /jʂʌlli/(to pray) Alg-Ar	Clearly borrowed
10	priest	/ʃʃi:x/ /lʔi:ma:m/	/ʔima:m/(prayer leader)Arabic /lʔi:ma:m/(prayer leader)Alg-Ar /ʃajx/(religious scholar)Arabic /ʃʃi:x/(religious scholar)Alg-Ar	Clearly borrowed
11	holy	/ʔamba:rək/	/muba:rak/(holy/blessed)Arabic /mabro:k/(blessed/holy)Alg-Ar	Clearly borrowed
12	to preach	/jgʌ lxo:ṭbəə/	/jgʌ/(to do/make)Berber /xɒṭba/(sermon/speech)Arabic /lxɒṭba/(sermon/speech)Alg-Ar	Phrasal equivalence
13	to bless	/jba:rək/	/yuba:riku/(to bless) Arabic /jba:rək/(to bless/congratulate)Alg-Ar	Clearly borrowed
14	to curse	/jlaʕʕan/	/jalʕnu/(to curse)Arabic /jəlʕan/(to curse)Alg-Ar	Clearly borrowed
15	to fast	/jətzo:m/	/jaʂo:mu/(to fast)Arabic /jʂo:m/(to fast)Alg-Ar	Clearly borrowed
16	heaven	/lʒənnəə/	/ʒanna/(heaven)Arabic /lʒənna/(heaven)Alg-Ar	Clearly borrowed
17	hell	/lʕafi:fə/	/ʕa:fija/(health/welfare) Arabic /lʕa:fja/(fire)Alg-Ar	Clearly borrowed
18	demon	/ʃiṭa:n/	/ʃajṭa:n/(devil)Arabic /ʃʃiṭa:n/(devil)Alg-Ar	Clearly borrowed
19	idol	/ʔa:zrɒ/	Berber	No evidence for borrowing
20	magic	/sshu:r/	/siħr/(magic/sorcery) Arabic /sshu:r/(magic/sorcery)Alg-Ar	Clearly borrowed
21	Sorcerer/witch	/ðasəħħa:r/ /ðamṛa:ḅəṭ/	/sa:ħir/(sorcerer)Arabic /saħħa:r/(sorcerer) Alg-Ar	Clearly borrowed
22	fairy or elf	/fiħuʒeɪ/	Berber	No evidence for borrowing

23	ghost	/ʔazɣuːɣ/	/zquːq/ (bogeyman)Alg-Ar	Very little evidence for borrowing
24	omen	/lfaːl/	/faʔl/(omen)Arabic./faːl/(omen)Alg-Ar	Clearly borrowed
25	circumcision	/ṭhɑːṛʌ/	/ṭʌhhʌra/(circumcise) Arabic /ṭhɑːaʌ/(circumcision)Alg-Ar	Clearly borrowed
26	initiation ceremony	/ðˤðˤifəɵ/	/ðˤijjaːfa/(accommodation/hospitality) Arabic	Clearly borrowed

