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A GRAMMAR OF AMAZIGH

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Introduction

The grammar of Amazigh presented in this book is a descriptive simplified grammar of the language. It draws from a number of previous Amazigh grammars, particularly Sadiqi's (1997) *Grammaire du Berbère* and Abdul-Massih's (1991) *Grammar of Tamazight*. This book is aimed at contributing to facilitate the standardisation of Amazigh at a time when the teaching of the language has become a reality. Descriptive grammars of the Amazigh language are necessary for writing primary school textbooks, with the aim of teaching Amazigh for the first time in the history of Morocco.

We have not presupposed any apriori particular theoretical framework in the writing of this grammar, but we use widely adopted and cross-theoretical broad concepts in modern linguistics such as the notion of the phoneme, that of a morpheme, or that of a subordinate clause. In an effort to be as clear as possible, we capitalized more on delineating the major aspects of the language that cannot be circumvented in the teaching of, or writing about, Amazigh as a language.

This book contains three major chapters: phonology, morphology, and syntax. The chapters are inter-related in the sense that each one of them feeds into the others and a combination of the three constitutes the grammar (in its broadest sense) of Amazigh.

The first chapter deals with the major aspects of Amazigh phonology: the phonemes, their distribution, the suprasegmentals (stress and intonation), the syllable, and

some phonological rules. The phonological account provided is based on the phoneme as a unit. An understanding of the phoneme and other related elements is helpful in understanding the combination of phonemes to form words, and the combination of the latter to form sentences.

The second chapter focuses on morphology. It deals with the nature of Amazigh words and explains how these words are formed and what functions they assume in the sentence. The inflectional and derivational aspects of Amazigh morphology are presented and illustrated.

The third chapter is about the syntax of Amazigh. The syntax of this language constitutes the maximal level of standaridsation. It is at this level that the uniformity of Amazigh structure is most apparent and it is this uniformity that makes of Amazigh one single language. In this chapter, simple, copular, and complex sentences, as well as the major markers of each type are surveyed and illustrated.

In writing this grammar at this particular time, we hope to contribute to the standarisation and efficient teaching of the language.

As any description has to be based on a specific variety or dialect, this book starts with the broad linguistic characteristics of the Ayt Hassan and Ayt Bouzid dialects (spoken in Azilal and Beni Mellal areas, respectively). We tried to consider aspects that are likely to be shared with other dialects and did not focus too much on the specificities of the dialects mentioned above. Our overall description is meant to be used as a starting point for more comparison and standaridsation.

Chapter One

Phonology

Introduction

Phonology is often associated with phonetics in modern linguistic studies. This association may be attributed to two things: first, the fact that both phonology and phonetics are research domains that share the same object of analysis: the sounds of human language. Second, the fact that there is an interdependence between the methods used in both fields.

However, phonetics is different from phonology in the sense that the former is more general than the latter and covers all the sounds produced or perceived by human beings, whereas the latter is more specific and centered on the study of the distinctive function of sounds in particular languages. More precisely, phonetics is a science which provides the necessary tools for analyzing the physical particularities of different language sounds in terms of their production (articulatory phonetics), their transmission (acoustic phonetics) and their perception (auditory or perceptive phonetics). These tools are often used in phonology to identify the linguistic functioning of the sounds in a given language. Given the nature of these

phonetic tools, phonological studies of languages may in principle be carried out on the basis of articulatory, acoustic, or auditory traits of language sounds.

In this chapter, we provide an overview of Amazigh phonology with an emphasis on the articulatory properties of the distinctive sounds. This overview is meant to facilitate acoustic and auditory accounts of the Amazigh sounds. In this phonological account, we aim at singling out not only the characteristics, but also the distribution of the sounds which are "indispensable" for making up words and which, thus, constitute the phonological system of Amazigh. The importance of singling out the distinctive sounds cannot be overemphasized in a language like Amazigh where the greatest variation among various dialects is attested first and foremost at the sound level. Many Moroccan and non-Moroccan linguists have studied, with more or less details, the phonological specificities of the Amazigh varieties belonging to various geographical areas: Biarney (1911), Laoust (1918, 1927), Basset (1929, 1952), Galand (1953), Applegate (1959), Prasse (1959), Williams (1965), Penchoen (1973), Chaker (1973, 1975, 1984), Saib (1974, 1976, 1981), Guerssel (1977, 1983), Chami (1979), Taifi (1979), El Moujahid (1981), Boukous (1979, 1982, 1987), Bentolila (1981), Chtatou (1982, 1991, 1994), Ameur (1985), Cadi (1987), Adnor (1995), and Sadiqi (1997), among many others.

This chapter is organized into five major sections, each dealing with a specific aspect of the phonological system of Amazigh. The first section presents the phonemes of Amazigh. These phonemes, also called segmental units, are of two major types: consonantal phonemes and vocalic phonemes. Although both types are

primary, consonantal phonemes may involve superposed articulation as in the case of emphasis or length. The second section deals with three major suprasegmental phenomena in Amazigh: stress, pause, and intonation. The third section focuses on the major phonological processes in Amazigh: assimilation, dissimilation, insertion, substitution, reduplication, and deletion. The fourth section deals with the notion of the syllable and its major characteristics in Amazigh. Finally, the fifth section focuses on basic and most common phonological rules in Amazigh.

Phonemes

A major aim of a phonological study of a given language is to single out the sounds that possess an independent phonological identity which would make them distinctive in that language. Distinctiveness in phonology means ability to distinguish between the meanings of two words. In order to single out distinctive sounds, phonologists use specific tests by means of which two words containing the same sounds except one have different meanings, the hypothesis being that the difference in the meanings of these words is attributable to the 'different' sound.

The two words involved in such "commutation tests" are referred to as "minimal pairs". For example, the phonemes /p/ and /b/ are said to be distinctive in English in view of the fact that they can distinguish between the English words *pat* and *bat*, *lap* and *lab* which both contain the same sounds except /b/ and /p/ respectively. In principle, the phonological oppositions between phonemes

may take place at the beginning, in the middle, or at the end of a word.

Phonemes are, thus, *minimal* distinctive units that do not have a meaning of their own but are capable of changing the meaning of words. Various schools of phonology such as the structuralist school and variants of the generative school adopted or, at least, assumed, this definition. Although this definition is based on articulatory characteristics, Jakobson (1960) maintained that phonemes are in reality bundles of articulatory and acoustic traits which are realized simultaneously.

Without going into complex theoretical assumptions, one can easily state that whatever decomposition of phonemes one adopts, phonemes are recognizable entities in a particular language; they indeed constitute the "phonological inventory" of this language, a finite stock of sounds that have a real role in the overall grammar of a language. Each language has its own phonological inventory, and phonemes that appear in various languages do not have the same pronunciation because each language combines sounds in a specific way. The concept of *phoneme* has is considered in this book as a useful tool in the phonological analysis of Amazigh.

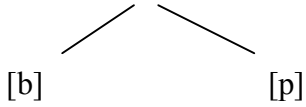
At the level of phonological analysis, phonemes are useful constructs or abstract units. The realizations of these phonemes in speech are called "allophones". Allophones need to share some articulatory or acoustic traits. When allophones of the same phoneme appear in the same phonetic environment, they are said to be in *free variation* and when they appear in different phonetic contexts, they are said to be in *complementary distribution*. In the two cases, allophones of the same

phoneme never change the meanings of words. For example, /b/ is a phoneme in Amazigh (as is illustrated below) which is realized as either [b] or [p]. These two allophones are contextual variants which have no influence on the meaning of words in Amazigh. The two allophones are mainly attested in words that are borrowed from French where [p] is indeed a phoneme:

(1) a.	[lbaju]	[lpju]	"type of fish"
b.	[lb∂rtma]	[lp∂rtma]	"apartment"

The phoneme /b/ in Amazigh may, thus, be represented as follows (the // notation is usually used for phonemes and the notation [] for allophones):

(2)



In the phonological systems of languages, there are two categories of sounds or "segments" which may function as phonemes: consonants and vowels. Consonants and vowels are basic; for example, they are the only categories that may constitute syllables in a natural language. Apart from segments, other types of sounds, supra-segmentals, such as intonation, may have a distinctive role in natural languages as will be shown in due course.

Consonants

Primary phonemes

Consonants in Amazigh constitute a closed and complex system. The number of these phonemes is limited. Two major parameters are taken into consideration in the delimitation of consonants: the place of articulation and the manner of articulation. It is true that the presence or absence of vibration in the vocal cords during the production of specific consonants may allow us to distinguish other consonants, but strictly speaking, this opposition pertains to the manner of articulation.

The place of articulation specifies the organs of the articulatory trajectory that are directly responsible for the production of a given consonant. As for the manner of articulation, it characterizes the manner in which the air coming from the lungs is modified by the articulatory organs; thus, the passage of air (breath) may be either completely or partially obstructed by an organ of speech. As such, vibration allows us to differentiate between two consonants having the same place and manner of articulation but whose articulation is accompanied or not by vibration in the vocal cords. When an articulation of a sound is accompanied by vibration, the sound is said to be *voiced* and when it is not, the sound is said to be *voiceless*.

Table 1 below groups Amazigh consonants. The vertical line represents the place of articulation and the horizontal line the manner of articulation. Emphasis is shown by capitalization. We adopted IPA (International

Phonetic Alphabet) in singling out the phonemes of Amazigh[1].

Table 1

	Lab	Lab-Dent.	Alve.	Post-alve.	Pal	Vel.	Uvul	Phar	Glo
Stop	b		t d T D			k g	Q		?
Nasal	m		n						
Fricative		F	s z S Z	ʃ j		x ɣ		h ʕ	h
Lateral			l						
Rolled			r						
Semi-Vowels	w				y				

Table 1 represents the major consonants of the dialects under study. These are attested in all the Amazigh dialects (see the list of references given in the introduction to this chapter). All the distinctive units which are shown on the table are the result of primary articulations and are not conditioned by any context. There are, thus, 27 consonantal phonemes. A brief phonological description of each phoneme is given below.

The phoneme /b/ is voiced, labial, stop. This consonant does not have a voiceless counterpart in

[1] Lab = labial, Lab-Dent = labio-dental , Alv = alveola, Post-Alv = post-alveolar, Pal = palatal, Vel = velar, Uvul = uvular, Phar = pharyngeal, and Glot = glottal.

Amazigh, but it has allophonic variations; for example, it regularly replaces /p/ in borrowings from French:

(3) a. abrid "path"
b. lbayas "bed (from the French 'paillasse')"
c. lbikub "pickup"
d. lbulis "police"

The phoneme /b/ is often attested in the positions that precede voiced consonants or vowels. When /b/ precedes a voiceless consonant, it tends to be devoiced, as in the following example:

(4) a. [ib^{h}awn] "beans"
b. [ab^{h}rway] "grain dish"

The phoneme /t/ is voiceless, alveolar stop. More precisely, this consonant is "apico-alveolar" as the tip of the tongue is not in contact with the teeth. /t/ has many allophonic variations which are restricted by the phonetic contexts in which they occur. For example, this phoneme is slightly aspirated when preceding a vowel or when occurring in the final position:

(5) a. t^{h}asa "liver"
b. yiwit^{h} "he took it"

This phoneme is not aspirated (hence the absence of the diacritic in the following examples) in the following contexts: when following a consonant, appearing between two vowels, between a consonant and a vowel, or between a vowel and a consonant:

(6) a. isti “he classified”
b. aftal “couscous”
c. tisitan “cows”

The phoneme /T/ is an alveolar stop, emphatic and voiceless consonant.

(7) a. TiT “eye”
b. awTuf “aunt”

The phoneme /d/ is an alveolar stop voiced consonant. Like /t/, /d/ is an apico-alveolar. This phoneme is the voiced counterpart of /t/. /d/ often precedes voiced consonants and vowels:

(8) a. afud “knee”
b. adis “belly”

The phoneme /D/ is an alveolar stop, voiced and emphatic consonant:

(9) a. aDar “foot”
b. aDu “wind”

The phoneme /k/ is a velar stop voiceless consonant. This consonant has allophonic variations. It is often aspirated when initial in a word and when it is followed by the vowel /a/:

(10) a. $ak^huʃam$ “handicapped”
b. ik^htlan “clothes”

This phoneme looses its aspiration when it appears between two vowels and becomes [ç], the counterpart of the fricative /k/:

(11) a. içid "wild plant"
b. içDa "he smelled"

The phoneme /g/ is voiced, velar, stop. It is the voiced counterpart of the phoneme /k/. This consonant precedes vowels and consonants. In front of the vowel /u/, /g/ acquires a superposed articulation: it becomes labialised:

(12) a. tag^{w}nt "door"
b. g^{w}z "go down"

However, this characteristic is not pertinent at the level of meaning in the dialects under study, but may be so in other dialects such as the Ayt Ndhir dialect: *aGa* "check" and *aG*^{w}*a* "burden".

The phoneme /q/ is a voiceless, uvular, stop:

(13) a. qim "sir down"
b. aqmu "face"

The phoneme /?/ is a glottal stop voiced consonant:

(14) a. ?afus "hand"
b. ?imi "mouth"

The phoneme /m/ is a nasal labial consonant. In the case of nasal consonants in Amazigh, as in presumably all natural languages, voice is redundant and non-distinctive. /m/ is often present in the vicinity of vowels, either preceding or following them. This consonant appears, thus, in the contexts [V____V], [C____V] and [V____C].

(15) a. amud "grain"
b. umlil "white"
c. im∂nsi "dinner"

When it precedes or follows a consonant, /m/ may become syllabic in the sense that it constitutes a syllable on its own (see below). However, when /m/ is between two consonants, it is often followed by a schwa:

(16) a. mtl "disappear"
b. is∂mtl "he hid"

When /m/ precedes a voiceless consonant, it tends to be devoiced:

(17) a. am∂ksa "shepherd"
b. am∂dlu "clouds"

The phoneme /n/ is an alveolar nasal consonant. Like /m/, it often appears between two vowels, a consonant and a vowel, or between a vowel and a consonant:

(18) a. anb∂D "command"
b. inwa "it is cooked"
c. anf "open"

Like /m/ also, /n/ does not occur between two consonants without the presence of a vowel or a schwa. In such phonetic contexts, the phoneme /n/ is often syllabic:

(19) a. sə̀nfl "hide"
b. sə̀ns "give shelter for the night"

When it precedes a velar consonant, that is /k/ or /g/, /n/ adopts the place of articulation of the latter and becomes [ŋ]:

(20) a. iŋkr "he got up"
b. giŋgid "wild plant"

The phoneme /f/ is a labio-dental fricative voiceless consonant. Like /b/, /f/ does not have a voiced counterpart in Amazigh. This consonant does not undergo significant phonetic restrictions in this language. It tends to occur in front of vowels and voiceless consonants. /f/ may precede a voiced consonant as in (21c) below, in which case it becomes subject to the general constraint which stipulates that in Amazigh, as in Moroccan Arabic, the schwa never occurs in an open syllable:

(21) a. afa "fire"
b. ifri "hiding place"
c. fDr "eat breakfast"

The phoneme /s/ is an alveolar fricative voiceless consonant. This consonant has allophonic variations

depending on the phonetic contexts in which it occurs. When preceding a voiced consonant, it is often followed by a full vowel or a schwa:

(22) a. iswa "he drank"
b. as∂gn "pile"

The phoneme /S/ is an alveolar voiceless emphatic consonant. Here are some examples:

(23) a. iSiD "rabies"
b. aSmiD "cold"

The phoneme /z/ is an alveolar fricative voiced consonant; it is the counterpart of the voiceless consonant /s/.

(24) a. tizwit "bee"
b. izikr "cord"

The phoneme /Z/ is an alveolar fricative voiced emphatic consonant:

(25) iZi "organ"

The phoneme /ʃ/ is a post-alveolar fricative voiceless consonant. This consonant does not seem to be subject to specific phonetic restrictions. However, it necessitates the insertion of a schwa when it precedes a voiced or voiceless consonant:

(26) a. aʃniD "young horse"
b. iʃ∂D "he slipped"

The phoneme /j/ is a post-alveolar fricative voiced consonant. It is the voiced counterpart of the voiceless consonant /ʃ/. /j/ does not seem to be restricted phonetically. When it precedes another voiceless consonant, /j/ tends to be devoiced and become [ʃ]:

(27) a. ijgugl "it hang"
b. aħ∂njif "handful"
c. ijja "it smells good"

The phoneme /J/ is an apico-alveolar fricative voiced emphatic consonant. Here are some examples:

(28) iJJa "it smells bad"

The phoneme /x/ is a uvular fricative voiceless consonant. This consonant is not subject to any significant phonetic variations. Consider the following examples:

(29) a. uxsas "head"
b. taxamt "tent"

The phoneme /ɣ/ is a uvular fricative voiced consonant. /ɣ/ is the voiced counterpart of the voiceless consonant /x/, both being fricative and uvular. /ɣ/ shares with /q/ the place but not the manner of articulation: /q/ is uvular but /ɣ/ is fricative. Here are examples:

(30) a. aɣaras "path"
b. iɣ∂S "bone"
c. aɣulid « rock »

The phoneme /ħ/ is a pharyngeal fricative voiceless consonant. This consonant is not subject to important phonetic restrictions. However, /ħ/ is often followed by a full vowel or a schwa when it precedes another consonant as the following examples show:

(31) a. aħ∂ndir "wool blanket"
b. aħidus "Amazigh dance"

The phoneme /ʕ/ is a pharyngeal fricative voiced consonant. This consonant is the voiced counterpart of the voiceless consonant /ħ/. Consider the following examples:

(32) a. aʕyal "boy"
b. ʕayd "let's go!"

The phoneme /h/ is a glottal fricative voiced consonant. This is illustrated by the following examples:

(33) a. ahdun "hood"
b. ih∂rkas „shoes"

The phoneme /l/ is an alveolar lateral voiced consonant. This consonant is often preceded or followed by a vowel in the dialect under study:

(34) a. alim "straw"
b. ils "tongue"
c. ulawn "hearts"

When the consonant /l/ is followed or preceded by another consonant, it may become syllabic:

(35) a. imDl "he buried"
b. atfl "snow"

In (35b), [t] is originally [d] which then it loses its voice under the influence of the voiceless consonant [f] which follows it: d ----> t /____f.

The phoneme /r/ is an alveolar non-lateral rolled consonant. All rolled consonants are voiced. This consonant has an important number of allophonic variations. First, it often precedes a vowel or a semi-vowl:

(36) a. irukutn "utensils"
b. irw∂l "he run away"

/r/ may also appear between two vowels or between a vowel and a consonant:

(37) a. ira "he wants"
b. irkan "dirt"

Between two fricatives or two nasals, the phoneme /r/ loses it consonantal quality and becomes an almost reduced vowel:

(38) a. /mr#n#ddi/ → [m∂nddi]
b. /frfr/ → [f∂f∂]

Note that there is a constraint on the behavior of the schwa in Amazigh: generally, a schwa is not followed by the string CV (*/____CV/) and does not occur at the end of a word (*/____##). However, we may state that [f∂f∂]

in (38b) is an onomatopea and, as such, constitutes an exception to this constraint.

When it precedes a consonant, the phoneme /r/ may become syllabic as in [rnu] "defeat" or [rxu] "be easy".

The phoneme /w/ is a velar labial semi-consonant. As in all natural languages, /w/ has a double aspect: it is consonantal and vocalic; hence its appellation "semi-consonant" or "semi-vowel". /w/ lacks inherent consonantal properties but behaves like a consonant:

(39) a. am∂rwas "debt"
b. iww∂t "he hit"

Like /w/, the phoneme /y/ is a semi-consonant. It is a voiced, palatal, fricative:

(40) a. ayyis "horse"
b. aγyul "donkey"

Overall, the inventory of Amazigh phonemes shows that most of the phonemes allow allophonic variations. In addition, most of them are opposed in terms of the presence or absence of voice. The majority of the phonemes described above appear in all Amazigh dialects.

