Gender and Number Marking in Amazigh Language

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Abstract

This article studies the derivational system of gender and number in Ait Atta variety of Amazigh language. Thus, the following claims are made: first, gender is overtly marked on feminine nouns by the prefixation of the gender morpheme t-. The paper argues that [t…t] is not a circumfix or a discontinuous morpheme, but it is an asymmetric inflection. In the derivational system of gender, large majority of nouns allow for gender opposition. However, mass nouns allow only for one lexically determined gender and number. Moreover, masculine has no overt realization in Amazigh language. Vocalic initial nouns fall into the category of masculine nouns. I argue that the initial vowel is a nominal marker. I submit that the noun, in general, consists of maximally three main parts: a prefix, a lexical base, and a suffix. Second, the majority of Berber noun stems involve, at least, one vowel in addition to the prefixal vowel (e.g. 'a-ḍar' foot, 'a-funas' bull, 'a-ɣrum' bread). Third, when the plural noun is specified as [+feminine], it takes the gender morpheme t-. Fourth, number takes the form of a feature assigned lexically to the noun. The study provides a templatic analysis to account for internal noun change. It implements Lahrouchi and Ridouane (2016) analysis of diminutives and plurals in Moroccan Arabic and argues that sound plurals in Amazigh language are associated with standard Num projection, while id/istt-plurals are associated with lower in the structure with n projection.

1. INTRODUCTION

The present paper addresses the issue of gender and number marking in Amazigh language. I will follow the morphological model introduced by Saib (1976); Guerssel (1992); El Moujahid (1997); Idrissi (2000); Bensoukas (2015); and others in order to present a straightforward description and account for the problem. Thus, the following claims are made; first, gender is overtly marked on feminine nouns by the prefixation and suffixation of the gender morpheme [t]. The paper argues that [t…t] is not a circumfix or a discontinuous morpheme, but it is an asymmetric inflection. Furthermore, in the derivational system of gender, large majority of nouns allow for gender opposition (e.g. a-ḍar (MS) – t-a-ḍar-t (Fem) 'foot- small foot). However, mass nouns allow only for one lexically determined gender and number .e.g. u-di (MS.SG) 'butter', t-idi (Fem.SG) 'sweat', a-man (MS.PL) 'water'. Moreover, the masculine has no overt realization in Amazigh language. Vocalic initial nouns fall into the category of masculine nouns. I argue that the initial vowel is a nominal marker rather than a gender marker. Along with the objectives of the paper, I submit that the noun, in general, consists of maximally three main parts: a prefix, a lexical base, and a suffix. Second, the majority of Berber noun stems involve, at least, one vowel in addition to the prefixal vowel (e.g. 'a-ḍar' foot, 'a-funas' bull, 'a-ɣrum' bread). Third, when the plural noun is specified as [+feminine], it takes the gender morpheme t-. Fourth, number is not a lexical

category, but it takes the form of a feature assigned lexically to the noun. The paper adopts Lahrouchi and Ridouane (2016) templatic analysis to capture the internal patterns of nouns and their plural formation in Ait Atta variety of Amazigh language.

The structure of the paper is as follows. Section 1 discusses the derivational system of gender in Ait Atta variety of Amazigh language (Tamazight) and proposes an analysis of the initial vowel, which marks most Amazigh nouns, following Ritter (1993), Lowenstamm (2008), and Lahrouchi (2013). Section 2 addresses the issue of nominal plural formation in Amazigh language and provides a templatic analysis of the thematic vowel deletion and vowel ablauts in broken and mixed plurals. A morpho-syntactic analysis is proposed to account for number location in sound and id/istt plurals.

2. GENDER

Amazigh language has a gender system for masculine and feminine. This section studies the derivational system of gender in Ait Atta variety of Amazigh language (Tamazight). It lays out some assumptions and claims upon which my analysis of DPs in Amazigh language will be based. Thus, the following claims are made. First, gender is overtly marked on feminine nouns by the prefixation and suffixation of the gender morpheme[t]. Moreover, the masculine has no overt realization in Amazigh language. Furthermore, in the derivational system of gender, large majority of nouns allow for gender opposition (e.g. a-ḍar (MS) – t-a-ḍar-t(Fem) 'foot- small foot'). However, mass nouns allow only for one lexically determined gender and number .e.g. u-di (MS.SG) 'butter', t-idi (Fem.SG) 'sweat', a-man (MS.PL) 'water'). Additionally, a typical noun in Amazigh language starts with the vowel /a/, which may emerge as /u/ or /i/. The derivational system in Amazigh language is highly productive.