N	Meaning List	Chaouia	Source Word	Borrowing Status
			Semantic Field 23: The Modern World	
1	radio	/r̩rɑ:djʊ/	/rʌdjʊ/(radio) French /rrɑ:djʊ/(radio) Alg-Ar	Clearly borrowed
2	television	/tɜ:livizjõ/	/tɜ:lɛ:vizjõ/(television) French /tilivizjõ/(television) Alg-Ar	Clearly borrowed
3	telephone	/tilifu:n/	/tɛ:lɛ:fɔ:n/(phone) French /tilifu:n/(phone) Alg-Ar	Clearly borrowed
4	bicycle	/vi:lu/	/vɛ:lɔ/(bike) French /lvi:lu/(bike) French	Clearly borrowed
5	motorcycle	/lmʊʈʊ/	/mʊʈʊ/(motorcycle) French /lmʊʈʊ/(motorcycle) French	Clearly borrowed
6	car	/ʈʌksi/ /takərro:st/ /takərju:lt/	/ʈʌksi/(taxi) French /ʈʌksi/(cab) Alg-Ar /kʌrɒs/(car) French /kʌrro:zʌ/(car) Italian /kərwi:la/(horse-drawn vehicle) Alg-Ar	Clearly borrowed
7	bus	/lbys/ /lkɑ:r̩/	/bys/(bus)French /lbys/(bus)Alg-Ar /ʔɒʈɒkɑ:r/(bus)French /lkɑ:r/(bus)Alg-Ar	Clearly borrowed
8	train	/lmaʃina/	/mʌʃi:n/(machine/vehicle)French /lmaʃina/(machine/train/Alg-Ar	Clearly borrowed
9	airplane	/ðaʈəjɑ:rɵ/	/ʈʌjjɑ:ra/(plane)Arabic /ʈʈʌjjɑ:ra/(plane)Alg-Ar	Clearly borrowed
10	electricity	/tisi:ti/	/ʔɛ:lɛktrisitɛ:/(electricity)French /trisi:ti/(electricity)Alg-Ar	Clearly borrowed
11	battery	/lbʌtri/	/bʌtri/(battery)French /lbʌtri/(battery)Alg-Ar	Clearly borrowed
12	to brake	/jəfri:na/	/frɛnɛ:/(to brake)French /jəfri:ni/(to brake)Alg-Ar	Clearly borrowed
13	motor	/lmutu:r/	/mʊtœr/(motor)French /lmutu:r/(motor)Alg-Ar	Clearly borrowed
14	machine	/lmaʃi:na/	/mʌʃi:n/(machine/vehicle) French /lmaʃina/(machine/train/Alg-Ar	Clearly borrowed
15	petroleum	/lpitro:l/ /lga:z/	/pɛ:trɔ:l/(petroleum)French /lpitro:l/(petroleum)French /gʌzoli:n/(petrol/gas)French /lga:z/(gas)Alg-Ar	Clearly borrowed
16	hospital	/sbiʈɑ:r/	/ʔɒpitɑ:l/(hospital)French /sbiʈɑ:r/(hospital)Alg-Ar	Clearly borrowed
17	nurse	/ɵafərmli:ɵ/	/ʔɛñfirmjɛ:/(nurse) French /fərmlijja/(nurse)Alg-Ar	Clearly borrowed
18	Pill/tablet	/ɵaħəbbu:ɵ/	/ħubu:b/(pills)Arabic /lħabb/(pills)Alg-Ar	Clearly borrowed

18	Pill/tablet	/θablɑːkə/	/plʌkɛːt/(tablet)French /plʌkʌ/(tablet)Alg-Ar	Clearly borrowed
19	injection	/θisəgniːə/	/serɛːng/(injection/syringe)French	Not clearly identified Perhaps borrowed
20	spectacles/glasses	/ṇwɑːðˤər/	/naðˤðˤɑːrɑːt/(glasses) Arabic /nwɑːðˤər/(glasses)Alg-Ar	Clearly borrowed
21	government	/lħukuːmə/	/ħukuːma/(government) Arabic /lħukuːma/(government) Alg-Ar	Clearly borrowed
22	president	/rrʌʔiːs/	/rʌʔiːs/(president)Arabic /rrʌʔiːs/(president)Alg-Ar	Clearly borrowed
23	minister	/lwaziːr/	/waziːr/(minister)Arabic /lwaziːr/(minister)Alg-Ar	Clearly borrowed
24	police	/lbuːlisijja/	/pɒliːs/(police)French /lʌpɒliːs/(police)Alg-Ar	Clearly borrowed
25	driver's license	/lbərmi/	/pɛːrmi/(driving license) French /lpərmi/(driving license) Alg-Ar	Clearly borrowed
26	license plate	/lṃʌtrikyl/	/mʌtrikyl/(license plate)French /lmʌtrikyl/(license plate)Alg-Ar	Clearly borrowed
27	birth certificate	/nnəqməə/	/laqqaːm/ (birth certificate) Alg-Ar	Very little evidence for borrowing
28	crime	/jga r̩roːħ/	/jga/ (to take) Berber /roːħ/(soul) Arabic /rroːħ/(soul) Alg-Ar (meaning: take life/kill)	Phrasal equivalence
29	election	/lʔintixabaːə/	/ʔintixaːbaːt/ (elections) Arabic /lʔintixabaːt/(elections) Alg-Ar	Clearly borrowed
30	address	/laːdriːsa/	/ʔʌdrɛːs/ (address) French /laːdriːsa/lʌdrɛːs/ (address) Alg-Ar	Clearly borrowed
31	number	/nniṃiːr̩ɒ/	/nymɛːr̩ɒ/ (number) French /nniṃiːr̩ɒ/ (number) Alg-Ar	Clearly borrowed
31	number	/rraqm/	/raqm/(number) Arabic /rraqm/(number) Alg-Ar	Clearly borrowed
32	street	/ʔabriːð/	Berber	No evidence for borrowing
33	post/mail	/lboːsṭʌ/	/pɒst/(post) French /pɔːsta/(post) Italian /lboːsṭʌ/lboːʃṭʌ/(post) Alg-Ar	Clearly borrowed
34	postage stamp	/ttɛːmbər/	/tɛːmbr/(postage stamp) French /ttɛːmbər/(postage stamp)Alg-Ar	Clearly borrowed
34	Postage stamp	/ṭṭɑːbaʕ/	/ṭɑːbiʕ/(stamp)Arabic /ṭṭɑːbaʕ/(stamp)Alg-Ar	Clearly borrowed
35	letter	/θabrɑːt/	/barqijja/(letter)Arabic /brajja/(letter)Alg-Ar	Clearly borrowed
36	postcard	/tabrɑːt/	/barqijja/(letter)Arabic /brajja/(letter)Alg-Ar	Clearly borrowed