As in all natural languages, Amazigh phonemes may form *natural classes*. A "natural class" is constituted of two or several consonants that share a distinctive trait such as the place of articulation, the manner of articulation, or the presence/absence of voice. Thus, [*t, d, s, z, l, r*] form a natural class in view of the fact that they share the same place of articulation: the alveolar region. Similarly, [*f, s, x, h, z*] form another natural class as they share the same manner of articulation: they are all fricative, and [*b, m, n,*

d, γ, h, w, j] form yet another natural class as they are all voiced.

Secondary Phonemes

Secondary or "superposed" articulation operates on an already established primary articulation. Consequently, superposed phonemes share with their primary counterparts the fundamental articulatory traits: the place of articulation, the manner of articulation, and the presence or absence of voice.

All consonants in Amazigh are subject to secondary articulation which modifies the phonetic quality of the primary consonants and sometimes creates supplementary distinctive functions. There are five types of secondary articulation in Amazigh: emphasis, length, labialisation, palatalisation, and nasalisation.

Emphasis

Phonetically, emphasis, also called pharyngealization, is instantiated by the retraction of the root of the tongue and, consequently, a reduction of the passage of air accompanying the production of a given sound. Pharyngealized consonants need to be distinguished from pharyngeals. The latter have the same phonological status in the minimal pairs which oppose them to corresponding non-pharyngeals. Thus, /z/ in /*izi*/ "fly" and /Z/ in /*iZi*/ "organ" are not conditioned by any context. As for pharyngealized consonants, they are conditioned by the emphasis of a neighboring sound. In fact, all the sounds (vowels and consonants) that occur in the vicinity of an emphatic consonant are pharyngealized. Contrary to pharyngeals, pharyngealized consonants are

subject to contextual variations and, hence, are not included *table 1* above.

Apart from consonants that are emphatic by nature such as /T/, /D/, /S/, and /Z/, and which are included in the table of phonemes, all the other consonants may be subject to pharyngealization if they occur in the vicinity of these pharyngeals:

(41)	a. TamTTuT	"woman"
	b. tuJJut	"bad small"
	c. iSiD	'rabies"

All the sounds, in the words in (41), including the vowels are phrayngealized by virtue of the fact that they occur in the context of pharyngeals. This phonetic "contamination" is due to the great extent of the muscular contraction that accompanies the pronunciations of pharyngeals.

Length

Length, duration, or gemination is the second type of superposed articulation. Length may be defined as the "doubling" of the same consonant at the level of articulation and, hence, like emphasis, necessitates greater muscular energy. In speech, phonetic traits, as well as the phonetic environment of the consonant, have a direct influence on the presence or absence of length in the pronunciation of this consonant. For more detailed studies on length in various Amazigh dialects, see Galand (1960), Chaker (1975), Chami (1979), and Ameur (1985), among others. Recent studies of length in Amazigh are more

geared towards the acoustic rather than the articulatory aspects of sounds.

In principle, all Amazigh consonants may be subject to length. Consonantal length is distinctive at the phonological and morphological levels in Amazigh. At the phonological level, length may change the meaning of two words:

(42) a. ili "marry" & illi "my daughter"
b. tla "she married" & tlla "she is here"
c. su "drink" & ssu "irrigate"

At the morphological level, length in Amazigh may result either in an opposition between the aorist (neutral) form or the intensive (present continuous) of the same verb or in an opposition between the finite or the causative form of the same verb. The latter opposition may also be considered the result of assimilation:

(43) a. kDu "smell" & kDDu "be smelling"
b. izri "he passed" & izzri "he made somebody pass"

In (43a), *kDu* is the neutral form of the verb which is generally used in the imperative: *kDu talwrt!* "smell the rose!", whereas *kDDu* denotes an action which is generally used in the intensive aorist or present continuous: *ar-i-kDDu talwrt* "he is smelling the rose". In (43b), *i-zri* "he passed" becomes *i-s-zri* (causative form given the presence of the causative morpheme *s*). In this case, the proximity of [s] and [z], which share the same

place and manner of articulation, causes the complete assimilation of the consonant [s] by the consonant [z] and, hence, "voices" /s/ (assimilation in in Amazigh is dealt with below).

Long consonants in Amazigh often appear before or after *a* with which they constitute a syllable. According to Chaker (1975) and Ameur (1985), long consonants of the Amazigh dialects they studied have a unique morpho-phonological status: they are perceived as one, not two, consonants.

Length in consonants differs from a dialect to another in Amazigh. It is, thus, difficult to generalize in this domain. Length is analyzed from an acoustic point of view by Chaker (1975) who attributes an essentially morphological role to it.

The vowel following a long consonant is not affected by this length. For example, the voiced stop which is lengthened in [*i-dda*] is "longer" than its voiceless counterpart in [*i-ttu*], and the vowel which precedes [d] is, consequently, shorter than the one preceding [t]. As for the vowels [a] and [u], they are not affected by the lengthened consonants in question.

Labialization

Labialisation is attested when a consonant, namely the velars [k] or [g], is accompanied by the rounding of the lips which is realized as [^{w}] right after the consonant. The labialised consonant may be simple or lengthened. In Amazigh, labialisation may be distinctive (or phonemic), as in (44a) below or non-distinctive (or phonetic), as in (44b-c):

(44) a. /ig^{w}ra/ "frogs" & /i-gra/ "he threw"
b. /tagg^{w}rt/ & [taggurt] "door"

Apart from emphasis, length, and labialisation, which are secondary distinctive articulations, another important but non-distinctive secondary articulation in Amazigh is palatalization. Palatalization is a phonetic phenomenon in which the center of the tongue is slightly lifted towards the palate during the pronunciation of a consonant. The consonants that are subject to palatalization are followed by the [i] or [j] sounds. Lateral consonants are the most affected by this process in Amazigh. Palatalisation is not a distinctive process in Amazigh in the sense that it has no influence on the meaning of words:

(45) a. ʔabyaς & ʔab^{i}yyaς "spy"
b. azyðn & ʔaz^{i}jyn "messenger"
c. blah & bl^{i}ah "by God!"

Consonant Distribution in Words

The distributional possibilities in Amazigh words are regulated by phonotactic rules which operate inside words. In principle, consonants may be juxtaposed and, thus, form clusters or sequences of consonants that are not separated by a schwa or a pause. These clusters may appear in the initial, medial, or final position of words (see Boukous 1987 for more details on this point).

It is important to note that clusters do not involve identical consonants. Thus, a stop does not form a cluster with another stop, but it may form one with a fricative: [t] and [k] form clusters in the following words:

(46) a. atfl “snow”
b. ifta “he opiniated”
c. ks “guard sheep”
d. isk “corn”

On the other hand, a voiced stop like [b], [d] or [g] may be followed by a voiced fricative like [z] or [ʃ]:

(47) a. gzul “be short”
b. d∂z “peel”
c. adj “leave”

Likewise, [r], [m], [n] and [l] are voiced consonants which often form clusters with voiced or voiceless stops (see Saib 1977 and 1981 for more details on this point):

(48) a. ils “tongue”
b. ism “name”
c. sni “take up”
d. asmun “companion”

The juxtaposition of consonants is, however, often interrupted by the insertion of a schwa. The schwa often appears between two non-identical consonants which do not constitute a cluster:

(49) a. rD∂l “lend”
b. rz∂m “deploy”
c. rk∂l “kick”
d. lk∂m “arrive

In a cluster of three consonants, the schwa often appears either between the first and the second consonants or between the second and the third consonant provided that the two consonants in question do not form a cluster.

Thus, the possibility of having or not having a cluster in Amazigh depends on the nature of the consonants in question, as well as the syllabic possibilities of this language. The parameters of the place and manner of articulation also play a role in the choice of the consonants constituting clusters. In sum, the possibilities of juxtaposition are generally complementary, a fact which proves that they are systematic.

Vowels

The articulation of vowels is different from that of consonants. Contrary to consonants, which result from the modifications of the restrictions of the air coming from the lungs, vowels are generally characterized by a relatively free passage of this air through the pharynx, the mouth cavity, and the nasal cavity in the case of nasalized vowels. We should, however, point out the modification of the oral and nasal cavities according to the degree of the raising or retraction of the tongue; thus [i] is a more closed vowel than [u] in view of the fact that in the case of the former the tongue is raised, whereas in the case of the latter it is retracted.

Vowels are accompanied by spontaneous voicing; this is the reason why they are by definition voiced. Two criteria distinguish vowels from consonants: first, vowels are not accompanied by important restrictions resulting from a narrowing of the articulatory organs which produce them. Second, vowels are all accompanied by vibration at

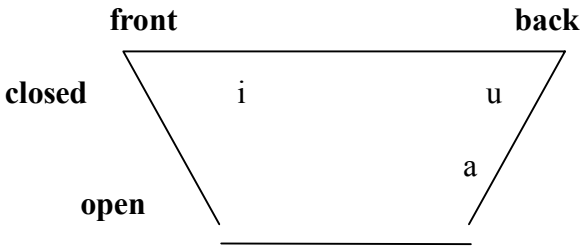
the level of the vocal cords, hence, they are all voiced. These two characteristics attest to the fact that vowels are the nucleus of syllables (see below).

The vocalic system in Amazigh is constituted of three basic vowels which function as phonemes: /i/, /a/, and /u/. Each one of these vowels is subject to more or less important modifications when occurring with other consonants or vowels. The three vowels may, thus, be more or less open, more or less long, or more or less emphatic according to the phonetic environment in which they occur. These modifications do not affect the meaning of words.

Three parameters are taken into consideration in the phonological description of vowels: first, the position of the tongue, which may be more or less fronted or more or less retracted. Second, the distance between the articulatory organ (e.g. the tongue) and the place of articulation, which may be more or less open or more or less closed. Third, the form of the lips, which may be more or less rounded or more or less spread.

In *table 2* below, the positions of the tongue are recorded on the horizontal line of the diagram and the degree of aperture on the vertical line:

Table 2



A description of the three vowels is provided below.

The segment /i/ is a front, closed, non-rounded vowel. In the production of this vowel, the tongue is fronted, distance between the two jaws is narrowed, and the lips are stretched. /i/ either precedes or follows a consonant or appears between two consonants:

(50) a. ilm "skin"
b. imi "mouth"
c. sin "two"

In general, the phoneme /i/ is realized as [i], [e] and [j] in Amazigh:

(51) a. mind "in front of"
b. eferD "field"
c. /i#annay/ → [yannay] "he saw"
d. /da#i-tt-ini/ → [dayttini] "he says"

In relation to (51c) and (51d), the variant [y] is a palatal semi-consonant palatal. This allophonic variant appears in the environment [----*V*], that is, before another vowel.

The segment /u/, it is a closed, back, rounded vowel. In the production of this vowel, the back of the tongue is retracted towards the back of the mouth and the distance between the jaws is reduced. As for the lips, they are rounded. This vowel is attested before or after a consonant; it may also be realized between consonants:

(52) a. udm “face”
b. ddu “go”

/u/ becomes [uw] in front of a vowel, between two vowels, or between a consonant and a vowel, or a semi-vowel:

(53) a. [su#at] → [suwat] “drink!” (plural)
b. [ddu#at] → [dduwat] “go!” (plural)

In addition, in a pair like [*lkwatru*] “game of cards” and [*lkwatruwat*] “games of cards”, the final vowel [*u*] of [*lkuwatru*] is followed by the semi-consonant [w] when it precedes an affix that begins with a vowel: [*at*]. This results in the insertion of [w] between the vowels:

(54) [lkwatru#at] → [lkwatru#w#at] “game of cards”

As for the vowel /a/, it is a front and open. This vowel is produced by the raising of the tongue towards the palate. The lips are neutral in the production of this vowel. This vowel occurs before or after a consonants, as well as between two consonants. In such phonetic contexts, it is realized as [æ]:

(55) a. /fas/ → [fæs] “give him”
b. /aslm/ → [æslm] “fish”
c. /fsan/ → [fsæn] “they blossomed”

When this vowel occurs before or after another vowel, the semi-consonants [w] or [y] is inserted between [a] and the following consonant or between two vowels, a

fact which often results in the production of diphtongs that are generally the product of the proximity of two vowels:

(56) a. [a#ur#i#ddu] → [awriddu] "he should not go"
b. [asi#at] → [asiyat] "take it"

In (56a), [a + u] becomes [aw], a diphtong, and in (56b), [i + a] becomes [iya].

Apart from the three basic vowels /i/, /u/ and /a/, Amazigh contains another vowel which seems to be statistically very frequent: the schwa. In general, this vowel is not considered distinctive in the phonological system of Amazigh in the sense that it does not change the meaning of words and is not, thus, a phoneme. As in all natural languages, the schwa is either a reduced form of a given vowel or a vocalic insertion which facilitates the pronunciation of some consonant clusters. Studies on the schwa show that this vowel is regulated by the law of the three consonants (Martinet 1970). According to this law, only two consonants may appear as a cluster in the same syllable, and the occurrence of a third consonant necessitates a schwa between the first and the second consonant or between the second and the third consonants to avoid heavy clusters that are physiologically difficult to pronounce.

Distribution of Vowels in Words

The phonotactic possibilities of vowel juxtaposition in Amazigh result in a change of the quality of vowels according to the nature of the preceding or following consonants. In other terms, the vocalic melody varies according to the consonantal contexts in which vowels

occur. These variations depend directly on the phonetic and sometimes physiological proprieties of the sounds in question or the phonetic context in which they appear. The phonotactic behavior of vowels in Amazigh displays three important characteristics: first, these vowels undergo the influence of the adjacent consonants; second, they favor the insertion of semi-consonants; and third, they are subject to lengthening.

The first characteristic of vowels in Amazigh is that they are directly affected by the adjacent consonants. For example, when following velar, uvular, pharyngeal, or laryngeal consonants, these vowels become more back by virtue of the articulatory qualities of the these consonants (see examples 10, 13, 31 and 33 above). This characteristic of Amazigh vowels is also attested before or after a pharyngealized consonant (see example 41 above).

Likewise, vowels are affected by nasal consonants in the same syllable. Nasalization of vowels is not phonemic in Amazigh:

(57) a. [ãn#zar] "rain"
b. [ãm#ɣar] "old man, father-in-law"

The two vowels which precede the nasal consonants [m] and [n] in (57) above are nasalized under the influence of the nasal consonants in question.

The second characteristic of vowels in Amazigh is that a sequence of two identical vowels is precluded. Thus, the sequence [a + a] gives [awa], [aja] or [∅ + a]. The semi-consonant is an obstruction in comparison with a vowel:

(58) a. /a#iddu/ → [a#iddu] → [ayddu]
"so that he goes"
b. /a#ur/ → [a#ur] → [awr]
"in order not to"
c. /innas/ → [inna#as], [innajas] or [innas]
"he told him"

This phenomenon is attested inside words as well as at the boundaries between words. In fact, in general, when a vowel is final in a word and is immediately followed by another vowel at the beginning of the following word, the resulting vocalic sequence is replaced by a semi-consonant which facilitates the flow of speech. This is related to syllabification (see below).

The third characteristic of Amazigh vowels is that, like consonants, they are subject to lengthening. Vocalic length is attested when the position of the articulatory organs is maintained for a longer time during the pronunciation of a vowel. In general, the articulation of the three vowels out of phonetic context gives the impression that the vowel [a] is often phonetically longer than the vowels [i] and [u] in view of the fact that it is open whereas the other two vowels are closed. However, this remains to be tested, especially that in Moroccan Arabic, for example, there is no significant difference between the intrinsic duration of [a], [i] and [u] (see Benkirane 1982 and Lahlou 1982).

The duration of a given vowel may vary according to its position in the word or according to the nature of the preceding or following consonant. For example, it seems that the duration of vowels is longer in open syllables than in closed syllables (see Benkirane 1982). Consider the following examples:

(59) a. /illa/ → [illaa] "he is there"
b. /ddu/ → [ddU] "go!"
c. /su/ → [suu] "drink!"
d. /aflla/ → [afllaa] "on"
e. /irkti/ → [irkti] "dough"

On the other hand, according to Saib (to appear), the vocalic quantity in Amazigh is essentially due to the stress which falls on the vowel and lengthens it. Contrary to the duration in consonants, duration in vowels is not distinctive in Amazigh. However, the Touareg, a variety of Amazigh, is said to display vocalic oppositions based on length (see Basset 1952 and Galand 1953, among others).

At the end of this section on vowels, it is worth noting that the syllabic types that the juxtaposition of vowels with other segments allows differ according to the nature of the first vowel (see below).

Suprasegmentals

Contrary to segments (consonants and vowels), suprasegmental elements, also called prosodic elements, do not constitute autonomous units that may be easily isolated. As their name indicates, they are elements that accompany consonantal segments (consonants) and vocalic segments (vowels). Given that on the one hand, suprasegmentals stretch beyond segments, and on the other hand, the maximal unit of grammatical analysis is the sentence; suprasegmentals intervene either at the level of the word or at the level of the sentence. However, given the rapid flow of speech, it is sometimes difficult to isolate

with precision the phenomena affecting words and those affecting sentences.

In this section, we treat the major elements which constitute the suprasegmental system in Amazigh: stress, pause, and intonation. Many studies dealt with suprasegmentals in Amazigh. Among these, we may cite: Laoust (1918), Basset (1952), Galand (1960), Prasse (1959, 1972), Willms (1965), Saib (1976), Chami (1979), Abdelmassih (1972), Vycichl (1984), Ameur (1985) and Adnor (1995).

Stress

Stress may be defined as a muscular energy which accompanies the pronunciation of a given syllable in a word. Being an inter-syllabic phenomenon, stress is assigned independently of the phonetic nature of segments. The position and frequency of stress depend on the phonological nature of languages. The domain of stress is often the word, but it may also be the sentence. Stress may be either free or fixed. In the first case, it changes according to the nature of the sequence in which it occurs, and in the second case, it is regulated by specific rules which fix its place in the word. English, for example, is different from French by virtue of the fact that stress in the former constitutes an integral part of the phonological structure of words and may even change the meaning of words (see *ínterest* (N) and *interest* (V) or *desert* "desert" and *desert* "dessert", for example).

In Amazigh, the domain of stress is often the word. However, Amazigh belongs to a class of languages where words are not subject to a specific stress paradigm. In fact,

stress is not phonemic in Amazigh: it does not change the meaning of two words that are otherwise identical in form.

Stress is nonetheless realized in specific positions of Amazigh words. For example, in words of various lengths, the strongest stress often falls on the penultimate vowel of the stem of the word, in the absence of suffixes. Consequently, we notice a reduction of stress on vowels except the last vowel in each word: [*su*] "drink!" [*iγil*] "mountain", [*as∂rdun*] "mule", [*tafunast*] "cow", etc.

If the nominal or verbal stem is followed by an affix containing a vowel, a secondary stress falls on the last vowel of the stem, as well as on the vowel of the affix: [is*∂ran#d*] "mules", [*su#wat*] "drink (plural)", [*tifunas#in*] "cows", etc. As for affixes that contain a vowel and precede the stem, they receive a medial stress, the strongest (or primary) stress being on the last vowel of the stem. The other vowels of the stem do not receive any stress: [*id#lmutur*] "engines", [*i#sdr#t*] "he made it fall", etc.

For Chami (1979), stress in Amazigh depends also on the nature and number of syllables in a given word: a di- or tri-syllabic word is not stressed in the same way as a monosyllabic word in the sense that a monosyllabe is automatically stressed.

For Ameur (1985), stress depends essentially on the consonant receiving it. For example, a pharyngealized consonant affects its vocalic environment. According to the same author, in a context that extends over the word, stress in Amazigh may fall on a specific word to make it prominent in the sentence.