2.1 Gender opposition and binary system

In Amazigh language, the masculine gender is not marked. Initial vocalic nouns fall into the category of masculine nouns. This noun category exhibits two features; the gender feature, which is realized as ø, and the initial vowel which is a nominal marker. This marker1 is usually /a/ and less frequently /i/ and /u/, exemplified in (1). However, there are nouns2, including kinship terms, which begin with consonants like the word bba 'my father'. Feminine nouns3 morphologically start with a prefixal [t], which marks its gender, followed by a vowel, and end with the suffix morpheme [−t]4. This type of affix in Berber is considered a circumfix in some studies and consists of two parts; the prefix t- and the suffix -t that create a new word from the base as demonstrated in (1).

	MS SG	Gloss	Fem SG	Gloss
(1) a.	a-nbyi	'male guest'	t-a-nbyi-t	'female guest'
	a-səlmad	'male teacher'	t-a-səlmad-t	'female teacher'
	a-nəlmad	'male student'	t-a-nəlmad-t	'female student'
	a-rba	'boy'	t-a-rba-t	'girl'

[1]Exceptionally, some nouns that denote males do not have a female counterpart. For example, *a-bnnay* 'mason', *a-brraḥ* 'town crier', *a-mazan* 'messenger'.
[2]Exceptions: *ffad* 'thirst', *llaẓ* 'hunger', *səksu* 'couscous'.

[3]Some feminine nouns begin with consonants, e.g. mma 'my mother' and in some Amazigh varieties start with vowels, e.g. imma 'my mother'.
[4]According to Lahrouchi (2013), 'the prefix t- is the only feminine marker in Tashlhiyt Berber'. The suffix –t is epenthetic used only to fill a templatic position that would remain empty. His evidence is that many words use only the prefix t- to mark the feminine (e.g. *tafust* 'small hand', *tismi* 'needle', *tasga* 'side') and the suffix –t is deleted when plural suffix –n is added (e.g. *tifasin* 'smalls hands', *tismiwin* 'tismiwin').

b. i-fri   'cave'   t-i-fri-t   'small cave'
   i-ɣef   'head'   t-i-ɣef-t   'small head'
   i-mi   'mouth'   t-i-mi-t   'small mouth'
   i-sli   'bridegroom'   t-i-sli-t   'bride'

c. u-ʃʃən   'jackal'   t-u-ʃʃən-t   'jackal'
   u-dm   'face'   t-udm-t   'small face'

As regards to (1) above, Idrissi (2000) argues that the feminine noun is not derived from the masculine one[5]. His argument is that the stem sometimes is not identical. For example the stem in MS SG 'a-mksa' and Fem SG 't-amksaw-t' *shepherd* is not the same. Therefore, if we derive feminine from masculine, the feminine form should be * *t-a-mksat*. A counter argument is that *t-a-mksat* exists in Ait Atta variety of Amazigh language. I submit, therefore, against the dominant assumption, in most traditional analyses (e.g. Ennaji 2004), that feminine nouns and masculine ones display an 'equi-radical paradigm' and are derived from the same base in parallel. Therefore, when the singular noun is specified as [+feminine], the gender feature is marked by t[6]-, and when it is not it is masculine by default. The gender takes the form of a feature assigned lexically. This assumption finds its solid ground for many reasons. First, in Amazigh language feminine is abound. Hence, if we assume that the feminine is derived from the masculine counterpart, it is hard to derive the feminine when the masculine form does not exist at all (e.g. *ta-yri* 'love', *tawda* 'fear', *ti-ddukla* 'friendship'….).

In the data in (1), the morphological derivational processes are marked by gender change. The root, in Borer's (2005) words, is acategorial and unspecified. It is only when the root is attached to a functional head that it takes a count reading. Therefore, when the root is assigned the feature [+feminine], it takes the gender morpheme t-. Otherwise, it is masculine by default. In (1b), the derivation is easily detected because it indicates difference in size. Masculine nouns derive augmentatives (e.g. a-ymmus 'big hood') and feminine nouns derive diminutives (e.g. t-a-ymmus-t 'hood'). In some cases, gender opposition has been lexicalized and two nouns may refer to different things, as demonstrated in (2).