37	bank	/lbãkʌ/	/bãk/(bank)French /lbãkʌ/(bank)Alg-Ar	Clearly borrowed
38	tap/faucet	/θaʕwi:nθ/	/ʕajn/(spring of water)Arabic /lʕajn/(tap/faucet)Alg-Ar	Clearly borrowed
39	sink	/lʌvʌbɒ/	/lʌvʌbɒ/(sink)French /lʌvʌbɒ/(sink)Alg-Ar	Clearly borrowed
40	toilet	/lkabi:ni/	/kʌbinɛ:/(small private room)French /lkabi:ni/(toilet)Alg-Ar	Clearly borrowed
41	mattress	/lmaṭrʌħ/	/maṭrʌħ/(place/position) Arabic /matla/((matress) French	Clearly borrowed
42	tin/can	/θa:bbət nu:zza:l/	/nu:zza:l/(made of iron)Berber /bwʌt/(box/can) French /bbʌṭʌ/(can/box)Alg-Ar	Phrasal equivalence
43	screw	/ʔaməṣṃa:r/	/misma:r/(nail)Arabic /lməsma:r/(nail/screw) Alg-Ar	Clearly borrowed
44	screwdriver	/tu:rnivi:s/	/tu:rnevi:s/(screwdriver)French /tu:rnivi:s/(screwdriver)Alg-Ar	Clearly borrowed
45	bottle	/θi:qarʕət/	/qarʕatun/(bottle) Arabic /lqʌrʕa/(bottle) Alg-Ar	Clearly borrowed
46	candy/sweets	/ləħlawa:θ/	/ħalwa:/(sweets/candy)Arabic /lħalwa/(sweets/candy)Alg-Ar	Clearly borrowed
47	plastic	/plʌsti:k/	/plʌsti:k/(plastic) French /plʌsti:k/(plastic) Alg-Ar	Clearly borrowed
48	bomb	/lbu:mba/	/bomb/(bomb) French /lbu:mba/(bomb)Alg-Ar	Clearly borrowed
49	workshop	/ʔateljɛ:/	/ʔateljɛ:/(workshop) French	Clearly borrowed
49	workshop	/ləwzi:n/	/ʔyzi:n/(factory) French /ləwzi:n/(factory) Alg-Ar	Clearly borrowed
50	cigarette	/lgɑ:rɒ/	/gɑ:rɒ/(cigarette) Spanish /lgɑ:rɒ/(cigarette) Alg-Ar	Clearly borrowed
51	newspaper	/lʒɒrna:n/	/ʒu:rnɑ:l/(newspaper) French /lʒɒrnɑ:n/(newspaper) Alg-Ar	Clearly borrowed
52	calendar	/ʃʃʌhrija/	/ʃahrijja/(monthly/calendar) Arabic /ʃʃʌhrija/(calendar/monthly) Alg- Ar	Clearly borrowed
53	film/movie	/fi:lm/	/fi:lm/(movie) Arabic /fi:lm/(movie) Alg-Ar	Clearly borrowed
54	music	/lmusi:qa/	/mu:si:qɑ:/(music) Arabic /lmusi:qa/(music) Alg-Ar	Clearly borrowed
55	song	/lʔuɣnɪjəθ/	/ʔuɣnijja/(song) Arabic /lʔɣunja/(song) Alg-Ar	Clearly borrowed
56	tea	/tta:j/	/tɛ:/(tea) French /lata:j/ (tea) Alg-Ar	Clearly borrowed
57	Coffee	/lqahwa/	/qahwa/ (coffee) Arabic /lqahwa/ (coffee) Alg-Ar	Clearly borrowed