Pause

Contrary to segments, pause is not perceived phonetically as a distinct sound; it is rather perceived as an interruption in a sequence of sounds. It is true that in the flow of speech, the speaker stops frequently to take his/her breath, but it is equally true that these stops are not arbitrary; they are often regulated by phonological rules which underlie a given language. It is this characteristic which renders pause an important phenomenon at the phonological level. There are two types of pause in Amazigh: the pause separating words and the one separating morphemes inside words.

The pause separating words in a sentence is easier to identify. This pause allows us to isolate words in a given language. The native speakers of a language are intuitively conscious of the notion of *word* in their language. Furthermore, a single segment may, in some cases, constitute an independent word in Amazigh (for example, the vocative *a!*, or the prepositions *i* "to" and *s* "with"). In such cases, the pause isolates a single vowel or a single consonant.

As for the second type of pause, it is more difficult to identify by virtue of the fact that it is not often perceived as a pause at the level of language given the extreme rapidity with which speech is delivered. Although these interruptions characterize the sentence and not the word, this type of pause often tends to occur in specific places in the words that constitute these sentences. For example, it seems that in general, the frontier between stems and affixes constitutes a privileged position for a sentential pause.

Thus, it is more probable that a pause takes place after an initial vowel of *i-dda* "he is gone" than that of *isk* "corn" although the two contexts seem to be similar given that the vowels in both cases precede a consonant. The reason is that *isk* is one single morpheme, whereas *i-dda* contains two morphemes: *i* "he" and *dda* "is gone". This type of pause directly affects the nature of the sounds that precede or follow it. The vowel /*i*/ in *isk* "corn" does not have the same duration as the one in *i-dda* "he is gone". In the second case, the /*i*/ is longer and more phonetically distinct because it represents a determined meaning, whereas the /*i*/ of the first word does not have its own meaning; it rather constitutes an integral part of the word. It is to be noted, however, that these statements remain to be tested by studies based on acoustic measures.

Intonation

Intonation is a suprasegmental property which generally spreads over the whole sentence. As a phonological aspect which distinguishes between languages and may affect the meaning of words and sentences, intonation is part and parcel of language.

The fact that Amazigh is still an essentially oral language enhances the importance of intonation not only at the level of prosody but also at the level of syntax. In fact, intonation in Amazigh may be contrastive. In general, there are two major types of intonation in Amazigh: unmarked and marked intonation. Unmarked intonation is falling and neutral; it is typical of declarative sentences where the speakers expresses a statement. From a phonological point of view, unmarked intonation is

characterized by a falling tone on the last vowel of the sentence. Here is an example:

(60) t-ss-nwa Fatima imɔ̀kli.
she-prepared Fatima breakfast
Fatima prepared breakfast.

As for marked intonation, it is often characterized by a raising tone on one or several vowels of the sentence. This is due to the fact that Amazigh is a language where parataxis (juxtaposition of phrases or sentences without any morphological mark) is frequent. The importance of intonation at the syntactic level is manifested in six constructions in Amazigh: yes/no questions, interrogative sentences without morphological marks, coordinate sentences without morphological marks, complement clauses without morphological marks, dislocated sentences, and cleft sentences (see Sadiqi 1997 for syntactic details on these types of sentences).

It is true that in all these types of sentences, the presence and position of syntactic markers are important, but it is on the prosodic level that distinction between these structures is attested. Among these constructions, it is interrogatives which are most affected by intonation in Amazigh. We will start by these.

In general, interrogative constructions in Amazigh may be subdivided into two categories: yes/no questions and simple interrogatives. Yes/no questions often share the same word order with their declarative counterparts and are characterized only by their rising intonation which determines their meaning:

(61) a. i-dda Ahmed s ssuq. (declarative)
he-went Ahmed to market
Ahmed went to the market.

b. i-dda Ahmed s ssuq?

The second type of constructions that are affected by intonation is interrogatives. In this type of constructions, the speaker is not seeking a "yes" or a "no" as an answer, but specific information. These constructions are characterized by a final rising intonation:

(62) a. manasra i-dda Ahmed s ssuq?
when he-went Ahmed to market
When will Ahmed go to the market?

b. ma i-ffγ-n?
who going out
Who went out?

Coordinate sentences constitute the third type of constructions where prosodic contours play a role at the interpretive level. In Amazigh, coordination (of addition) does not involve a morphological mark. Such coordinate sentences depend essentially on intonation for their interpretation. On the phonological level, coordinate sentences have each its own prosodic contour:

(63)

i-ukid, i-ssaγ assid, i-anf tiflut.
he-woke up, he-put on light, he-opened door
He woke up, put on the light, and opened the door.

In (63) above, the prosodic contour falls on the end of each predicate: *i-ukid* "he woke up", *i-ssaγ assid* "he put on light", *i-anf tiflut* "he opened the door". This falling contour results in an intonational interruption which separates the coordinated predicates. These interruptions correspond to pauses. The pauses between predicates are obligatory and their absence leads to ungrammaticality. Although these are coordinated sentences whose meanings are complementary, the separate sentences seem to be independent phonologically given the falling prosodic contours.

The fourth construction that is affected by intonation is the complement clauses without morphological marks. Contrary to coordinate sentences, these constructions are characterized by the same prosodic contour which extends over the main and the subordinate clauses:

(64) i-ggula ur-t-i-ttizar.
He-swore Neg-him-see
He swore not to see him.

In (64) above, there is no intonational interruption between the main clause *i-ggula* "he swore" and the subordinate clause *ur-t-i-ttizar* "not to see him" and, consequently, there is no pause between the two sentences.

The prosodic characteristics of coordinated sentences, on the one hand, and complement clauses without a morphological mark, on the other hand, show that in Amazigh, there is often a parallel between the syntax and the prosody of these constructions: two or several prosodic contours mark constructions that are independent syntactically (coordinate sentences) and the same prosodic contours characterize constructions that are syntactically dependent (complement clauses). Chaker (1984: 126) highlights the role of intonation in the syntactic study of Amazigh:

> *«La différence de structure entre subordination sans marque morphématique et coordination-énumération par juxtaposition repose fondamentalement sur le rôle délimitatif-démarcatif de la prosodie».*

The fifth construction which depends on intonation for its interpretation is dislocated sentences. In these constructions, a phrase, usually nominal, is made prominent in the sentence through syntactic movement either to the initial or the final position of the sentence. The dislocated element is followed or preceded by an obligatory phonological pause as the case may be. This pause is indicated by a comma in (65a) and (65b) below:

(65) a. adlis, i-ara-t Ahmed.
book he-wrote-it Ahmed
The book, Ahmed wrote it.

b. i-ara-t Ahmed, adlis.
he-wrote-it Ahmed book
*He built it Ahmed, the house."

Of the two syntactic movements which result in dislocated elements, it is the movement leftward, that is towards the initial position of the sentence, which is more marked in view of the fact that the initial position is the foregrounded position by excellence.

The dislocated element is related to the rest of the sentence by a specific prosodic contour. It is true that the object clitic *t* "it" in (65b) above signals the movement of the direct object of the verb, but it is the prosody of the sentence which ensures the relation between the dislocated element *tigmmi* "house" and the predicate *ibna-t Ahmed* "Ahmed built it".

Apart from the two basic nominal constituents of the Amazigh sentence, that is, the subject and the object, any other element of the sentence may, in principle, be dislocated:

(66) a. iD∂lli, i-dda Ahmed.
yesterday he-went Ahmed
Yesterday, Ahmed went.

b. tar∂wla, i-rw∂l.
departure he-went away
As for departure, he departed.

Dislocation and its relation to prosody in Amazigh have been largely debated by linguists (see Basset 1952, Galand 1964, Penchoen 1973, Bentolila 1981, Leguil

1982, Chaker 1984 and others). Basset called this phenomenon *anticipation*, given the initial position of the 'thème' or 'initial element in the sentence. Galand (1964) called it 'indicateur de thème'. Chaker (1975, 1984) does not attribute a syntactic function to dislocation; he rather considers as a stylistic and, basically, non-distinctive variation. For example, in a, Amazigh OVS sentence, the direct object undergoes an "intraposition" (movement of a constituent to the initial position of the sentence) without the basic meaning of the sentence being altered. Moreover, there are contexts where two nominal phrases are dislocated without any syntactic marking indicating this movement; in these contexts, only prosody allows the interpretation of sentences:

(67) argaz, imma-s, ur-t-lli.
man mother-his NEG-she-be
*The man, his mother, is not here.

It seems that in Amazigh, dislocation depends essentially on prosodic criteria. This means that the interpretation of constructions where elements are dislocated rests on extra-syntactic procedures such as prosody or pragmatic procedures.

The sixth and last syntactic construction where prosody plays a significant role is clefting. Clefting in Amazigh is syntactically marked by an obligatory morphological mark: the complementizer *a*. For detailed studies on clefting in Amazigh, see Galand 1957, El Moujahid 1981, Ennaji and Sadiqi 1986, Sadiqi 1990 and Cadi 1990, among others.

At the phonological level, it is the specific intonation accompanying clefting that relates the clefted element to the rest of the sentence. For Galand (1957), clefting is a higher degree of dislocation in the sense that although dislocation and clefting involve the prominence of a constituent in a sentence, the latter stresses more this prominence. Here is an example of clefting:

(68) tigmmi, a i-sγa Ahmed.
house cleft marker- he-bought Ahmed
It is the/a house that Ahmed bought.

In general, the moved elements in some Amazigh constructions are linked to the rest of the sentence by prosody. This link between the syntactic and the phonological aspects of sentences is attested in many linguistic analyses and seems to be corroborated by studies on language acquisition (see Selkirk 1982 and Radford 1990, among others).

Phonological Processes

The interaction of segmental and suprasegmental sounds in the process of using Amazigh in daily conversation results in more or less important phonetic modifications that constitute the phonological processes of this language. In general, the segments which form natural classes tend to undergo the same phonological processes.

So far as consonants are concerned, the change may affect their place or manner of articulation. There are, in fact, specific rules and constraints that underlie the phonotactic structure of languages in addition to

universals in this domain (see Sadiqi and Ennaji 1992). Vowels too undergo phonological processes.

Phonological processes in Berber are generally triggered by diverse accommodations that are dictated by the need to achieve maximum efficient communication in the clearest and easiest way. In this section, six phonological processes are considered: assimilation, dissimilation, insertion, substitution, reduplication, and elision.

Assimilation

Assimilation may be defined as a phonological process whereby a segment becomes more or less identical to another segment under the influence of one on the other in a specific phonetic environment. Assimilation is a natural phenomenon which generally results from the rapidity of elocution and the spontaneous need to use the most economical and efficient way to pass on messages verbally. Contrariwise, when words are pronounced in isolation (as when enumerating items in a list for example) or when a person speaks very slowly, assimilation tends to diminish or disappear.

There are two major types of assimilation: regressive and progressive. Regressive assimilation is the most common in Amazigh. It is the result of a partial or total change of a segment under the influence of another segment which follows it immediately. In other terms, in regressive assimilation, the change goes in a "backward" manner in the sense that a segment phonologically affects another segment which precedes it immediately. For example, in Amazigh, when a voiced consonant precedes a voiceless consonant, the voiced consonant becomes

voiceless, and when a voiceless consonant precedes a voiced consonant, the voiceless consonant becomes voiced. This phonological accommodation of sounds may take place either inside words or at the frontiers between words. Examples of the former case are:

(69) a. /isd/ → [izd] "whether"
b. /adf∂l/ → [atf∂l] "snow"
c. /j∂fna/ → [ʃ∂fna/ "basin"

In (69a) above, the voiceless consonant [s] becomes voiced, i.e. [z], under the influence of the voiced consonant [d]. On the other hand, in (69b), [d] becomes [t]: [d] is a voiced consonant which has been devoiced by virtue of being in the vicinity of the voiceless consonant [f]. Thus, [d] → [t] when it precedes [f]. In (69c), [f] is a voiceless consonant and [t], which precedes it, is voiceless and must, in principle, remain voiceless.

Devoicing is an instance of regressive assimilation. Here are examples of the second case:

(70) a. /i#umz#t/ → [y#umst] "he caught it"
b. /s#rs#d/ → [sr#zd] "put it here"

In (70a), the verb *amz* ends with the voiced consonant [z] which becomes voiceless, [s], in the position which precedes the voiceless consonant [t]. This type of regressive assimilation operates between two morphemes: the verb *amz* "catch" and the direct object clitic *t* "him".

Likewise, a voiceless consonant becomes voiced when it precedes a voiceless consonant. In (70b), the verb [*srs*] "put" ends with the voiceless consonant [s]. This

consonant becomes voiced, [z], under the effect of the consonant [d] which immediately follows it. Here also assimilation operates at the frontier between two morphemes.

As for progressive assimilation, it is the result of a partial or total change of a segment under the influence of another segment which precedes it. This is the reverse of regressive assimilation in the sense that a segment influences another segment which follows it immediately (the change is forward). Consider the following example:

(71) /sDr#γ#t/ → [str#γ#t] "I dropped it."

In (71), the second consonant of the word, [d], which is voiced, loses its voice under the influence of the voiceless consonant [s], which precedes it.

Dissimilation

As a phonological process, dissimilation is the counterpart of assimilation. In dissimilation, a consonant becomes "less similar" to another consonant which influences it in a given environment. Contrary to assimilation, which often results in a consonantal change at the level of articulation (voiceless vs voiced or vice versa), dissimilation often results in change at the level of the manner, rather than the place, of articulation. A stop, for example, becomes fricative or vice versa. Thus, when the morpheme *t* "she" is followed by a stem beginning with a stop, it becomes[ç]:

(72) /t#kka/ → [# çkka] "she has been"

In (72) above, the consonant [t],which is a voiceless stop, becomes [ç], a voiced fricative. This change is not, however, regular given that dissimilation is often replaced by the introduction of a schwa:

(73) /t#kka/ --------> [tə#kka]

Insertion

Insertion, also called epenthesis, is a phonological process whereby a segment is inserted in a word or a phrase in a given phonological environment. This process often operates in clusters of two or more consonants. It is more attested in rapid speech where speakers often insert consonants or vowels. For example, the morpheme *ma* in Amazigh, which functions as a future auxiliary, becomes *mad* when it precedes a verb conjugated in the first person singular:

(74) a. /ma#i#nkr/ → [maynkr] "he will get up."

b. /mad#nkr#γ/ → [madnkrγ] "I will get up."

In (74b) above, the element [d] is inserted at the end of the future auxiliary *ma* yielding *mad*.

Substitution

Substitution, as its name indicates, may be defined as the replacement of a phoneme but another phoneme. The most significant example of substitution in Berber is the construct state. In the construct state, the initial vowel of masculine singular nouns such as *algamu* "bridle", *asafu* "spark" or *amugay* "bull" is replaced by [u] in

specific syntactic contexts. When these nouns occur initially in a sentence, a phrase or after a falling intonation, the vowel in question does not undergo any vocalic change. On the other hand, when these nouns appear in non-initial positions that render them syntactically dependent on other preceding constituents, as in the case of preposition complements for example, this vowel becomes [u]:

(75) a. /tama#n#ulgamu/ → [tamanulgamu]
"near the bridle"
b. /i#usi#hmad#algamu/ → [jusihmadalgamu]
"Ahmed took the bridle"

In (75a), the initial *a* of *algamu* "bridle" is replaced by *u*, whereas in (75b) this change is not attested because the noun *algamu*, although non-initial, is not in a syntactic position that is dependent on a verb or a preposition. On the other hand, the postverbal lexical subject is always in the construct state if it begins with the vowel *a*:

(76) /i#Dr##algamu##f#lbhimt/ → [idrulgamuflbhimt]
"The animal's bridle fell."

In (76), the syntactic dependence of *algamu* on the verb *i-D∂r* resides in the subject pronominal affix *i* which expresses the features of number, gender, and person of the lexical subject *algamu*; another subject such as *ilguma* "bridles" necessitates the occurrence of the affix *n* which expresses the third person (masculine, plural): [dr#n##ilguma] "the bridles fell".

Reduplication

Reduplication involves the repetition of a phoneme or a string of phonemes in a given phonetic environment. It is often attested in prepositional affixes beginning with a vowel:

(77) a. [di] "with" → [did-I] "with me"
b. [di] "with" → [did-aγ] "with us"
c. [di] "with" → [did-ak] "with you"

In (77), [d] is repeated in every example. This type of reduplication is not, however, frequent in Amazigh.

Elision

Elision involves the erasure of a phoneme at the beginning or end of a morpheme. This phonological process is often attested when the same phoneme occurs in two juxtaposed morphemes. For example, when the morpheme *t* which accompanies the imperfective auxiliary *ar* occurs with the pronominal affix designating the subject (feminine, singular) *t*, one or two consonants disappear(s):

(78) /ar#t#t#amz/ → [artamz] "she is catching it."

Note with respect to (78) above that the *t* of *artamz* is not long, which excludes the doubling of the same consonant in this case.

In Amazigh, vowels are more often elided than consonants. This phenomenon is linked to syncope and apocope. Syncope is a process whereby a vowel is elided if it is juxtaposed to another stressed vowel as in:

(79) a. /t#lla#tamtut/ → [tllaTmTuT]
"the woman is present."

b. /dda#nt##ti#fullus#in/ → [ddantfullusin]
"the hens went out."

In (79a) and (79b), the first vowel of the subject noun (T*amTuT*, *tifullusin*) falls by virtue of the fact that it follows three consonants. This is an instance of the construct state.

As for apocope, it is a phonological process whereby the final schwa in a word is elided. This elision may also be the result of regressive assimilation. The absence of the schwa as a phoneme in the dialects under study does not allow a proper investigation of apocope.

The syllable

The notion of the *syllable* has always raised the interest of phonologists. However, it is difficult to produce a complete definition of the syllable as this notion is often pervasive. The syllable is generally analyzed at two distinct levels: the phonetic (or universal) level and the phonological (or functional) level which changes according to languages. We will start with the phonetic level.

On the phonetic level, it is the auditory (or perceptive) phonetics theories that allow best a definition of the syllable. According to these theories, in a string of consonants and vowels, it is the vowels that, given their nature, carry the highest peaks of sonority. Thus, the

number of vowels in a string of segments generally corresponds to the number syllables (see Ladefoged 1975).

This approach is universal because in principle, it may be applied to all natural languages. A classical English example is the word *extra* [ekstra]: on the phonetic level, this word contains three peaks of sonority and, in principle, should contain three syllables: [e], [s] and [a]. The delimitation of these three syllables, which is based on the perceptive judgment of native speakers, may encounter difficulty because native speakers divide the word in question differently (see Roach, 1983):

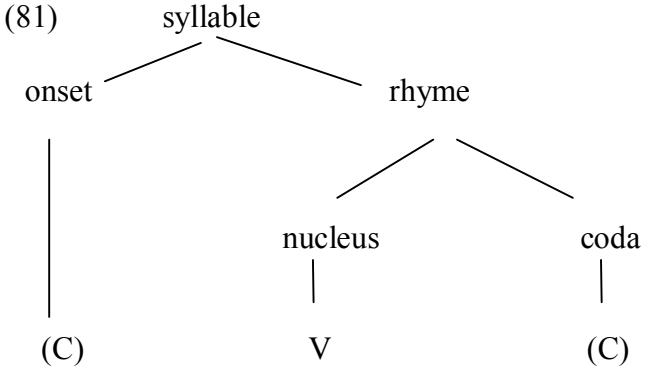
(80) a. [e.kstra]
b. [ek.stra]
c. [eks.tra]
d. [ekstr.a]

However, in spite of phonological intuitive divergences, native speakers admit that the word *ekstra* contains two syllables only on the basis of the fact that it contains two vowels. In fact, the example in (80) above supports the phonetic approach, that is, n vowels = n syllables (Vn = Syll n). In fact, the principle of sonority (prominence) is decisive although it is partly based on the perceptive judgment of native speakers. Note that the notion of *sonority* is not a subjective notion; it is linked to intensity and to the theory of sound openness in languages. Sonority explains a number of phonotactic constraints and may explain syllabic limits.

At the level of phonetic analysis, the internal structure of the syllable is composed of two main elements: the onset and the rhyme. The rhyme is, in turn,

constituted of the nucleus and the coda, and may either branch (as in the case of a closed syllable which ends with a consonant), or not branch (as in the case of an open syllable which ends with a vowel). As for the coda, it is the final element of the rhyme. Whereas the onset and the coda are not obligatory (hence the use of parentheses in example 81 below), the nucleus is strictly obligatory. It is an established fact in the literature since Pike and Pike (1947) that the syllable is formed of an onset and a rhyme, and that the rhyme is composed of a nucleus and a coda as shown below:

(81)



The onset is the part of the syllable which starts the syllable; it may, in principle, vary between one and several consonants (2, 3, and even more in some languages). A syllable which starts with a vowel has an empty onset. In the French word *amer* (sour), for example, the syllabic structure is [*a.mer*] where the initial syllable has an empty onset.

The nucleus is the center of the syllable. The initial syllable of the word [*a.mer*] is composed of a nucleus

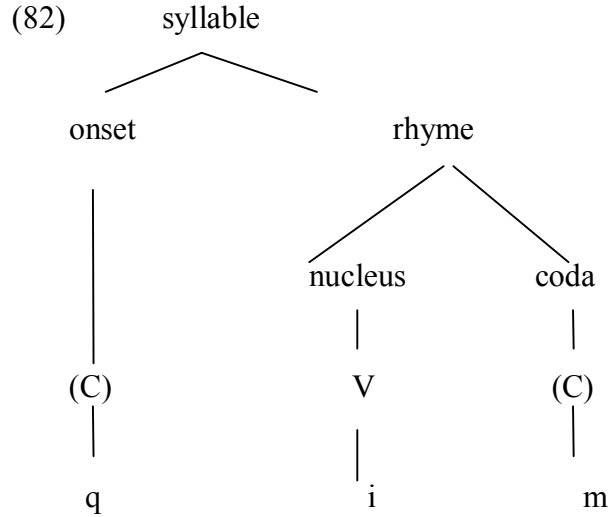
only. In principle, it is vowels which constitute the nucleus of a syllable, but it is not excluded that a consonant constitutes a full syllable, as is shown later in this section.

On the phonetic level, the phonotactic possibilities of language allow us to single out the syllabic paradigms which generate the optimal bisegmental form CV or VC. In each pair of adjacent segments, there is a hierarchy of sonority, hence the tree representation such as the one in (83) below. Whatever the case may be, the sequence CV is considered the universal type of a neutral syllable; no natural language possesses the sequence type VC without possessing the type CV, whereas the inverse case exists.

The phonological definition of the syllable is different from the phonetic one although the latter always serves as a starting point for the former. On the phonological level, the identification of the syllable depends directly on the phonotactic constraints which regulate the phonological structure of a given language. Thus, the segmentation of a sequence of phonemes differs from one language to another given that phonotactic constraints differ from one language to another (see Hyman 1975). For example, a hypothetical word such as [*bla*] may be segmented as [*b.l.a*] (in three units) in a language X, as [*bl.a*] (in two units only) in another language Y, or even as [*bla*] (in one unit only) in a language Z. The major problem that phonologists encounter resides in the identification of the frontiers between syllables in a stretch of speech. What complicates things more is that there are cases where a syllable corresponds to a stress or tone. In Amazigh, the word [*qim*] "sit", for example, may be analyzed as follows: [*q*]

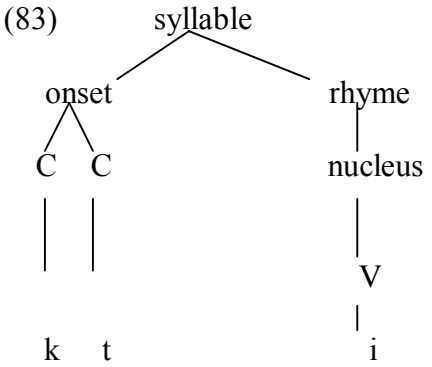
is the onset, [*i*] is the nucleus, and [*m*] is the coda. This may be represented as follows:

(82)



The coda may sometimes be empty in Amazigh, as in [*kti*] “remember”:

(83)



[*qim*] is a closed syllable with a peak and a coda, whereas [*kti*] is an open syllable with an empty coda.

A considerable number of linguists studied the syllable in Amzigh. Among these studies, we may cite Laoust (1918), Williams (1965), Prasse (1959), Abdelmassih (1971), Saib (1976), and Chami (1979). More recently, proposals have been advanced as to the structure of the syllable in Amazigh as well as the phenomenon of resyllabification. Among these propositions, we may cite Bader and Kenstowicz (1984), Elmedlaoui (1985), Dell and Elmedlaoui (1985), Guerssel (1983), Ameur (1985), Boukous (1987, 1990), Chtatou (1991), and Saib (1993).

For these linguists, it is difficult to posit definite solutions as to the nature of the Amazigh syllable. This problem is rendered more complex by the modifications that are engendered by syllable sequences (joints) which often make syllable cutting difficult. For example, Dell and Elmedlaoui (1985), as well as Boukous (1987) state that the schwa does not constitute the peak of a syllable in Amazigh; only consonants and full vowels may constitute such peaks.

However, there seems to be a general consensus on three points that relate to the Amazigh syllable: the manner to obtain a nucleus syllable, the central role of vocalic sonority, and the fact that some consonants may constitute syllables on their own.

In Amazigh, it is frequent that the number of vowels in a word determines the number of syllables in that word. By way of example, in the following words, the number of vowels corresponds to the number of syllables:

(84) a. [ul] "heart": 1 vowel, 1 syllable
b. [a.fus] "hand": 2 vowels, 2 syllables
c. [a.mug.ay] "bull": 3 vowels, 3 syllables

As for syllabic consonants, Amazigh resembles many other languages such as English in the sense that the consonants [*l*], [*m*], [*n*] and [*r*] may constitute syllabic peaks of a the string VC or CV when they are followed by other consonants:

(85) a. [r.Dl] "lend"
b. [sg.dm] "turn down"
c. [sn.fl] "hide"

It is on the phonetic level that Amazigh varieties diverge most; characteristics of syllabification such as the number and nature of the consonants that constitute syllables or the direction of syllabification (from left to right or from right to left), are not addressed in this section.

Syllabification is, in principle, the division of words or sequences of words into syllabic schemas. It is regulated by a universal rule which aims at assigning metrical structure to various sequences of consonants and vowels in a given language. In Amazigh, there exists a sonority principle which regulates the phonotactic constraints which determine the order of segments in this language. The distribution of the consonants and vowels allows us to isolate a limited number of syllable domains. It goes without saying that suprasegmental phenomena such as emphasis, length, stress, pause and intonation have a direct influence on syllabification in Amazigh. In

general, we may isolate eight syllabic schemas in Amazigh:

(86) a. V [a] "he!", [i] "to" (preposition)
b. VC [ul] "heart", [af] "be better than"
c. CV [di] "here", [ma] "what"
d. CCV [kti] "remrmber"
e. VCC [ilm] "skin"
f. CVC [zun] "as"
g. CCVC [krut] "rent it"
h. CVCC [tunf] "she opened"

Apart from (86a), (86c), and (86d) which contain open syllables, the syllables that are listed in (86) above are closed syllables. Note also that more than two consonants may constitute sequences in Amazigh (see 86d, 86e, 86f, 86g and 86h). It is the consonants [*r*], [*l*], [*m*] or [*n*] which often appear in such sequences: [*skr*] "make", [*sg.dm*] "turn doan", and [*sn.fl*] "hide". In such cases, a schwa often interrupts consonantal sequences: [*sk∂r*], [*s∂gd∂m*]. The presence of the schwa does not modify the syllabic structure of these words: [*s.k∂r*], [*s∂g. dm*], and[*s∂n.fl*].

The phonemes that result from emphasis may contribute to the formation of syllables in Amazigh. Thus, a word like [JJ*u*] "smell bad" contains one emphatic consonant. Note that this word is monosyllabic and that in words containing several syllables, as in [*ij∂ntrt*] "he treated him badly", the issue is to localize the extent of emphasis, is it the word or the syllable?

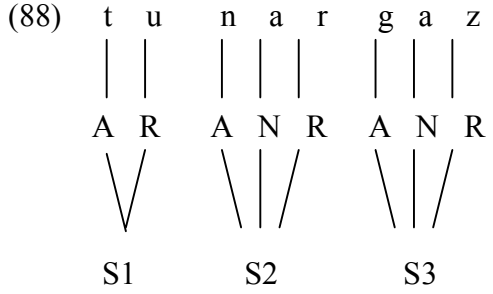
This leads us to state that word or morpheme junction through the association of the last consonant of a word with the first vowel of the following word often

results in resyllabification. Resyllabification reflects the fact that the structure that is attributed to a given syllable on the basis of a given algorithm is never definitive. For example, in situations where a word is isolated from its context, the syllabic frontiers in Amazigh often operate between two consonants: [*ag.Did*] "bird", [*ux.ʃin*] "ugly", [*is.nas*] "donkeys" or [*ik.ra*] "he rent". However, when these words appear in longer syntagmatic sequences, these syllabic cuttings often undergo more or less important modifications. Thus, the word [*azn*] "send" is monosyllabic (it contains one syllable) but in [y*u.zn*] "he sent", it becomes bisyllabic.

Resyllabification is also attested when the final segment of a word is a consonant that is adjacent to a vowel which follows it immediately. This is called "syllabic chaining". Consider the following example:

(87) tun argaz!
push man
Push the man!

The syllabic structure of the string in (87) is: [*tu.nar.gaz*]:



In (88), the [*n*] of the first morpheme [*tun*] constitutes the onset of the syllable which follows it immediately. In other terms, there are contexts in Amazigh where the final consonant transits from the rhyme to the onset. This is due to the fact that the empty onset of a given syllable may become a full onset and, thus, contribute to the creation of a well-formed syllable.

The process of resyllabification may engender the reverse process of desyllabification, that is, a context where segments lose their syllabicity in given segmental strings. It is frequent that a segment loses its syllabicity when it is juxtaposed to a nucleus whose sonority is superior. According to Boukous (1990), the liquid in the morpheme *rðγ* "to heat oneself" is syllabic, but in the word *irγa* "it is hot", the presence of the preceding segment [*i*] which is superior in terms of sonority makes it lose its sonority. Consequently, the liquid which was syllabic and which constituted the nucleus of the syllable, transits to the coda position in the same rhyme. Boukous (1990: 287) reaches an empirical generalisation in relation to Tachelhit:

> *«La consonne syllabique perd sa syllabicité lorsqu'elle appartient à une rime non-branchante et qu'elle est suivie de syllabe à attaque nulle ou précédée de syllabe à rime non-branchante».*

In general, the operation of resyllabification in Amazigh is at the root of CV syllable formation linking a non-syllabic consonant to a following vowel.

On a higher prosodic level, syllables may be linked to constitute "feet". The notion of *foot* is traditionally recognized in a stressed syllable. According to Boukous (1990), two or three syllables may be grouped to constitute a foot in Tachelhit. A word like *ifiγr* "snake" is constituted of a syllable whose nucleus is the vowel [*i*]; in addition, rhe string [*fiγr*] in [*i.fiγ.r*] contains a vocalic and a consonantal syllables. As for the word y[*yu.gr.nt*] "he is older than them (feminine-plural)", it contains a vocalic syllable and two syllables whose nucleus is a consonant. Other examples of feet are the words [*r.gl*] "close with a key" and [*tu.dmt*] "little face". In these cases, the hierarchy is established according to the weight of the syllabic nucleus.

In the dialects under study, the foot in the word [*ta.zr.kunt*] "hill", is constituted of the grouping of a vocalic and a consonantal syllable which follows it on the left:

Apart from the foot, other superior prosodic units are attested in Amazigh. According to Boukous (1990), these "suprasyllabic" units are of three types: the prosodic word, the phonological sentence, and the intonational sentence. According to the same author, resyllabification in Amazigh operates especially on the intonational sentence.

Phonological rules

The various segmental and suprasegmental elements, as well as the phonological and syllabic processes in Amazigh are aspects of the same phonological system which underlies them. The interdependence of these elements and processes attest to the homogeneity of this system. This homogeneity is

regulated by a set of phonological rules which explain the interactions between the elements and phonological processes in Amazigh.

The phonological rules of Amazigh also regulate the pronunciation of pertinent and non-pertinent sounds in this language, as well as the functioning of the various groupings of sounds to form larger units. These rules are often linked to the phonetic conditionings of the various phonetic processes that result from them. An analysis of phonological rules in Amazigh allows us to formulate generalizations which aim at describing the characteristics of the phonological groupings in Amazigh in a scientific way. By way of example, three rules are given in this section: the rule regulating the functioning of the initial nominal vowel, the rule regulating the juxtaposition of two vowels, and the rule regulating the consonantal sonority.

Concerning the first rule, it was stated before that Amazigh is characterized by the fact that the majority of the masculine singular nouns start with a vowel which may be realized as *a* (*amksa* "shepherd", *argaz* "man", *asif* "river" or *amugay* "bull"), as *i* (*imi* "mouth" or *ifri* "cave"), or *u* (*ul* "heart", *udm* "face" or *utim* "handful"). A number of studies dealt with the behavior of this vowel (see Basset 1952, Saib 1976, Guerssel 1986 and El Moujahid 1982, 1993, among others).

The most important phonological characteristic of the "masculine vowel" in Amazigh is that it can either remain unchanged or change under the influence of nominal inflection (construct state). Instances of the first case are the vowels *i* and *u*. The nouns (singular or plural) which begin by these two vowels are not generally subject to any alternation when they change from the free state to

the construct state. Examples which illustrate these facts are given in (89), (90), (91), (92), and (93) below:

(89)	Free state (sing, masc)		Construct state (sing, masc)	
a.	ixf	"head"	n#ixf	"of the head"
b.	ifri	"cave"	n#ifri	"of the cave"
c.	uγb	"tooth"	n#uγb	"of the tooth"
d.	udm	"face"	n#udm	"of the face"

(90)	Free state (plur, masc)		Construct state (plur, masc)	
a.	ixfawn	"heads"	n#ixfawn	"of the heads"
b.	ifran	"cave"	n#ifran	"of the cave"
c.	uγban	"teeth"	n#uγban	"of the teeth"
d.	udmawn	"faces"	n#udmawn	"of the faces"

(91)	Free state (sing, fem)		Construct state (sing, fem)	
a.	tixft	"little head"	n#tixft	"of the little head"
b.	tifrit	"little cave"	n#tifrit	"of the little cave"
c.	tuγbt	"little tooth"	n#tuγbt	"of the little tooth"
d.	tudmt	"faces"	n#tudmt	"of the little face"

(92)	Free state (plur, fem)		Construct state (plur, fem)	
a.	tixfawin	"little heads"	n#tixft	"of the little heads"
b.	tifritin	"little caves"	n#tifritin	"of the little caves"
c.	tuγbin	"little teeth"	n#tuγbin	"of the little teeth"
d.	tudmawin	"little faces"	n#tudmawin	"of the little faces"

The second case of construct state involves singular (masculine and feminine) nouns whose initial vowel is *a*). The vowel becomes systematically *u* when these nouns

change from the free state to the construct state. Here are examples:

(93)	Free state (sing, masc)		Construct state (sing, masc)	
a.	asnus	"donkey"	n#usnus	"of the donkey"
b.	alγum	"camel"	n#ulγum	"of the camel"
c.	agllid	"king"	n#ugllid	"of the king"
d.	arumi	"European"	n#urumi	"of the European"
e.	aγlyas	"tiger"	n#uγlyas	"of the tiger"

In the case of feminine nouns, the vocalic change operates after the affixation of the feminine discontinuous morpheme *t*.....*t*.

(94)	Free State (sing, fem)		Construct State (sing, fem)	
a.	tasnust	"ass	n#tsnust	"of the ass"
b.	talγumt	"she-camel"	n#tlγumt	"of the she-camel"
c.	tagllit	"queen"	n#tgllit	"of the queen"
d.	trumit	"European"	n#trumit	"of the European"
e.	taγlyast	"tiger"	n#tuγlyast	"of the tiger"

The behavior of the initial vowel when nouns change from the free state to the construct state may be described as follows : nouns in Amazigh may either begin with a constant vowel, in which case this vowel is an integral part of the nominal stem, or begin with a changing vowel that prefixes to the nominal stem. A simple phonological rule which would describe the behavior of the initial nominal vowel in Amazigh may be given as follows (see El Moujahid 1993):

(95) a. [V STEM] → [i + STEM]

b. [V + STEM] → [i + STEM] or
[u + STEM]

As for the rule which regulates the juxtaposition of vowels in Amazigh, it does not apply to identical vowels as has been mentioned earlier. This juxtaposition generally leads to the change of the vowels *i* and *u* into *y* and *w*, respectively. This vocalic behavior may be formulated as follows:

(96) a. /i + a/ → [iya]

b. /i + u/ → [iwu]

Concerning the phonological rule regulating consonantal sonority in Amazigh, it has already been noted that a voiceless consonant becomes voiced when it is followed by a voiced consonant, and a voiced consonant becomes voiceless when it is followed by a voiceless consonant. This may be expressed by the following rules:

(97) a.[C +voiceless] → [voiced] /----- [C +voiced]

b.[C +voiced] → [voiceless] /----- [C +voiceless]

The notation /----X/ in (97) above expresses the phonetic context in which the consonantal change operates.

The formulation of the phonological rules of Amazigh, like that of any natural language, may sometimes be complex and often depends on the specific theoretical framework(s) in which a description is carried out. In this chapter, we have limited ourselves to three examples of such rules because no theoretical framework

is assumed a priori. The aim of this section is to attract the attention of the interested reader to the role and importance of phonological rules in the study of Amazigh phonology.

Conclusion

The goal of this chapter has been to capture the phonological system of Amazigh in its totality. We have tried to present the elements of this system, as well as their interaction. The identification of segmental phonemes in Amazigh has been based on their distinctive features at the phonological level. This study shows that in addition to the primary segments (consonants and vowels), there exist in Amazigh a number of secondary phonemes which require superimposed articulations that are added to the primary articulations. In Amazigh, apart from distinctive units, the phonological system contains supra segmental phenomena such as emphasis and consonantal length which may be distinctive.

The interaction of segmental and supra segmental elements in Amazigh is directly affected by phonological processes such as assimilation, insertion or elision. An account of this interaction allows to better understand the often complex syllabic possibilities of Amazigh and the phonological rules that underline the overall Amazigh phonological system. A study of the major ingredients of this phonological system is not sufficient to make explicit the mechanisms which regulate their functioning. In other terms, the dynamic of the Amazigh phonological system cannot be really made explicit unless it is linked to the nature of the acquisition of Amazigh as a mother tongue.

In this domain, no serious study has been carried out so far.

Chapter Two

Morphology

Introduction

This chapter aims at providing an overall systematic description of Amazigh morphology. Although the Amazigh language has no case system, it is morphologically rich, as it is highly inflected. The verb carries all the necessary inflections for the understanding of sentences. The whole structure of Amazigh is mainly based on the verb and the noun. No serious morpho-syntactic analysis of Amazigh can be undertaken without a sound description of these two lexical categories. This chapter includes four sections which deal respectively with nouns, verbs, affixes, and tense/aspect categories. We start by considering nouns.