Semantic Field 24: Miscellaneous Function Words			
N	**Meaning List**	**Chaouia**	**Source Word**	**Borrowing Status**
1	to be	/jəlla/	Berber	No evidence for borrowing
2	to become	/ʔaði:wəlla/	/walla:/(to go back)Arabic /wəlla/(to come back)Alg-Ar	Clearly borrowed
3	without	/bla/	/bi/ (with) Arabic. /la:/(no) Arabic (meaning: without)	Clearly borrowed
4	with	/ʔi:ð/	Berber	No evidence for borrowing
5	through	/ss/	Berber	No evidence for borrowing
6	not	/mu:ħ/	/muħa:l/(impossible) Arabic /muħa:l/(impossible/no) Alg-Ar	Not clearly identified Perhaps borrowed
7	this	/wa:j/	Berber	No evidence for borrowing
8	that	/wi:n/	Berber	No evidence for borrowing
9	here	/ða:/	Berber	No evidence for borrowing
10	there	/ðu:rən/	Berber	No evidence for borrowing
11	other	/wi:n/	Berber	No evidence for borrowing
12	next	/zza:ɵ/	Berber	No evidence for borrowing
13	same	/ki:fki:f/	/kajfama:/(how/however)(figuratively: however/whatever you do I do: I do the same thing) Arabic /ki:fki:f/ (same/similar) Alg-Ar	Clearly borrowed
13	same	/ʔi:səçra:s/ħa:tʃ/	Berber	No evidence for borrowing
14	nothing	/wa:lu/	/wala ʃajʔ/ (nothing) Arabic /wa:lu/ (nothing) Alg-Ar	Clearly borrowed

Appendix B

The Questionnaire

Dear Informant,

This questionnaire is designed as a tool to understand the factors that govern language change and stability in the Berber Chaoui community in Algeria. The answers you provide will be taken with the utmost secrecy and will be used only for research purposes. Your identity will remain anonymous.

You are kindly requested to fill in the following questionnaire according to your personal opinion. Your help is highly appreciated.

I.   Section One: Personal Background

Age: ……………..

Gender: Male ◯   Female ◯

Region: ……………………

Educational level

  None ◯   Primary/ Middle ◯   Secondary ◯   Tertiery ◯

II.   Section Two: Linguistic Proficiency

1. Mother Tongue:

Algerian Arabic ◯ Chaouia ◯ French ◯ Other ◯ (specify…………………..)

2. What is the mother tongue of your mother?

Algerian Arabic ◯ Chaouia ◯ French ◯ Other ◯ (specify…………………..)

3. What is the mother tongue of your father?

Algerian Arabic ◯ Chaouia◯ French ◯ Other ◯ specify…………………..)

4. Identify your level of proficiency in the following languages

Level⟍ Language	Excellent	Good	Average	Weak	None
Chaouia					
Other varieties of Berber					
Algerian Arabic					
MSA					
French					

I. Section Three: Language Use

Please use the scale below to rate the frequency you use the languages with the groups of people listed in the left column.

Always = 4	Sometimes = 2	Never = 0
Most of the time = 3	Rarely = 1	Not Applicable = NA

	Algerian Arabic	Chaouia	Standard Arabic	French
Immediate Family				
Extended Family				
Friends				
Neighbors				
Officials				
At work				
At mosque				
At school				
Arab speakers				
Berber speakers from other communities				

III. Section Four: Attitudes Towards Languages

- Please use the same scale to rate how much you think each attribute in the list applies to each language in the table.

0 = Strongly Disagree	1 = Disagree	2 = Neutral
3 = Agree	4 = Strongly Agree	

	Algerian Arabic	Berber	Chaouia	Standard Arabic	French
Important to be used in all situations					
Prestigious					
Patriotic					
Beautiful					
Ethnic					
Useful					
Intrusive					

- Do you think that using Standard Arabic words distorts your identity or your language?

  Yes ◯ No ◯

- Do you think that using Algerian Arabic words distorts your identity or your language?

  Yes ◯ No ◯

- Do you think that using French words distorts your identity or your language?