Nouns

There are various types of nouns in Amazigh: common nouns, noun-adjectives, Arabic loans, proper nouns, and kinship terms. Amazigh common nouns carry gender and number affixes which are realized as prefixes, suffixes, and infixes. Nouns beginning with a vowel are generally masculine, and those beginning with the consonant /t/ are generally feminine:

(1) a. a-rgaz “man”, arba “boy”

b. T-amTToT "woman", tarbat "girl"

Noun-adjectives or nominal adjectives are similar to common nouns; they are morphologically a word class that has special syntactic patterns, as is shown in due course below.

Arabic loans used in Amazigh usually take the Arabic article *al-* or its phonological variants which mark definiteness. This article obeys the phonotactic rules of Arabic and may be realized as a geminate initial consonant if the latter is a tongue blade articulation, just as in Arabic (see Penchoen 1973).

(2) a. T-Taws "peacock"
b. d-dars "the lesson"
c. s-s∂rwal "the trousers"
d. z-zn∂qt "the street"
e. r-r∂b "the God"
f. n-namus "the-mosquitos"

Long vowels do not exist in Amazigh in the sense that vowel length is not phonemic in this language. Althoug Arabic loans often keep their plural form**,** which forms part of the noun, their gender is usually unmarked.

Proper nouns often begin with a consonant. They do not take plural form and, like common nouns, they are not marked for state:

(3) Names of persons	Names of places
Lahcen	Tamanar
Fatiha	Tiflet
Driss	Beni-Mellal

Likewise, kinship terms vary in number but are not subject to marking for state and take no plural form. This type of nouns are not marked for gender and may take an initial consonant or a vowel, as in:

(4) a. ultma "my sister"
b. xali "my uncle"
c. gma "my brother"
d. ʕðtti "my paternal aunt"
c. alus "brother-in-law"

Kinship terms may be distinguished from other nouns by the fact that they head possessive constructions and take possessive pronouns.

(5) a. ultmas n Haddu
sister of Haddu
Haddu's sister

b. xali's n Hassan
Hassan's uncle

Of these types of nouns in Amazigh, it is common nouns that constitute the most frequent type. In this chapter, focus is put on the morphology of this type of nouns. The first feature of common nouns in Amazigh is that they inflect for gender.

Gender

Amazigh nouns are marked for the gender

categories masculine and feminine. Masculine nouns take an initial vowel, usually /a/ and less frequently /i/ or /u/. As for feminine nouns, they begin with /t/ followed by a vowel, as the following examples are meant to show:

(6)	Masculine	Feminine	Gloss
	a-□uli	ta-□uli-t	sheep
	a-rba	t-arba-t	boy/girl
	a-fullus	t-afullus-t	rooster/hen
	a-γyul	t-aγyul-t	donkey/ass
	i-γil	t-iγil-t	mountain
	i-fiγr	t-ifiγr-t	snake
	u-ʃʃ∂n	t-uʃʃ∂n-t	jackal

Feminine nouns that are related to their masculine counterparts are generally formed by the addition of the feminine morpheme *t* at the beginning and the end of the masculine form.

(7)	a. a-fullus	"rooster"	tafullus-t	"hen"
	b. aydi	"dog"	taydit	"bitch"

However, there are words which lack the opposite gender:

(8) a. aγγu "small milk"
b. agusif "storm"
c. targ^{w}a "river"
d. Taγγat "goat"

The feminine gender marker may also be used to express the diminutive meaning:

(9)	aγbalu	"spring"	taγbalut	"little spring"
	aqqa	"river"	taqqat	"little river"

Number

Amazigh common nouns are inflected for number in the sense that they exhibit singular and plural forms. Although plural formation is to a large extent irregular in Amazigh, there are important patterns that can be singled out. These patterns may be broken down as follows:

i) Initial vowel change. These are examples:

(10)	Singular	Plural	Gloss
	argaz	irgz∂n	men
	a-fullus	i-fullus-∂n	roosters
	a-yyis	i-yys-an	horses
	a-mllal	i-mllal-∂n	whites
	iγr∂m	iγrman	towers
	ass	ussan	days

In such cases, masculine nouns take the plural form by turning the prefix *a-* of the singular form to *i-* in the plural. The *a* → *i* vowel change is involved in the plural formation of about two thirds of Amazigh nouns.

ii) Insertion of a suffix ending in -n.

In general, the inflectional ending used for masculine nouns is *-n* and the one used for feminine nouns is *in*:

(11)	Singular	Plural	Gloss
	argaz	irgz∂n	men

tarbat tirbatin girls

Overall, in the case of feminine nouns, the following changes take place: the dropping of the singular suffix *-t*, the morphological change of the prefix *a-* into *i-*, and the insertion of the suffix *–in*

iii) Stem vowel change
Here are examples

(12)

Singular	Plural	Gloss
ass	ussa-n	days
iD	iDa-n	nights
isli	isla-n	bridegrooms
axbu	i-xba	holes

These morpho-phonological processes are not exclusive in the sense that for many nouns, all the three processes may be used, and no process excludes the other.

In parallel with the above more or less regular plural formation processes, there are many less commonly used plural forms for the plural suffix as is shown in the following examples:

(13)

Plural suffix	singular	plural	gloss
-∂n	argaz	i-r∂gz-n	men
-w∂n	amksa	im∂ksa-w∂n	shepherds
-aw∂n	ixf	ixf-aw∂n	heads
-iw∂n	if∂r	if∂r-aw∂n	leaves
-y∂n	uskay	uska-y∂n	dogs
-t∂n	anu	anu-t∂n	wells

For feminine nouns, we have:

(14)	-win	tifiγra	tifiγra-win	vipers
	-tin	ti-slit	tisla-tin	brides

A generalization can be made whereby these endings are treated as the regular *-n* or *in* suffixes preceded by a vowel *-an* **,** a semi-vowel (*w∂en, y∂n***,** *win*), a consonant *t* (*t∂n, tin*), or a vowel and a semi-vowel (*-aw∂n, -iw∂n*), which pertain to the noun stem in the plural (Penchoen: 1973).

Plural formation in Amazigh may also involve double alternation. Consider the following examples:

(15)	aγbalu	i-γbula	spring
	amzwaru	i-mzwura	firsts
	asafar	i-sufar	medicines
	tadawt	ti-duwwa	backs

iv) Extra stem consonants in plural form

Extra stem consonants are attested in plural formations of the following type:

(16)	ixf	ixfaw∂n	heads
	awal	i-waliw-∂n	words
	anu	anut-∂n	wells

v) Consonant tenseless alternation

A few nouns undergo an alternation of a tense consonant with its lax counterpart, in addition to vowel alternation:

(17)	Singular	Plural	Gloss
	i-kk∂n	ikniw-n	twins
	a-s∂kkur	i-s∂k^{w}ur-n	partridges
	a-f∂ttal	i-ftla-n	couscous (Pl).

Note that here the second consonant in the consonant cluster is tense in the singular form and lax or elided in the plural.

In some words, the second consonant of a two-consonant cluster is lax in the singular and tense in the plural:

(18)	Singular	Plural	Gloss
	a-sif	i-saff-∂n	rivers
	a-fus	i-fass-∂n	hands
	a-fud	i-fadd-∂n	knees
	targ^{w}a	ti-rgg^{w}i-n	canals

vi) Stem vowel alternation

When moving from singular to plural, several nouns undergo vowel alternation within the stem, i.e., these nouns undergo a vowel change, loss of a sound, or insertion of a sound. This vowel alternation may occur at any position: initial, internal, or stem final. To undergo vowel alternation, a stem must include at least one vowel in the plural form. A singular stem with no vowel is usually supplied with one in the plural form, as in:

(19) ixf "head" → i-xfawn

Stems which undergo vowel alternation have a

vowel *a* as the last one; if two vowels alternate, the last vowel of the plural stem is *a* and the preceding vowel is generally *u*, much less often *i*:

(20)

Singular	Plural	Gloss
ass	ussa –n	day(s)
iD	iDa-n	nights
isli	isla –n	bridegrooms
axbu	ixba –n	holes

vi) Extra stem consonants in plural stem

As mentioned in (ii), alternation for some nouns involves insertion in the plural form of a stem-vowel preceded by a vowel /a/ or /i/ or of a stem-final *t*:

(21)

Singular	Plura	Gloss
azgɔ̂r	izgarn	oxen
ixf	ixfawn	heads
afus	ifasn	hands
imi	imawn	mouths

The Construct State

There are two states that nouns may appear in in Amazigh: free and construct states. The free state is the normal unmarked form of all nouns (see Ennaji 2002). All the examples above are in free state. The construct form is used in the following contexts:

-when the noun functions as subject of the verb and occurs after the verb in a sentence
-when the noun occurs after a proposition

-in noun complement constructions, and
- after certain numerals

The formation of the construct state is obtained in the following manner:

A. Masculine nouns with an initial vowel are prefixed with *w* if the initial vowel (prefix or stem-initial) is *a* or *u*, and with *y* if the vowel is *i*.

B. The gender-number prefix vowel is omitted (this affects both masculine and feminine nouns):

(22)

Prefix addition	Prefix vowel drop	Construct state
asif "river"	wa-sif	wasif
ils "tongue"	y-ils	yils
t-ixsi "ewe"	t-ixsi	tixsi
ti-w∂tm-in "women"	ti-w∂tmin	t∂wtimin

A number of Arabic prefixes borrowed into Amazigh do not require the construct state; they are followed only by the free state, as in:

(23)

ar "until"	ar-tamazirt	"until the countryside"
bla "without"	bla tamara	"without hard work"
qb∂l "before"	qb∂l tawada	"before going"

Regular Gender, Number, and State Morphology

Consider the following examples:

(24)

Masculine	Feminine	Construct State
a-maziγ "Amazigh"	ta-maziγt	w-maziγ/tmaziγt
a-nʃad "singer"	tanʃad∂t	tnaʃd∂t

ifri “cave” ti-frit tfrit

Nouns-Adjectives

Nouns-adjectives are a sub-family of nouns, which are morphologically indistinguishable from other nouns but behave syntactically in a different way. These nouns agree in number and gender with the noun they modify, but do not agree with them so far as state is concerned. However, when they are used as nouns, noun-adjectives become subject to state marking. Here are examples:

(25) abxxan “black”
akuʃam “handicapped”

Such nouns are different from common nouns in the sense that they may (but do not have to) follow the noun they modify.

Verbs

This section deals with Amazigh verbs whose stems can be either basic or derived. We describe the various affixes attached to the verb stem together with the way these affixes combine with the verb stem and with each other.

Basic verb stems

Basic verb stems are also called roots or “unaugmented” stems because they do not include any affixes. Verb stems are significant for two major reasons: first, they constitute a very large morphological class in Amazigh, and second, they are a class of morphemes which is the source for deriving other classes of

morphemes.

Amazigh stems can be bilateral, trilateral, or quadrilateral, i.e. have two, three or four consonants stem-members (Basset 1929:XV). Below are examples

(26) a. bə̂d "stand up"
b. fə̂γ "go out"
c. fə̂zz "chew"
d. frə̂z "discriminate"

Amazigh stems are never formed by only one element unless geminated consonants are taken to be one single consonant, and they rarely exceed four elements.

For many linguists, including Basset (idem), the Amazigh verb stem consists exclusively of consonants. Basset further argues that vocalic patterns infixed to verbs express grammatical functions. However, this argument is weak because although verb stems may contain only consonants, as the above examples show, it is not plausible to think that Amazigh verb stems consist exclusively of consonants:

(27) a. arm "try"
b. anf "open"
c. aly "mount"
d. amz "hold"

Apart from Amazigh verb stems, there is a great number of basic verb stems which are Moroccan Arabic loans:

(28) a. xdə̂m "work"
b. ʕə̂mmə̂r "fill"

c. □fəd "learn"
d. sbəγ "paint"

Moroccan Arabic loan verbs are completely integrated in the Amazigh verb system because they fit in the derivational and inflectional patterns of the Amazigh language.

Derived verb stems

Derived verb stems are also referred to as "augmented" stems in the sense that some other element is added to the basic verb stem. They are complex forms because the verbal idea from which they are derived is affected and modified as a result of the insertion of one or many formative elements which produce new forms different from those expressed by the original verb stems from which they are derived. In the majority of cases, the elements involved in derived forms are consonants; they appear generally as prefixes or as circumfixes. The major derived forms in Amazigh are the following:

-Causative forms
-Reciprocal forms
-Recipro-causative forms
-Passive forms
-Verbal nouns
-Verbal adjectives

Although these forms may, in principle, be derived from a simple verb stem, a simple verb forms do not necessarily yield all the derived forms mentioned above. Additionally, derivational affixes can be attached to a basic as well as to a derived form. However, Amazigh

does not allow more than two derivations at the same time. In fact, two derivations may occur simultaneously in cases where causative and reciprocal forms are combined.

In the sub-section below, we consider the Amazigh derived forms in some detail and start by looking at the causative form first.

Causative forms

Causative forms denote the idea of causality. It is obtained by prefixing the causative marker *s-* to the verb stem. Consider the following examples:

(29)

Verb stem		Causative form	
ff∂γ	"go out"	s-uf∂γ	"make someone go out"
xd∂m	"work"	s-xd∂m	"make someone work"
$g^{w}z$	"get off"	s-ugz	"make someone get off"
T∂s	"laugh"	s-T∂s	"make someone laugh"

The causative affix, which is a voiceless fricative, is realised as either /s/, /z/, or /j/:

(30)

n∂z	"sell"	z-nz	"sell"
k∫∂m	"enter"	∫∂k∫∂m	"make someone enter"
jm∂ς	"gather"	jm∂ς	"make someone gather"

Note that in some cases, the geminated consonants of verb stems become reduced to a simple consonant preceded by the vowel /u/ and rarely /i/. The selection of the vowel /u/ or /i/ is determined by the geminated consonant: /u/, which is a rounded and labialized vowel, occurs with labial or semi-labial consonants like /l/, /f/, or

/j/, for example; /i/ which is unrounded occurs with non-labial consonants like /d/:

(31)	Verb stem	Verbal nouns
	gnu "sew"	ti-g^{w}n-i
	nwu "cook"	ti-nw-i

The /tu…. ut/ pattern is derived through verb stems which usually end in the vowel /u/ or the vowel /i/:

(32)	Verb stem	Verbal nouns
	jju "smell good"	tu-jj-ut
	γlu "be expensive"	tu-γlu-t

We have here a case of vowel deletion which is related to the previous discussion of /a + a/ resulting in the dropping of one /a/ and the vowel deletion in /ti ... i/ verbal noun forms. We can, thus, easily fit the /a + a/ form, the /ti, ... i/ form, and the /tu….ut/ form under the following general phonological rule:

(33) V → ÷ / ----------V

This rule specifies that a vowel is dropped when it is immediately followed by another vowel, to avoid a cluster of vowels.

Verbal nouns can have two major uses in Amazigh: first, the verbal noun may function as a subject or as an object to a common noun of a sentence:

(34) a. ta-gun-i n was t∂□la.

sleeping of day good
Sleeping in the afternoon is good.

b. hiya ta-gun-i i t∂Drant.
adjust sleeping to baby
Adjust the baby's sleeping.

c. tçazza γifi t-ujju-t n uj∂ddig.
is dear to me smelling good of flowers
I like the smell of flowers.

Verbal adjectives

Verbal adjectives are syntactically and semantically distinct from verbal nouns. Semantically, they refer to ideas normally expressed by adjectives. On the syntactic level, they behave like adjectives since they follow nouns and they have both a masculine and a feminine forms. The great majority of verbal adjectives derive from state verbs which express colour or some physical or moral quality. When they occur in the masculine form, verbal adjectives usually begin with /*a (m)*/ and require the insertion of the vowel /a/ between the last two verb stem segments:

(35)

Verb stem		Verbal adjective	
gz∂l	"be small of size"	a-g∂zzal	"a small man"
mzy	"be young"	a-mzyan	"a young one"
azn	"send"	a-mazan	"messenger"
γzif	"be long"	a- γzzafu	"long"

When a vowel appears in the stem between the last

two consonants, this vowel is replaced by the above mentioned /*a*/:

(36)

Verb stem		Verbal adjective	
wriɣ	"be yellow"	a-wraɣ	"yellow"
bxin	"be black"	a-bxxan	"black"
zwiɣ	"be red"	a-zgga ɣ	"red"
sdid	"be thin"	am-sdad	"the thin one"

In some cases, the verb stem derives its verbal adjective differently, especially when the verbal adjective is idiosyncratically specified:

(37)

Verb stem		Verbal adjective	
k∂s	"look after sheep"	am-ksa	"shepherd"
g^{w}r	"be the last one"	am-garu	"the last one"
Trr∂f	"put aside"	am-Tarrfu	"the last one"

Note that each of the above verbal adjectives has a feminine counterpart whose major characteristic is that it has a form /*ta (m)..... t* /, as in *tam-Tarrfu-t* (the last one-fem), *ta-bxxan-t* (the black one-fem), etc.

Another type of verbal adjectives begin with /u/ in the masculine form and have the form /*tu ... t*/ in the feminine. In these cases, a vowel /*i*/ is added between the last two consonants to avoid the formation of consonant clusters finally. The stem of such verbal adjectives is generally trilateral:

(38)

Verb stem	Verbal adjective (mas)	Verbal adjective (fem)
frðγ "be disabled"	u-friγ	tu-friγ-t
xʃðn "be ugly"	u-xʃin	tu-xʃin-t

Finally, the verbal adjective follows the noun it qualifies and agrees it with in number and gender:

(39) arba u-xʃin — tarbat t-ufriγ -t
boy ugly — girl ugly
An ugly boy — An ugly girl

However, when the verbal adjective does not qualify any noun, it agrees in gender and number with the noun to which it is grammatically related:

(40) i-ga a-bxxan. — t-ga ta-bxxan-t
he-is black — she-is black
He is black. — She is black.

In the examples in (40), the verbal adjective agrees in number and gender with the subject. We now consider verbal affixes.

Affixes

Affixes may be either fixed or movable. There are three types of verbal fixed affixes in Amazigh: prefixes, suffixes, and circumfixes (i.e. discontinuous or complex morphemes). Whereas the first and the third types may be either derivational or inflectional, the second type is inflectional.

Prefixes

Let us look at derivational prefixes first. They precede a basic verb stem to give a derived form. We dealt above with cases of such affixes, i.e., causative, reciprocal, recipro-causative, passive form, verbal nouns and adjectives. Derivational prefixes may change the category of the verb stem as in the case of verbal nouns and verbal adjectives.

Inflectional prefixes can be either subject markers, temporal or modal prefixes. Let us start with the subject markers which vary in form and meaning according to number, person and gender:

(41)

Third pers mas	Third pers fem	First pers pl
i-qqima	t-qqima	n-qqima
"he sat down"	"she sat down"	"we sat down"

Subject markers in Amazigh have the following properties. Firstly, they always co-occur with the verb stem when it is conjugated except in the second person singular imperative form. This implies that these prefixes are omni-present even when the verb stem occurs with temporal or modal affixes. Secondly, subject markers are the closest to the verb stem. These affixes are referred to as "agreement markers", "subject markers", "subject clitics", or "copy-pronouns" of the subject (sec Sadiqi 1980: 84). Unlike in English or French, these subject markers are bound morphemes; they express the person, number, and gender of the subject, and are always the closest affixes to the verb stem.

Subject markers in Amazigh also convey temporal

notions. More specifically, they express the present and the future tenses. There exist two present tense affixes. The first one is *da*, which indicates the habitual present and the second one is *ar*, which indicates the progressive present.

(42) a. da-t-aqra.
Hab-she-read
She studies.

b. ar-t-aqra.
Prog-she-read
She is studying.

The future tense is conveyed by the prefix *mad* for the first and third persons masculine, and by the prefix *ma* for the rest:

(43) a. mad-ddu-γ
will-go-I
I will go.

b. ma-i-ddu.
will-he-go
He will go.

Temporal affixes, or auxiliaries, cannot co-occur in the same sentence. As for modal prefixes, they can be negative or interrogative. So far as negation is concerned, there is one negative verb affix in Amazigh: *ur* (not), which precedes all the above-mentioned verbal prefixes. Since Amazigh is a VSO language, the negative marker *ur*

generally occurs first in negative sentences. When used with the imperative form, this negative marker becomes *awr*:

(44) a. ur-i-ddi.
Neg-he-go
He didn't go.

b. awr-t-sawal-t.
Neg-you-speak
Don't speak.

Note that both *ur* and *awr* are phonologically similar particles which convey the same meaning. When preceding a noun or a noun phrase, the negative marker changes to *urd*:

(45) a. urd Hmad
Neg Ahmed
It's not Ahmed.

The second modal prefix which appears with the verb is the interrogative particle *is* and its phonological variant *izd*. While *is* is a straightforward verbal affix**,** *izd* is only marginally a verbal affix because it behaves like nouns and pronouns in preceding non-verbal elements. For this reason, we will focus only on *is* in this section.

The interrogative particle *is* occurs in front of all verb affixes, including the negative marker. Indeed, the verbal affix always occurs first in interrogative sentences:

(46) is-i-dda?
whether-he-go
Did he go?

A third interrogative particle is *iddis*; but this particle is used only in exclamatory sentences and does not require an answer in spite of the fact that the sentence in which it occurs has the shape of a question and carries the intonation of questions in Amazigh:

(47) iddis i-ga amarikani!
whether he-is American
Isn't he American?

In view of the fact that *iddis* is not a genuine interrogative particle, we do not deal with it any further.

Another point to mention in this section is that both the negative and the interrogative markers can co-occur in the same sentence, yielding the prefix *isur*(whether):

(48) is-ur-t-llif?
whether-Neg-she-divorced
Isn't she divorced ?

Suffixes

Suffixes are inflectional affixes which can be either subject markers or modal markers. Consider the following subject marker suffixes:

(49) a. <u>First person singular</u>
sawl- γ
speak-I

I spoke.

b. Third person plural masculine
sawl-n
speak-they
They spoke.

c. Third person plural feminine
sawl-nt
speak-they
They spoke.

The phonological form of the first person singular may be influenced by the verb's final stem consonant since it is always attached to it. If the verb stem ends in a cluster of two consonants, the insertion of a schwa before the subject marker is usually necessary in order to avoid a cluster of three consonants, which is disallowed in Amazigh, as in:

(50) a. kəʃm-a- γ.
enter-1
I entered.

b. kərz-ən.
plough-they
They ploughed (the land).

c. ləqm-ən.
swallow-they
They swallowed.

The same schwa is inserted in both the masculine and the feminine forms whatever the nature of the subject marker is. Although the /∂n/ form is widely used, the schwa is dropped when it is not preceded by a consonant cluster or when the verb ends in a vowel:

(51) a. uki-nt.
wake-they (fem)
They (fem) woke up.

b. tʃi- γ.
eat-I
I ate.

Modal suffixes are also widely used in Amazigh. For example, consider the following imperative suffixes:

(52) Second person plural masculine
s∂rs-at!
Put down-masc-fem (something).

(53) Second person plural feminine
s∂rs-mt
Put down-fem (something).

When two persons including the speaker are involved, the following hortatory imperative suffix is used:

(53) s∂rs-aγ-t!
Let's put (it) down!.

For Laoust (1932) and Abdul-Massih (1971), this hortatory form is a dual; however, we contend that such a form cannot be referred to as "dual" because it does not involve two people other than the speaker. In case more than one person apart from the speaker is involved, the following suffixes are employed:

(54) First person plural masculine
s∂rs-atay!
Let's bring tea!

First person plural feminine
s∂rs-mta-γ!
Let's put down-fem (something).

The imperative suffixes *-at* and *-mt* above may occur with these hortatory suffixes.

Circumfixes

Fixed circumfixes may be either derivational or inflectional in nature. The feminine verbal noun and verbal adjective affixes given earlier are instances of fixed derivational circumfixes, whereas inflectional circumfixes are subject markers. Consider the following examples:

(55) Second person singular masculine and feminine
t-rw∂l-t.
you-run-you
You rn away.

(56) Second person plural masculine
t-rw∂l-m.

you-ran-fem-pl
You ran away.

(57) Second person plural feminine
t-rwl-mt
you-ran-you-fem-pl
You ran away.

These subject markers (inflectional circumfixes) vary in form according to number, person and gender of the subject they agree with.

At the end of this section, we should state that the overall order of fixed affixes in relation to the stem is as follows:

(56) Interrogative + Negative + Auxiliary + Subject Marker + Stem + Suffixes

Finally, most fixed verbal affixes are prefixes. In the following section, we deal with movable affixes.

Movable Affixes

Movable affixes, which are the second general type of verbal affixes in Amazigh, change their position in relation to the verb stem following certain criteria which we discuss shortly. Movable affixes can be divided into pronominal affixes and orientational ones.

Object pronominal affixes

Object pronominal affixes do not distinguish gender in the third person, unlike subject markers. However, while subject markers do not distinguish gender

in the second person singular, the object pronominal markers do. The latter can be either direct or indirect pronominal affixes, and both occur with transitive verbs. Consider the following examples:

(57) a. i-llɔf-i.
he-divorced-me
He divorced me.

b. t-snɔʕt-i.
she-showed-me
She showed me.

When the verb includes only subject markers but no modal affixes, as in the above examples, the object pronominal affixes always follow the stem, and only subject markers can separate them from the verb stem However, when both the direct and indirect object pronominal affixes occur together with the same verb stem, the indirect object affixes always precede the direct object ones whatever their position.

The following remarks about object pronominal affixes are worth pointing out. First, these affixes generally precede the verb stem. Second, direct and indirect object pronominal affixes share a few properties. Third, object pronominal affixes are used in typical constructions like the following:

(58) a. ɣur-m!
Beware-fem-sing!

b. haɣ-am!

Catch-fem-sing!

These constructions convey an imperative meaning.

Orientational affixes

Orientational affixes constitute the second type of movable affixes; they are affixed to the verb to indicate either an idea of proximity (by means of the affix /*d*/) or distance (by means of the affix /*n*/). Consider these examples:

(59) a. asi!
Take (this)!

b. asi-d!
Bring (that) here!

c. asi-nn!
Take (this) to there!

In (59), the word *asi* (take) has two meanings depending on whether the affix /d/ or the affix /nn/ is used.

Orientational affixes always follow the verb stem unless a subject marker suffix occurs in between. However, when the verb group consists of an auxiliary and one or two modal affixes, the orientational affixes follow the auxiliary and precede the verb:

(60) is-ur-ma-d-i-ddu?
Inter-Neg-Fut-prox-he-go
Won't he come?

A number of remarks about orientational affixes are

worth mentioning. First, proximity and distance affixes cannot co-occur at the same time. Second, orientational affixes are usually prefixes. Third, the proximity affix /*d*/ seems to be more commonly used than the distance affix /n/. Fourth, orientational affixes are not exclusively verbal; they can be used as suffixes to demonstratives:

(61) a. di-d
Here

b. di-nn
There

Tense/Aspect Categories

In Amazigh, we can distinguish the following tense and aspect categories:

-the past
-the present (habitual)
-the present (progressive)
-the future

These tense/aspect categories can appear in the affirmative, negative, and interrogative modes.

The Past

The past tense is morphologically marked, it is obtained from the basic or derived verbal form to which the subject person, number, and gender features, indicated by the subject markers, are added. The past is the least inflected verbal form in contrast with the present and future tenses which are more "marked". By

way of illustration, consider

(62) a. i-mmutti.
he-move
He moved.

b. ur-i-mmuti.
Neg-he-move
He didn't move.

c. is- i-mmuti?
Inter-he-move
Did he move?

d. is-ur-i-mmuti?
Inter-Neg-he-move
Didn't he move?

Negation is expressed by prefixing the negative marker *-ur* to the affirmative past verb form. The interrogative mode is formed by attaching the prefix *is* to the affirmative past form. Negative interrogatives in the past are obtained by prefixing the interro-negative marker *is-ur* to the affirmative past form.

The Present

In Amazigh, the present can be either habitual or progressive. Both present forms have common characteristics and take the same morphological features, as we show below.

The Habitual Present

The habitual present is conveyed by prefixing the habitual present marker to the verb stem inflected for person, number and gender, as in the following examples:

(63) da-i-mgg∂r.
Hab-he-harvest
He harvests.

The habitual present may trigger phonological variations to the verb stem:

(64) a. i-mmuti.
he-move
He moved.

b. da-i-tmuttuy.
Hab-he-moves
He moves.

c. i-ssird.
He-wash
He washes.

d. da-i-ssirid.
Hab-he-wash
He washes.

To convey negation, the negative marker *ur* is prefixed to the affirmative habitual present verb form. The interrogative habitual present is expressed by prefixing the interrogative particle *is* to the affirmative habitual present verb form. Interro-negation in the habitual present is

conveyed by prefixing *is-ur* to the affirmative present tense form:

(65) a. ur-da-i-mgg∂r.
Neg-Hab-he-harvest
He does not harvest.

b. is-da-i-mgg∂r?
Inter-Hab-he-harvest
Does he harvest?

c. Is-ur-da-i-mggr?
Inter-Neg-Hab-he-harvest
Does he not harvest?

The Progressive Present

The progressive present is conveyed by the progressive marker *ar-* which is prefixed to the verb stem inflected for person, number and gender, as in

(66) ar-i-mgg∂r.
Prog-he-harvest
He is harvesting.

The progressive present is similar to the habitual present in the sense that it causes the same variations in verb stems, as se indicate below. However, the progressive present takes neither the negative nor the interro-negative form. The interrogative progressive present is conveyed by prefixing the interrogative particle *is* to the affirmative present progressive form:

(67) is-ar-i-mggƟr.
Inter-Prog- he-harvest
Is he harvesting?

The Future

To obtain the future in Amazigh, the prefix *ma-* is added to the verb stem that is inflected for person, number and gender. This prefix changes to *mad* when it occurs with first person singular and with third person plural, as in:

(68) a. ma-i-qqim.
Fut-he-stay
He will stay.

b. mad-qqim-n,
Fut-stay-they
They will stay.

To form the negative future, the negative marker *ur-* is attached to the affirmative future verb form:

(69) ur- ma-i-qqim.
Neg-Fut-he-stay
He will not stay.

As for the interrogative future, it is conveyed by the prefixation of the interrogative marker *is* to the affirmative future form:

(70) is-ma--i-qqim?
Inter-Fut-he-stay

Will he stay?

Negative interrogatives in the future are obtained by prefixing the interrogative marker *is-ur* to the affirmative verb:

(71) is-ur-ma-i-qqim?
Fut-he-stay
Won't he stay?

After this brief outline of the main tense/aspect categories, a classification of verbs based on past form variations is in order. In fact, most of the variations appear in the past verbal form. In Amazigh, verbs may take the irregular, regular or defective forms. Regular verb patterns are those whose verb stem does not undergo any morphological change whatever the verb form. The verb stem in this case is not affected by the insertion of the negative or interrogative affixes. As for irregular verbs, they are usually those which undergo stem change and variations in the affirmative and the negative past. As for defective verbs, they do not generally inflect for person, mode or tense. However, defective verbs are small in number.

For instance, as it was mentioned earlier, regular verbs are characterized by the fact that their affirmative and negative past forms do not involve any stem variation. They usually consist of one, two or three consonants in their roots:

(72) a. -γi "can"

i-γi.
He can.

ur- i-γi.
Neg-he-can
He can't.

b. -qqim "stay"

i-qqim.
He stayed.

ur-i-qqim.
Neg-he-stay
He didn't stay.

As for irregular verbs, they are usually characterized by stem change in the affirmative and the negative past. They usually involve an insertion of a vowel in the verb stem (ablaut):

(73) tʃ "eat"

i-tʃa
He ate.

ur-i tʃi.
He didn't eat.

is-i-tʃa?

Did he eat?

is-ur-i-tʃi?
Didn't he eat?

The same ablaut appears in the affirmative as well as the interrogative forms and the same ablaut occurs in both the negative and the interro-negative sentences.

Defective verbs contain intrinsic peculiarities which cannot be generalized; for example, some verbs are conjugated in the same way regardless of whether they occur in the present or the past tense form:

(74) kʃ∂m "enter"

kʃ∂m-γ. (past)
enter-I
I entered.

ar-kʃʃ∂m-γ. (present)
Prog-enter-I
I am entering.

mad- kʃ∂m-γ (future)
Fut-enter-1
I shall enter.

Additionally, a verb like *dd∂r* (to be alive) is conjugated only in the present, while the verb *ili* (to be) is conjugated only in the past:

(75) a. i-dd∂r.

He is alive.

b. t-lla di.
she-is here
She is here.

Other defective verbs are those which do not take a causative, a reciprocal, or a passive form, as was mentioned before in this chapter. These verb patterns include other subcategories, which are often not clear-cut. Notice also that there are many exceptions, and that some verbs may have a regular form but because of some mode of conjugation, may belong to a different category. Thus, some categories overlap. The criteria followed in the literature for the classification of verbs is to choose the basic forms based on the number and position of the segments involved in the verb.

Conclusion

In this chapter, we have presented the various noun and verb forms of Amazigh. We have examined the stem, the affixes, and their relative positions in relation to the stem and in relation to each other. We have also described the different temporal notions, the major tense/aspect features and the criteria which permit their identification. All in all, the chapter has dealt with both the derivational and the inflectional morphology of nouns and verbs, as well as with aspects like passivization, negation and interrogation which interact in many interesting ways with the noun and verb morphology. The account we offered is mainly decrptive to guarantee a careful morpho-phonemic and morpho-syntactic study.

Chapter three

Syntax

Introduction

Syntax is the branch of linguistics which deals with the distribution and behavior of words and morphemes within the boundaries of the sentence. The sentence is the maximal syntactic unit which contains reference and predication that constitute language. The principal elements of the sentence are: the verb (V), the subject (S), and the direct object (O). Natural languages are often classified on the basis of the canonical order of these three basic constituents of the sentence. Given that on the one hand, the direct object is closely dependent on the semantic and syntactic nature of the verb (transitive/intransitive/ditransitive) and, on the other hand, the subject may materialize in forms other than the lexical one, the verb is indeed the central constituent of the sentence. It expresses predication and reflects the structural architecture of the sentence. This aspect of the verb is reinforced in the case of verb-initial languages like Amazigh. Other elements such as the indirect object, the preposition, the adverb, and the particles constitute secondary predication.

The syntax of a language constitutes its linguistic backbone. The syntax of Amazigh shows important characteristics: on the one hand, it is based on inflectional

elements that allow a relatively great syntactic flexibility of lexical items in this language, and on the other hand, it contains a number of operations that are attested in apparently different languages like French and English.

This chapter deals with the major elements of the Amazigh syntax. These elements are treated in two main sections: the simple sentences and the complex sentences. In the first section, two basic characteristics of the simple sentence are considered: the notion of the *subject* and the nature of the predicate (verbal and non-verbal). The types of simple sentences are also given; these include interrogative sentences, negative sentences, and imperative sentences. As for complex sentences, they include subordinate clauses, which in turn may be relative clauses (restrictive, non-restrictive, and free), complement clauses (declarative, interrogative, and modal), and adverbial clauses. Complex sentences may also be coordinate clauses or cleft sentences. Syntactic operations relating to complex sentences, such as raising, are also dealt with in this chapter.

Simple Sentences

An important number of studies have dealt with the syntax of simple sentences in Amazigh: Basset (1929, 1952, 1959), Galand (1957), Applegate (1958), Harries-Johnson (1966), Penchoen (1973), Prasse (1974), Bentolila (1981), Chaker (1984), Ennaji (1985), Abdelmassih (1986), Sadiqi (1986a), Guerssel and Hale (1987), Ouhalla (1988), Boukhris (1990), Cadi (1990), Benlakhdar (1990), Bououd (1990), and El Moujahid (1993), among many others.

As their name indicates, simple sentences in Amazigh are basic declarative sentences which contain the obligatory two founding stones for expressing a proposition in the logical sense of the term: the subject and the verb. In Amazigh, the two notions of the *subject* and the *predicate* exhibit important characteristics.

The Notion of Subject

An understanding of the notion of the *subject* in Amazigh is crucial for the understanding of the overall syntactic structure of this language. At the level of form, the subject in Amazigh is expressed by three elements: agreement markers which constitute an integral part of the verb, independent personal pronouns, and lexical nominal forms. Of these three types of subjects, only the first one is obligatory; the other two are optional. The three types of subjects may co-occur in the same sentence:

(1) t-sə́nwa (Fatima) (nttat) imə́kli.
she-cooked Fatima she dinner
Fatima cooked dinner.

The subject in Amazigh may, thus, be a lexical item (*Fatima*), a pronoun (*nttat*) or a clitic (*t-*). The real subject is the lexical item as the affix constitutes an integral part of the verbal complex and the independent personal pronoun functions as an emphatic element (see Ennaji 1985, Sadiqi 1986a, 1986b, 1997).

The functions of the three types of subjects correlate. For example, on the level of interpretation, agreement markers identify the pronominal or lexical subject. At this level, the pronominal and lexical subjects serve to make

explicit what is expressed by the obligatory agreement affixes. Lexical subjects appear only in the case of the third person (masculine or feminine, singular or plural). In the case of the other persons, only the personal pronominal affixes occur.

By morphologically expressing the grammatical notions of *person*, *number*, and *gender*, subject affixes encode agreement between the subject and the predicate in Amazigh (see Chapter 2 on morphology). It is the existence of this type of affixes in Amazigh that allows a single verbal complex to function syntactically as a whole sentence capable of expressing a complete proposition, i.e., a subject and a predicate:

(2) ttu-*γ*-tt.
forgot-I-her
I forgot her.

Compare (3a) below to the English version in (3b):

(3) a. dda-n.
are gone-they
They are gone.

b. *are gone

In (3a) and (3b) above, the two verbal forms are inflected in the sense that they contain affixes indicating purely grammatical categories (aspect and agreement). However, only the sentence in (3a) is complete given that it contains all the elements that are capable of identifying the subject; (3b) is ill-formed in the sense that it is syntactically and

semantically incomplete. The examples in (2) and (3) show the importance of words in the syntax of Amazigh: a word can play the role of a whole sentence.

The notion of the *subject* is not as simple in Amazigh as it is in SVO languages like French or English. The fact that morphological and syntagmatic (linear) elements may identify the subject of the sentence shows the interdependence of morphology and syntax in the linguistic analysis of Amazigh.

The Nature of the Predicate

It is the categorical nature of the predicate which determines the syntactic nature of the sentence in which it occurs. The predicate may be either verbal or non-verbal. We first consider verbal predicates which yield verbal sentences.

Verbal Sentences

Verbal simple sentences are sentences whose major constituent is the verb. Statistically, these sentences appear to be the most attested ones in Amazigh dialects (see Sadiqi 1980, 1986a, 1986b). On the syntagmatic level, or the axe of selections by opposition to the axe of projections, sentences may have the following word orders:

(4) a. i-umz Omar iqariDn. (VSO)
he-received Omar money
Omar received (the) money.

b. Omar i-umz iqariDn. (SVO)
Omar he-received (the) money

Omar received (the) money.

c. iqariDn i-umz-in Omar. (OVS)
money he-received-them Omar
Omar received (the) money.

d. i-umz iqariDn Omar . (VOS)
he-received money Omar
Omar received (the) money.

The simple sentences whose word order is VSO (see 4a) constitute the basic sentence type in Amazigh. These sentences are neutral or unmarked. They are neutral in the sense that they may be attested at the beginning, the middle, or the end of a conversation, and are not conditioned by any linguistic constraint.