  Yes ◯ No ◯

Appendix C

Target Interview Variants

	English	Chaoui Variants	
		Changed	**Unchanged**
	people	/ɣ'aːʃɪ/	/ʔiːwð'aːn/ /ʔ'aːgðuːð/
Group A: Words with Changed-Dominant Variants	Tailor	/ʔ'axijjɑːʈ/	/weɪ ʔiːgənniːn/ /ʔagənnei/
	Thunder	/rʕʌd/	/ʔ'adʒeɪn/
	Cave	/lk'aːf/	/ʔiːfri/
	to freeze	/ʔ'aːðiʒəmməd/	/ʔ'aːðjəqrəf/
	to regret	/ʔiːndəm/	/hg'arẓaːṣ/
	astonished	/jħɜːr/	/jərrebz'a/
	to forgive	/jəss'amħ'aːs/	/jəssuːrfiə/
	Now	/luːqq'a/	/ʔiːmiːr'a/
	to cry	/jətʕ'ajaːðˤ/	/jiːl/
	in front of	/jq'aːbəl/	/zz'aːə/
	Long	/jəʈʈəwaːl/ /jʈʌwwəl/	/ð'azəgr'aːr/
Group B: Words with Unchanged-Dominant Variants	Animal	/lħ'aj'awɜːn/	/'aɣərsiːw/
	Sun	/lqeɪl'a/	/ə'afuːkə/
	Eagle	/f'aːliçuː/	/giːðər/
	Quiet	/jətʃ'axʃ/ /ðəlʕ'aqəl/	/jəssuːsəm/
Equitable Variation	to love	/jətħiːbb'a/	/j'axs/
	morning	/ə'aṣəbḥiːə/	/tiːf'aːwət/

ملخص

يهدف البحث الحالي إلى دراسة التغير اللغوي المعجمي في اللهجة الشاوية. تسعى الدراسة إلى معالجة الأسئلة المتعلقة بالخصائص اللغوية التي تقيد تغيير اللغة والجوانب الاجتماعية لهذا التغيير. من أجل تحقيق هذا الهدف ، تم استخدام منهج مختلط حيث يتم ترجمة قائمة من الكلمات إلى الشاوي لفحص آثار التأثير العربي والفرنسي. تتضمن القائمة المترجمة 1500 عنصرًا معنيًا تم تبنيها من قائمة معنى تصنيف الكلمات المستعارة حيث يتم تقديم كل عنصر لعشرة متحدثين أصليين للغة الشاوية. تتم مقارنة الترجمات التي تم الحصول عليها ويتم استبعاد الترجمات غير الملائمة. تظهر نتائج الدراسة الحالية أن اللغة العربية هي اللغة المانحة الرئيسية للاقتراض. علاوة على ذلك ، أظهرت الدراسة أن التصنيف النحوي للكلمة والحقل الدلالي الذي تنتمي إليه هما العاملان اللغويان الرئيسيان المرتبطان بالتغير اللغوي.

الكلمات المفتاحية: الإختلاف اللغوي، تغيير اللغة، الشاوية، الاقتراض المعجمي

Resumé

La présente étude a pour objectif d'étudier le changement de langue au niveau lexicale dans la variété Chaoui du Berbère. L'étude vise à répondre aux questions liées aux caractéristiques linguistiques qui limitent le changement de langue et aux implications sociales de ce changement. Afin de répondre à cet objectif, une approche méthodologique mixte est développée où une liste de mots est traduite en chaoui pour examiner les traces d'influence arabe et française. La liste traduite comprend 1500 éléments de sens qui sont adoptés à partir de la liste de sens de la typologie des mots d'emprunt où chaque élément est présenté à dix locuteurs natifs du dialecte chaoui. Les traductions obtenues sont comparées. Les résultats de la présente étude montrent que l'arabe est la principale langue donatrice pour l'emprunt. De plus, l'étude montre que la catégorie grammaticale du mot et le champ sémantique auquel il appartient sont les principaux facteurs linguistiques qui declanchent le changement.

Mots-clés: variation de la langue, changement de langue, Chaoui, emprunt lexical

Summary

The present study has the goal of investigating lexical language change in the Chaoui, a Berber variety. The study seeks to address questions related to the linguistic features that constraint language change and the social implications of that change. In order to attend to this objective, a mixed-methods approach is developed where a list of words is translated to Chaoui to examine traces of Arabic and French influence. The translated list includes 1500 meaning items that are adopted from the Loanword Typology meaning list where each item is presented to ten native speakers of the Chaoui dialect. The obtained translations are compared and non-fitting ones are ruled out. The findings of the present study show that Arabic is the main donor language for borrowing. Moreover, the study shows that the grammatical category of the word and the semantic field to which it pertains are the main linguistic factors that trigger change.

Keywords: language variation, language change, Chaoui, lexical borrowing