After the VSO word order, the word order SVO (see 4b) is the most attested in the simple sentences in Amazigh. This word order often alternates with VSO. The characteristic of SVO sentences is the movement of the lexical subject NP to the postverbal position. This initial position in Amazigh is reserved for "foregrounded" (or prominent) elements at the syntactic level, as well as at the level of interpretation.

Sentences whose word order is OVS (see 4c) are marked on the formal and semantic levels. On the formal level, these sentences are characterized by the obligatory occurrence of an object clitic referring to the direct NP object which is moved to the pre-verbal position. OVS sentences are less attested than VSO and SVO ones in Amazigh dialects. These sentences occur in specific contexts where the direct object is important from the

interpretative point of view. For example, this type of sentences are rarely used to initiate a conversation. On the phonological level, OVS sentences are marked by stress on the moved direct object. In addition, there are constructions, such as interrogatives, where OVS and SVO word orders are excluded:

(5) a. *manasra iqariDn i-umz-in Omar?
when money he-received Omar
When did Omar receive (the) money?

b. *manasra Omar i-umz iqariDn?
when Omar he-received money
When did Omar receive (the) money?

As for VOS sentences (see 4d), they are rather marginal on the syntactic level. Only an appropriate intonation makes them acceptable. In this type of sentences, it is, once more, the direct object which is moved leftward and made prominent. Like OVS sentences, VOS sentences do not appear in interrogative constructions:

(6) *manasra i-umz iqariDn Omar?
when he-received money Omar
When did Omar receive (the) money?

In general, the basic order of the major constituents in Amazigh simple sentences, that is, V, S, and O, regulates the whole structure of the language. Amazigh is a basically VSO language where the syntactic behavior of the verb is very revealing. Studies on linguistic universals

(see Greeberg 1963) have clearly shown that there is a correlation between the basic VSO word order and the occurrence of specific types of constructions such as prepositional phrases (constructions where the preposition precedes its complement) instead of postpositions (constructions where the preposition follows its complement), relatives where the antecedent precedes the subordinate clause, complements which follow the predicate of the main clause, cleft sentences which follow the clefted constituent, and adjectives, demonstratives, etc. which follow the modified constituent. All these characteristics of VSO languages are attested in Amazigh (see Sadiqi 1986a, 1986b, 1997).

Copulative Sentences

Copulative sentences are simple sentences where a copula like *be* occupies the place of the verb. The major difference between a copula and an ordinary verb resides in the relatively weaker semantic load of the former in comparison with the latter. The copula is an element which relates the subject to the predicate while constituting an integral part of the latter. It is this aspect of the copula which explains the fact that, contrary to an ordinary verb, which is semantically "demarcated" by its semantic content, the copula does not act as a genuine predicate in the strict sense of the term. For example, in a sentence like *Mary is a writer*, it is the nominal syntagm *is a writer*, and not the copula *is*, which constitutes the predicate in view of the semantic load that this syntagm carries and which makes it indispensable to the overall meaning of the sentence.

In Amazigh, copula sentences are distinguished by the presence of one of the two elements which express, among other things, "being" and "existence" and have, thus, a copulative or attributive value: *ili* "be, exist" and *g* "be, do, put, organize, prepare". This type of sentences have been studied by Biarnay (1971), Galand (1965, 1980) and Akouaou (1979), among others.

In Amazigh, copulas are needed by the syntactic structure of the sentences in which they occur although they do not generally have the semantic impact of content verbs. These copulas syntactically function both as "full-fledged" verbs and as "copulas" in the strict sense of the term. In other terms, they may have a transitive or a copulative value. They function as verbs given that they inflect for the grammatical categories person, number, and gender, like any ordinary verb and also because they share with these verbs the same position in the sentence. On the other hand, they function as copulas because they may be, contrary to verbs, immediately followed by an adjective, an adverb, or a prepositional phrase.

Note in this respect that the copulas *g* and *ili* are complementary and far from being mutually exclusive in the sense that *ili* is commonly followed by adverbs or prepositional phrases, whereas *g* occurs with adjectives or prepositional phrases. In addition, only *ili* helps to express temporal values in Amazigh. (7) below summarizes the syntactic distribution of the two copulas in question:

(7) Copula	Followed by
g	adjective (Adj), noun phrase (NP)
ili	adverb, prepositional phrase (PP), verb phrase (VP)

Consider the following examples:

(8) a. i-ga/*i-lla Ahmed alə̂kmay. (Adj)
he-is/he-is Ahmed snake
Ahmed is snake.

b. i-ga/*i-lla Ahmed amssasfə̂r. (NP)
he-is/he-is Ahmed doctor
Ahmed is a doctor.

c. i-lla/*i-ga Ahmed i-sγa tigmmi. (VP)
he-is/he-is Ahmed he-bought house
Ahmed bought the/a house.

d. i-lla/*i-ga uγrum f Tə̂bla. (PP)
he-is/he-is bread on table
The bread is on the table.

e. i-lla/*i-ga Ahmed did. (Adv)
he-is/he-is Ahmed here
Ahmed is here.

According to the examples in (8) above, the copulative value of *g* is superior to that of *ili*. This is manifested in the fact that *g*, and not *ili*, may be followed by an adjective (see 8a) or a generic NP (see 8b). Note that ordinary verbs do not appear in these two contexts with the same semantic values. For example, the NP which follows the copula *g* does not have the syntactic and semantic values of a direct object NP: contrary to direct objects, it is this NP which constitutes the predicate of the

sentence on the level of sense given the relatively weak semantic content of the copula *g*. Note that this NP is generally non-specific and indefinite on the semantic level.

Further, the NP which follows the copula *g* is not subject to the same syntactic operations as direct object NPs. For example, it never appears as the subject of a passive verb:

(9) *i-ttuga umssasfɔ̂r.

Being simple sentences, copula constructions in Amazigh may be affirmative, negatives, or interrogative, as is shown below.

Verbless Sentences

As their name indicates, verbless sentences are sentences which do not contain a verb. Although it is possible to establish a syntactic link between verbal sentences and their verbless counterparts, verbless sentences have a grammar which is proper to them and have the capacity to express the notion of subject/predicate, hence their syntactic specificity. The major difference between verbal and verbless sentences resides in the nature of the predicates of the latter. The main types of verbless predicates contain nouns, adjectives, prepositional phrases, and pronouns (personal, demonstratives and interrogatives). Here are some examples:

(10) a. Hmad d lqayd.
Ahmed is caid

Ahmed is a caid.

b. Hmad d ubxxan.
Ahmed is black
Ahmed is black.

c. Hmad brra.
Ahmed outside
Ahmed is outside.

d. Hmad nnif tiflut.
Ahmed behind door
Ahmed is behind the door.

e. Hmad nn∂s.
Ahmed his
His Ahmed.

f. Hmad ad!
Ahmed this
This Ahmed!

g. matta Hmad?
Which Ahmed?

In comparison with verbal sentences, verbless sentences are subject to semantic and syntactic constraints. On the semantic level, these constructions tend to have an identifying function as the examples in (10) above show. As such, they resemble copular sentences. On the other hand, verbless sentences may also have attributive and/or locative functions, which are not identifying, by means of

attributive and/or locative adjectives, adverbs, or prepositional phrases.

On the syntactic level, verbless constructions are simple sentences which do not allow complementation. However, they are not "frozen" constructions; they are inflected but do not allow agreement inflection in the sense that nouns are associated with number and person morphemes as in verbal sentences.

Types of Simple Sentences

Apart from declarative sentences, there are three other constructions which may be considered simple sentences: interrogative sentences, negative sentences, and imperative sentences. We start by considering interrogative sentences.

Interrogative Sentences

Interrogative sentences in Amazigh have been subject to some studies (see Galand 1957 and Boukhris 1990, for example). These sentences are derived from corresponding declarative sentences. At the level of sense, interrogative sentences, as their name indicates, express interrogation or a search for specific information. There are two major types of interrogative sentences in Amazigh: yes/no questions, which inquire about the whole sentences, and WH questions which inquire about a specific constituent of the sentence. In other terms, WH questions are means of requesting specific information on a given person, object, or a situation. Note that the WH pronoun in such constructions allows the usage of interrogative pronouns with the functions of interrogative adjectives and interrogative adverbs.

Yes/no questions have the same form as their declarative corresponding sentences and are distinguished from them by a raising intonation or the presence of the interrogative particle *is*. Here are some examples:

(11) a. i-uzn Rachid tabrat?
he-sent Rachid letter
Did Rachid send the letter?

b. is i-uzn Rachid tabrat?
whether he-sent Rachid letter
Did Rachid send the letter?

c. i-ga amssasfɔer?
he-is doctor
Is he a doctor?

d. is i-ga amssasfɔer?
whether he-is doctor
Is he a doctor?

(11a), (11b), (11c) and (11d) necessitate "yes" or "no" as an answer. A particularly interesting fact about Amazigh yes/no questions is that the interrogative particle *is* may trigger the raising of the particle *d* which may function in Amazigh either as an auxiliary of predication or a proximity particle. For example, in the declarative sentence *i-dda-d Hmad* "Ahmed has come here", the affix *d* which is suffixed to the verb functions as a proximity particle; this particle raises and copies on the interrogative complementizer *is* (whether): *is-d i-dda Hmad*? "Has

Ahmed come here?" which becomes *izd i-dda Hmad* "Has Ahmed gone?". The *d* of *izd* is the predication auxiliary which is attached to *is*, and which triggers the assimilation of *s* by *d*. The predication auxiliary *d* is not subject to raising when the sentence is not initiated by the yes/no question complementizer *is*: **Ahmed d-i-dda* "Ahmed has come here".

As for WH questions, they are characterized by the initial occurrence of an interrogative pronoun. Interrogative pronouns in Amazigh start usually with *ma*. These pronouns may be categorized into two major classes: nominal pronouns and adverbial pronouns.

Nominal interrogative pronouns are associated with nouns which function as subjects or object complements in a sentence. As for adverbial interrogative pronouns, they are associated with the manner, place, etc. which characterizes an action or an event. *ma* "who/what/that" and *matta* "which" belong to the first category and *mani* "where", *manasra* "when", *mamkda* "how" and *mɔ̂ʃta* "how many/much" belong to the second category. We start by considering nominal interrogative pronouns.

There are two interrogative pronouns in Amazigh: *ma* "who/what/that" and *matta* "which". *ma* is a typical nominal pronoun in the sense that it can function as subject, direct/indirect object complement , or object of a preposition:

(12) a. ma i-ɣra-n tabrat?
who having read letter
Who has read the letter?

b. ma i-ɣra Hmad iDɔ̂lli?

what he-read Ahmed yesterday
What did Ahmed read yesterday?

c. ma mi i-ara mad tabrat?
who to he-read Ahmed letter
To whom did Ahmed read the letter?

d. ma s-i-qq∂n Hmad SS∂nDuq?
what with he-closed Ahmed safe
What did Ahmed close the safe with?

Note that in a sentence, *ma* is always followed by a verb; when this pronoun replaces a subject noun, the verb takes the participial form /*i*_____*n*/ (see 12a above).

The interrogative pronoun *ma* has a variant: *mi*, which has the same sense. *ma* and *mi* are in complementary distribution: the contexts in which they are used complete each other and never intersect: *ma* always occurs in the initial position and never in the final position, after a preposition or alone; while *mi* never occurs in the initial position, occurs only in the final position, after a preposition, or alone. Here are examples:

(13) a. ma/*mi i-swa Hmad?
what what he-drank Ahmed
What did Ahmed drink?

b. i-swa Hmad mi/*ma?
he-drank Ahmed what what
Ahmed drank what?

c. i-fa tabrat i mi/*ma?

he-gave letter to who who
Who did he give the letter to?

d. mi/*ma?
What?

The second nominal interrogative pronoun is *matta* "which". Contrary to *ma*/*mi*, this pronoun regularly precedes the noun or pronoun that it modifies:

(14) a. matta urgaz?
Which man
Which man?

b. matta nutni?
which them
Which ones?

In a sentence, *matta* and the noun/pronoun that it modifies regularly trigger a VS word order in the sentences they occur in:

(15) a. matta udlis i-ra assad?
which book he-wants today
Which book does he want today?

b. matta urgaz i-ffə̂γ-n?
which man he-went out
Which man has gone?

As for adverbial interrogative pronouns, they include: *manasra* "when", *mani* "where", *mə̂ʃta* "how

many/much" and *mamkda* "how". As their meanings indicate, these adverbial pronouns express the notions of *tense*, *place*, *quantity* and *manner*. Note that adverbial interrogative pronouns contain *m(a)* plus an obsolete root. For practical reasons, these pronouns are considered in this chapter as "fixed" forms. Here are examples:

(16) a. manasra i-dda?
when he-is gone
When has he gone?

b. mani s-i-dda?
where to-he is gone
Where has he gone?

c. mɔ̀ʃta s-i-sɣa tigmmi?
how much with-he-bought house
How much did he buy this house?

d. mamkda i-ffɔ̀ɣ?
how he-went out
How did he go out?

The adverbial character of the initial interrogative pronouns in (16) above is shown by the fact that they may be followed by a noun phrase:

(17) a. manasra tafaska?
when feast of sheep
When is the feast of the sheep?

b. mani lqqum?

where children
Where are the children?

c. mɔ̂ʃta lluz?
How much almonds
How much are the almonds?

d. mamkda tawada?
How departure
How will the departure be?

In the presence of adverbial interrogative pronouns, the VSO basic word order seems to be more common, the SVO order being much less frequent, while the OVS order is excluded:

(18) a. manasra t-ɣra Fatima tabrat? (VSO)
when she-read Fatima letter
When did Fatima read the letter?

b. ?manasra Fatima t-ɣra tabrat? (SVO)

c. *manasra tabrat t-ɣra-tt Fatima? (OVS)

There is, thus, a syntactic restriction on the order of the basic constituents in constructions containing adverbial interrogative pronouns.

Nominal and adverbial interrogative pronouns may also appear in echo questions. In such cases, the whole sentence is questioned:

(19) a. Locuteur A: ma i-gɔ̂n-n?

who being asleep
Who slept?

b. Locuteur B: ma i-g∂n-n?

(20) a. Locuteur A: manasra i-ff∂γ?
when he is gone?

b. Locuteur B: manasra i-ff∂γ?

The difference between (19a) and (19b), on the one hand, and (20a) and (20b), on the other hand, resides in the ascending final tone which distinguishes the echo questions in (19b) and (20b) from their non-echo counterparts in (19a) and (20a), respectively. The questioning of the whole sentence may express an objective request for confirmation or a subjective attitude.

In echo questions, interrogative adverbial pronouns may occupy the final position, in which case they become stressed on the phonological level:

(21) ma-i-su atay manasra?
Fut-he-drink tea when
He will drink tea when?

In (21) above, intonation falls on *manasra* which denotes time and which constitutes the object of interrogation.

Negative Sentences

In Amazigh, a noun or a verb may carry morphological negation whose scope extends over the whole sentence. There are two major types of negation in Amazigh: verbal negation and nominal negation. In the first case, the morpheme *ur* is prefixed to the verb stem and triggers a vocalic change on the verb:

(22) a. i-dda Hmad s Fes.
he-went Ahmed to Fes
Ahmed went to Fes.

b. ur-i-ddi Hmad s Fes.
Neg-he-go Ahmed to Fes
Ahmed did not go to Fes.

As for nominal negation, it is realized as *urd* which may be considered a syntactic variant of *ur*:

(23) a. ur-d Hmad.
Neg-it is Ahmed
It is not Ahmed.

b. ur-d amzzan
Neg-it is small
It is not the small one.

Unlike *ur*, *urd* is complex morphologically in the sense that it contains *d* which is considered by many linguists as a predication particle (see the *d* in *izd* which is presented as a predication particle above). However, positive examples which correspond to (23a) and (23b) are

not **d Hmad* and **d amzzan*, respectively, but rather *Hmad* and *amzzan*. It is possible that the particle *d* is subject to raising: compare *i-dda-d Hmad* "Ahmed has come here" where *d* follows the verb and *ur-d-i-ddi* Hmad "Ahmed did not come here" where *d* raises and attaches to *ur*. If *d* of *urd* is a proximity particle, *ur* is the negative form par excellence.

Imperative Sentences

Imperative sentences are characterized by the absence of the lexical subject and the agreement markers which, except the second person plural morpheme, are obligatory everywhere else in Amazigh:

(24) a. γ∂r tabrat!
read letter
Read the letter!

b. γ∂r-at tabrat!
read-you-2Pl letter
Read the letter!

The imperative is a mood in Amazigh whose verb is always in the aorist (a bare verbal stem with no person, number or gender inflection).

Complex Sentences

Complex sentences contain more than one sentence. There are three major categories of complex sentences in Amazigh: subordinate clauses, coordinate sentences, and cleft sentences. Complex sentences have been studied by a number of linguists: Basset (1929, 1952), Galand (1964),

Bentolila (1981), Ennaji (1985), Sadiqi (1986a), Ennaji and Sadiqi (1986), Guerssel and Hale (1987), among many others.

Subordinate Clauses

Subordinate clauses may be defined as syntactically dependent sentences; they never appear without a main clause. These clauses are generally introduced by specific markers that delimit the nature of the subordinate clause. There are three types of subordinate clauses: relative clauses, complement clauses, and avderbial clauses.

Relative clauses

Here is an example:

(25) [zri-γ argaz [da i-rwəl-n]].
saw-I man who having fled
I saw the man who fled.

(25) contains a complex sentence. The two verbal forms *zri* "see" and *rwəl* "flee" indicate that two sentences are involved. The sentence that contains *zri* is the main clause and the one that contains *rwəl* is the subordinate clause, in this case the relative clause.

It is difficult to give a syntactic definition of the relative clause in Amazigh because this construction includes a number of different structures. The best definition of this type of clause is the semantic definition: relative clauses never express a "complete" idea; they are always semantically linked to an antecedent in the main clause. In (25), *argaz* and *da* have the same referent; *argaz* is the antecedent of *da* which is the relative marker

that introduces the relative clause. On the level of form, the relative marker is the most explicit indicator of the relative construction. It functions as a modifier, and like all modifiers in Amazigh, it follows the antecedent modified nominal, a characteristic of VSO languages.

A characteristic of Amazigh is that relative markers function as complementizers and not as pronouns as in English or French. First, this marker is neutral and invariable, no matter what the person, number and gender of the antecedent is.

Relative clauses may have one of the following forms in Amazigh:

(26) a. [[[da] S]]
NP S COMP

b. [[[∅] S]]
NP S COMP

The two structures in (26) are semantically alike. The complementizer is optional.

Any NP position in the sentence can be relativized in Amazigh: the subject, the direct object, the indirect object, and the object of the preposition.

The relativization of the subject position is characterized by the obligatory occurrence of the participial form /*i*_____*n*/ as (27a) below shows. The relativization of the direct object does not trigger any morphological change. As for the relativization of the indirect object and that of the object of the preposition, they interact with a particular usage of the preposition. In the first case, the preposition *i* “to” which precedes the

indirect object changes to *mi* and follows the relative complementizer as in (27b), and in the second case, the preposition does not undergo any change; it follows the relative complementizer as in (27d):

(27) a. argaz [[da] i-ara-n adlis i-ffðγ].
man who having written book he- went out
The man who has written the book went out.

b. adlis [[da] i-ara urgaz i-γla].
book that he-has written man it-expensive
The book that the man has written is expensive.

c. argaz [[da] mi i-sγa adlis i-lla].
man who to he-has bought book he-is here
The man to whom he has bought the book is here

d. i-dda urgaz [[da] f i-sawl].
he-went man who on he-has spoken
The man about whom you spoke has gone.

The relativization of the indirect object is syntactically interesting as it raises pertinent issues which transcend relativization. Constructions involving the indirect object are called dative constructions. In Amazigh, the dative (preposition + indirect object) covers the genitive (the preposition + noun). Consider the sentences in (28a) and (28b) below:

(28) a. i-mmut [[urgaz] [i TmTTuT]]. (Dative)
he-died man to woman
The woman's husband died

b. [i-mmut [urgaz [n TmTTuT]]]. (Genitive)
he-died man of woman
The woman's husband died.

Both the dative and the genitive in Amazigh express the idea of "possessor/possessed" and are semantically similar as the translations of (28a) and (28b) indicate. However, from a syntactic point of view, the two constructions have different structures: the dative contains an NP attached to a sentence, whereas the genitive contains an NP attached to another NP. This structural difference is a direct consequence on the process of relativization. In the case of the dative, there is no problem and the relative form of the dative is:

(29) [TamTuT [[da] mi i-mmut urgaz]] t-lla.
woman who to he-died husband she-is here
The woman whose husband died is here.

As for the genitive, it cannot undergo relativization as the examples in (30a) and (30b) below show:

(30) a. *[TamTuT [[da] n i-mmut urgaz]] t-lla.
woman who of he-died man she-is here
The woman whose husband died is here.

b. *TamTuT [[da] i-mmut urgaz nn∂s t-lla.
woman who he-died man her she-is here.

The discrepancy between the dative and the genitive in Amazigh may be explained in syntactic terms: the construction containing the dative is composed of two

different constituents: an NP, [*urgaz*] and a PP [*i TmTuT*] which we may easily place under S [*i-mmut urgaz i TmTuT*]. In such a case, the process of relativisation consists in extracting the dative NP T*mTuT* from the PP *i TmTuT*, place it at the head of the relative (that is, in the place of the antecedent) and move the preposition to the position following the relative complementizer *da*. However, in the case of the genitive, there is only one constituent: a complex NP which contains two nouns:

(31) [[urgaz [n TmTuT]]]
NP PP

In a context like (31) above, the process of relativization is expected to extract the genitive NP T*mTuT* from the complex NP *urgaz n TmTuT* and place it in the initial position of the sentence. This operation is blocked because elements cannot be extracted from complex NPs. Thus, in the case of the genitive, relativization, as an expression of "syntactic dependence", can be realized only by reference to the dative or on the basis of the dative.

There are three types of relatives in Amazigh: restrictive relatives, non-restrictive relatives, and free relatives.

Restrictive Relatives

It is semantically that restrictive relatives are best identified in Amazigh. Consider the following examples:

(32) a. [lqqum [da i-dda-n]] mɔ̂rD-n.
children who being gone got sick-they

The children who went out got sick.

b. [argaz [da i-ffəγ-n ixf ns aʃku t-mmut TmTuT nnəs iDəlli] hiyya Hmad.
man who being gone out of his head because his wife died is Ahmed.
The man who became crazy because his wife died is Ahmed.

c. [zri-γ argaz [da i-zdəγ-n tama nnəγ]]
saw-I man who living near us
I saw the man who lives near us.

d. adlis [da-i-t-rDəl] i-γla.
book that-to me-she-lent it-expensive
The book that she lent me is expensive.

In each of the above sentences, the function of the restrictive relative is to "restrict" the reference of the antecedent. For example, in (32a), there is a group of children and it is a "sub-group" of this group that has gone out. The function of the restrictive relative clause is to show that only the children belonging to the sub-group got sick. The same kind of reasoning can be easily extended to the other examples.

The antecedent of the restrictive is usually indefinite and tends to form a "phonological" unit with its antecedent.

Non-restrictive Relatives/Appositives

This type of relatives functions as an "after thought":

(33) Hmad, [da n-ttizar g tlfaza], i-ffƟγ.
Ahmed who we-saw in television he-went out
Ahmed, who we saw on TV, went out.

Antecedents that do not need any restriction, such as definite nouns, are used with appositive relatives. Whole sentences may act as "antecedents" in this case:

(34) [i-ukr Hmad iqaridn], da i-ga-n lmuSiba taxatart.
he-stole Ahmed money that being scandal big
Ahmed stole the money, which is a big scandal.

A phonological break usually separates the antecedent and the non-restrictive relative.

Free Relatives

Free relatives are also called "nominal relatives" or "antecedentless relatives" (see Ennaji 1985 and Sadiqi 1986a). Two paradigms serve as heads of free relatives:

(35)	ayda	"what"
	wada	"the one who-Masc"
	tada	"the one who-Fem"
	wida	"the ones who-Masc"
	tida	"the ones who-Fem"

(36)	wan	"whoever-Masc"
	tan	"whoever-Fem"
	win	"whoever-Masc Pl"
	tin	"whoever-Fem Pl"

ayan “whatever”

The first paradigm refers to definite and precise entities whereas the second one refers to indefinite entities.

Complement Clauses

The second type of subordinate clauses in Amazigh is complement clauses. Contrary to relatives, complement clauses are better identified in formal terms. Syntactically, it is the structural position of the complement clause (the subordinate sentences functioning as the object of a main predicate) that characterize it.

Complementizers

Complementizers are formal units which introduce complement clauses. There are three types of complementizers in Amazigh: *is*, *blli*, and *a*. The structural status of each one of these three complementizers is important as it determines the structural nature of the clause it introduces.

Amazigh complementizers have the following characteristics which confirm their status. First, they are invariable and do not inflect for person, number and gender:

(37) a. i-iγal Hmad is/blli t-dda Fatima.
he-thinks Ahmed that she-is gone Fatima
Ahmed thinks that Fatima has gone.

b. t-iγal Fatima is/blli i-dda Hmad.
she-thinks Fatima that he-is gone Ahmed

Fatima thinks that Ahmed has gone.

c. n-iγal kullu is/blli i-dda Hmad.
we-think all that he-has gone Ahmed
We all think that Ahmed has gone.

d. i-ra Hmad a t-ddu Fatima.
he-wants Ahmed that she-go Fatima
Ahmed wants Fatima to go.

e. t-ra Fatima a i-ddu Hmad.
she-want Fatima that he-go Ahmed
Fatima wants Ahmed to go.

f. n-ra kullu a i-ddu Hmad.
we-want all that he-go Ahmed
We all want Ahmed to go.

Complementizers (Comps) in Amazigh are invariable and do not inflect for the categories person, number, and gender. The only exception is *a* which is systematically followed by the element *d* when the verbs of the main and subordinate clauses are in the first person singular or the third person plural (masculine or feminine):

(38) a. ri-γ ad γr-γ g bariz.
want-I that study-I in Paris
I want to study in Paris.

b. ra-n ad γr-n g bariz.
want-they-Mas-Pl that study-they in Paris

They want to study in Paris.

c. ra-nt ad γr-nt g bariz.
want-they-Fem-Pl that study-they-Fem-Pl in Paris
They want to study in Paris.

A number of remarls are in point. First, *d* is obligatory in the sentences in (38). There is no phonological or morphological reason for this state of affairs. Second, comps in Amazigh are not sensitive to the traits [± definite] or [± animate]. Third, some comps are morphologically related to other elements in the language: *is* has the same morphological form as the interrogative *is*. Fourth, comps may not be modified by a preposition:

(39) a. i-wajb Hmad f tbrat n Fatima.
he-answered Ahmed to letter of Fatima
Ahmed answered Fatima's letter.

b. i-wajb Hmad (*f) is/blli (*f) i-dda s brra.
he-answered Ahmed to that that he-is gone to outside
Ahmed answered that he went abroad.

c. i-ϛwwəl Hmad f twada.
he-counts Ahmed on departure
Ahmed counts on departure.

d. i-ϛwwel Hmad (*f) a (*f) i-ddu.
he-counts Ahmed on that he-goes
Ahmed counts on going.

The two verbs *wajb* “answer” and ϛϛwwəl “count on” are regularly followed by a preposition as in (39a) and (39c), but when *is*, *blli* or *a* occur in the sentence, the prepositions can neither precede nor follow the comps as (39b) and (39d) show.

is and *izd* introduce declarative and interrogative complement clauses:

(40) a. i-ssən Hmad is t-dda Fatima s Fes.
he-knows Ahmed that she-is gone Fatima to Fes
Ahmed knows that Fatima has gone to Fes.

b. i-səqsa Hmad is t-dda Fatima s Fes.
he-asked Ahmed whether she-is gone Fatima to Fes
Ahmed asked whether Fatima went to Fes.

In such cases, it is the semantic nature of the main verb that determines the nature of the complement clause. There are, however, cases of ambiguity:

(41) i-zra Hmad is t-sul Fatima jəgga.
he-saw Ahmed that/whether she-is Fatima house
Ahmed saw that/whether Fatima is still in the house.

The declarative comps *is*, *blli* et *billa* may be omitted without affecting the general meaning of the sentence in which they are used:

(42) i-warg (is/blli) i-dda s Fes.
he-dreamed that he-is gone to Fes.
He dreamed that he went to Fes.

In such a case, it is the semantic nature of the main verb that indicates whether the complement clause is declarative or interrogative.

As for the interrogative comp *is*, it is obligatory because of its semantic load which is indispensable to the understanding of the sentence in which it is used. The meaning of this comp contributes to the expression of the notions of *uncertainty* and/or *hesitation* which characterize interrogative complement clauses.

The comp *a* introduces complement clauses whose verb is in the imperfective. Like the interrogative comp, this comp is obligatory:

The two comps *is* and *a* introduce complement clauses whose verb is in the imperfective:

(43) ar-tx∂mmam-γ izd a ddu-γ s ssuq.
Prog-think-I whether that go-I to market
I am wondering whether or not to go to the market.

Raising

The notion of *raising* is closely linked to the notion of *complementation* in Amazigh. There is an interesting type of raising in Amazigh complement clauses: that of the subject of the complement clause. After raising, this subject becomes either the subject or the object of the main clause:

(44) a. i-Dh∂r is i-q∂ll∂q Hmad.
it-seems that he-is angry Ahmed
It seems that Ahmed is angry.

b. i-Dh∂r Hmad is i-q∂ll∂q.
it-seems Ahmed that he-is angry
Ahmed seems to be angry.

In the second case, the subordinate subject raises to the object position of the main clause:

(45) a. i-ss∂n Lahcen is i-ara Hmad tabrat.
he-knows Lahcen that he-wrote Ahmed letter
Lahcen knows that Ahmed wrote the letter.

b. i-ss∂n Lahcen Hmad is i-ara tabrat.
he-knows Lahcen Ahmed that he-wrote letter
Lahcen knows that Ahmed wrote the letter.

Hmad, which functions as the subject of the complement clause in (45a), occupies the object position of the main clause in (45b). The fact that the sentence in (45b) can be passivized, a clause-internal operation, proves that the raised subject is part of the main clause:

(46) a. i-tya-ssan Hmad is i-ara tabrat.
he-Pass-known Ahmed that he-wrote letter
Ahmed is known to have written the letter.

b. Hmad i-tya-ssan is i-ara tabrat.
Ahmed he-Pass-known that he-wrote letter
Ahmed is known to have written the letter.

Adverbial clauses

The syntactic and semantic aspects of adverbial clauses in Amazigh are important. Syntactically, they are

introduced by subordinators and generally exhibit a VSO order. Semantically, the adverbial and its subordinator connstitute a unit whose role is to modify the action or event expressed by the main verb.

Adverbial Subordinators

The following are the major adverbial subordinators in Amazigh:

(47)

mkan	"when"	waxxa	"even if"
ku	"as"	marafad	"in order that"
sɔ̂gma	"since"	marbbana	"in the hope that"
urta	"before"	awr imiq	"so that"
sɔ̂g nnif ma	"after"	aʃku	"because"
aylliγ	"until"	ayda g	"because"
arasrag	"until"	mɔ̂kda	"as"
ard	"until"	(sa)zun	"as"
aynnaγ s	"until"	kra s	"as"
γir	"if"	bla	"without"
mr	"if"		

Morphologically, these adverbial subordinators may be classified into three categories: (1) simple: *mkan*, *ku*, *γir*, *ig*, *mr*, *waxxa*, *marbbana*, *aʃku*, *mɔ̂kda* and *bla*. (2) simple but with forms that appear elsewhere: *sɔ̂gma*, *aylliγ*, *arasrag*, *ard*, *marafad*. (3) complex : *sɔ̂g nnif ma*, *aynnaγ s*, *ayda g*, *awr imiq*, *(sa)zun*, *kra s* and *ayda g ma*.

Subordinators are obligatory. This is due to the semantic load they carry. Their function is to link subordinate to main clauses. Their semantic values are given in *Table 3* below.

Table 3

Temporality	mkan, ku, sə∂gma, aylliɣ, arasrag, aynnaɣ s, ɣir
Causality	ku, sə∂gma, aʃku
Progression	ku, aynnaɣ s, ayda g ma
Correlation	ku, kra s
Opposition	ku
Adversity	ku
Anteriority	urta, ɣir
Posteriority	sə∂g nnif ma
Result	aylliɣ, arasrag, ard
Consequence	aylliɣ, arasrag
Condition	ig, mr
Hypothesis	ig, mr
Concession	waxxa
Contrast	waxxa
Objective	marafad, marbbana, awr imiq
Cause-effect	aʃku, ayda g
Manner	mə∂kda, (sa)zun
Comparison	mə∂kda, (sa)zun
Exclusion	bla

Coordinate Sentences

Coordination is a syntactic operation which links constituents of the same structure. There are three major types of coordination in Amazigh: coordination of addition, coordination of choice, and coordination of contrast.

Coordination of addition

This is the most neutral type of coordination. The term "coordination" itself clearly denotes some kind of addition. Semantically, this type expresses addition or sequence. The coordination of NPs is simple and is obtained by the insertion of the coordinator *d* "and" between the coordinated constituents. As for the coordination of sentences, consider:

(47) a. i-dda Hmad d Fatima.
he-is gone Ahmed and Fatima
Ahmed and Fatima went out.

b. i-ssufγ Hmad ulli t-agm-d Fatima aman.
he-took out Ahmed sheep she-fetched-here Fatima water
Ahmed took out the sheep and Fatima fetched water.

This type of coordination is expressed through juxtaposition of constituents. It presents two characteristics. First, a total absence of any coordinator, and the aorist form of the second verb. It is this aorist (or neutral) form of the verb which makes the second sentence "independent".

This type of coordination may be symmetrical or asymmetrical. In the first case, the order of the coordinates is interchangeable without causing ungrammaticality, whereas in the second case, a change in the order of constituents brings about a change in meaning.

Coordination of choice

The coordination of choice is characterized by the presence of *nγəd* "or" (or its variant *nəγ*) or *mad* "or":

(48) a. Fatima nγ∂d Hmad
Fatima or Ahmed

b. Fatima mad Hmad?
Fatima or Ahmed?

c. i-dda Hmad mad/*nγ∂d ur-i-ddi?
he-went Ahmed or or Neg-he-gone
Did Ahmed go or not?

d. ma-i-s∂γ lkamiyyu neγ/*mad i-bna tigmmi.
Fut-he-buy lorry or or he-build house
He will buy a lorry or build a house.

This type of coordination may be inclusive or exclusive. In the first case, the choice of the alternative is possible, whereas in the second case, it is not:

(49) a. çzza-n dar-i m∂dd∂n da i-zdγ-n g Fes nγ∂d Rabat.
are dear-they to-me people who live in Fes or Rabat
I like the people who live in Fes or Rabat.

b. swa i-saf∂r nγ∂d i-uʃka.
either he-traveled or he-is lost
He either traveled or is lost.

Coordination of contrast

Coordination of contrast is characterized by the appearance of the morpheme *walaynni* "but" between the coordinated constituents. It appears only with sentences and necessitates a close semantic relation between them. This relation is often a relation of opposition:

(50) a. * Ahmed walaynni Fatima
Ahmed but Fatima
Ahmed but Fatima

b. i-ff∂γ Hmad walaynni ur-t-ffiγ Fatima.
he-went out Ahmed but Neg-she-gone Fatima
Ahmed went out but Fatima did not.

The contrastive value of *walaynni* justifies the use of lexical items which highlight contrast:

(51) i-ʃ∂qqa Hmad walaynni i-ʃ∂wa.
he-is tough Ahmed but he-is intelligent
Ahmed is tough but intelligent.

This mark of disjunctive coordination may be replaced by the subordinator of contrast *waxxa*:

(52) waxxa i-ʃ∂qqa Hmad i-ʃ∂wa.
although he-is tough Ahmed he-is intelligent
Although Ahmed is tough he is intelligent.

Unlike the marks of the coordination of addition or the coordination of choice, which may coordinate more than two sentences, the marker of the coordination of contrast may coordinate only two sentences. The reason is that, in principle, we can coordinate or disjoint an indefinite number of things, but we usually contrast only two elements at a time.

Cleft Sentences

Many authors dealt with cleft sentences in Amazigh (see Basset 1952, Galand 1957, Chaker 1984, Ennaji and Sadiqi 1986, among other). Clefting is distinct from dislocation. A constituent, generally an NP, is dislocated when it is moved to the beginning or the end of a sentence. As for clefting, it consists in moving a constituent, an NP or any other category, to the beginning of the sentence only. This syntactic operation has stylistic ramifications.

Clefting necessitates the cleft marker *a* :

(53) a. i-umz Hmad iqariD∂n. →
he-received Ahmed money
Ahmed received the money.

b. Hmad a i-umz-n iqariD∂n. (Subject)
Ahmed cleft marker having received money
It is Ahmed who obtained the money.

(54) a. i-fa Hmad iqariD∂n i urgaz. →
he-gave Ahmed money to man
Ahmed gave the money to the man.

b. argaz a mi i-fa Hmad iqariD∂n. (Ind obj)
man cleft marker to him he-gave Ahmed money
It is to the man that Ahmed gave the money to.

(55) a. ksud-γ f lqqum. →
am afraid-I on children
I am worried about the children.

b. lqqum a f ksud-γ. (Prep compl)
children cleft marker on am afraid-I

It is about children that I am worried.

(56) a. t-zra adlis ddaw Tabla. →
she-saw book under table
She saw the book under the table.

b. ddaw T∂bla a-g-t-zra adlis. (Obj of a prep)
under table cleft marker -in-she-saw book
It is under the table that she saw the book.

(57) a. i-ga Hmad abxxan. →
he-is Ahmed black
Ahmed is black.

b. abxxan a i-ga Hmad. (Adj)
black cleft marker he-is Ahmed
It is black that Ahmed is.

(58) a. i-dda Hmad aSSant. →
he-went out Ahmed yesterday
Ahmed went out yesterday.

b. aSSant a i-dda Hmad. (Adv)
yesterday cleft marker he-went out Ahmed
I is yesterday that Ahmed went out.

Conclusion

The syntax of Amazigh is both complex and linguistically interesting. It is complex as it is regulated by a relatively free word order and a rich system of morphological markers and it is linguistically interesting as it contributes to our understanding of cross-linguistic

phenomena. For example, it can be used to compare two or several similar or different syntactic systems.

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Index

The grammar of Amazigh presented in this book is a simplified description of the language. It is aimed at facilitating the standardization of Amazigh at a time when the teaching of the language has become a reality.

This book contains three major chapters: phonology, morphology, and syntax. The chapters are inter-related in the sense that each one of them feeds into the others.

The book specifically describes the broad linguistic characteristics of the Ayt Hassan and Ayt Bouzid dialects (spoken in Azilal and Beni Mellal areas, respectively). It focuses more on aspects that are shared with other dialects than on the specificities of the above-mentioned varieties. This overall description is meant to be used as a stepping stone to more comparison and standardization.

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Dr. Sadiqi and Dr. Ennaji are also authors of the first collection of Amazigh textbooks (*Awlmd Tamazight*, January 2004) in the script of Tifinagh, published by BMCE Foundation.

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