(2)   MS   t-aɣnjaw-t   'spoon'
       Fem   a-ɣnja   'ladle'

The feminine marker is not always a suffix [-t] but can be just a prefix as in (3); most of these words are abstract nouns that describe a typical behaviour.

(3)
       t-a-yri   'love
       t-a-wda   'fear'
       t-i-rwi   'kindness'
       t-i-rrugza   'courage'
       t-i-ddukla   'friendship'

From the examples (1), (2) and (3), one would assume that the canonical position of gender is word-initially, unlike other Afro-Asiatic languages. It is crystal clear that for a noun to be marked for feminine, it must take the prefix and the suffix morpheme[t]. There is no singular feminine noun which ends with a different consonant. If a noun ends with a consonant other than [t], it is masculine, e.g. *fad* 'thirst', *laẓ* 'hunger'. Accordingly, it is not sufficient for a noun to be marked for feminine only with the prefixation of [t-]. A support for this argument

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[5]Following Jebbour (1996), vowel final nouns on the surface end in the underlying representation with a glide which is dropped in the word final position. In fact, this explains the emergence of the glide in the feminine nouns which are related to their masculine counterparts (e.g. MS SG 'a-mksa' and Fem SG 't-amksaw-t').
[6]Like in French, the base gender determines the nature of the determiner; 'le/un' for masculine and 'la/une' for feminine.

is the presence of t-initial loan nouns that are masculine, e.g. *t-taxi* 'taxi'. I submit, therefore, that [t] is not a feminine prefix but a mere reflex of the gender of the stem.

The nouns in (3) are vowel final. This vowel can be considered a gender marker for the mere reason that there are some loan words that are incorporated into the language and which change the final vowel [a] and into [t], e.g. *lḥrft / lḥrfa* 'profession'. From this, it follows that the suffixal marker is always there to mark the feminine, but the prefixal vowel may be absent. Hence, These Berberized loans begin with [l], e.g. *lmika* 'plastic bag' or a geminate consonant, e.g. *z-zn∂qt* 'the avenue'.

In this regard, Lahrouchi and Fraust (in preparation) argue that the two [t]'s in [t-a-funas-t] for example are not identical. The prefixal [t] is contextual appearing only whenever the noun takes the feature [+feminine] and the prefixal position is available. According to them, the [t] on the right of the stem is basic and is lexically determined. Therefore, the locus of feminine gender is to the right edge of the stem, either [-t] or [-a], like in other Afro-Asiatic languages.

Exceptionally, some feminine nouns[7] exhibit some exceptions as demonstrated in (4) where the feminine noun takes the final morpheme [ṭ]. These nouns do not have a plural form; they do not share specific semantic features, and are inherently and arbitrarily feminine. [ṭ] in this case is an allomorph of the base feminine suffix morpheme [t].

4) t-a-gma-ṭ   'brotherhood'
   t-a-mar-ṭ   'beard'
   t-a-yə-ṭ   'shoulder'
   t-i-zi-ṭ   'mosquito'

The following table summarizes gender formation rules[8] in Tamazight: X is a stem.

(5)

	Masculine	Feminine
Amazigh Nouns	ø+a/i/uX a-rba 'boy' i-mi 'mouth' u-dam 'face'	ta/i/uX(t)/(ṭ) t-a-daw-t 'back' ti-smi 'needle' t-a-mar-ṭ 'beard'

The crucial observation for the purpose of our analysis is that the nature of the initial vowel is not clear. Scholars (Vycishl, (1957); Ouhalla, (1996); Guerssel, (1992); Idrissi, (2000); Lahrouchi, (2013); among others) do not really agree about gender marking in Berber nouns. However, there is kind of consensus about the fact that the initial vowel is a nominal marker rather than a gender marker. Departing from this assumption, the paper outlines the

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[7]The feminine gender marker is also used to express a diminutive meaning. For instance, MS : *a-ɣbalu*, Fem diminutive : *ta-ɣbalu-t* 'little spring', while masculine derives augmentatives ; Fem *ta-fus-t*, MS augmentative *a-fus* 'hand'.

[8]For Berberized loans and retained Arabic loans, we adopt the following gender formation rules CiCi is a geminate consonant:
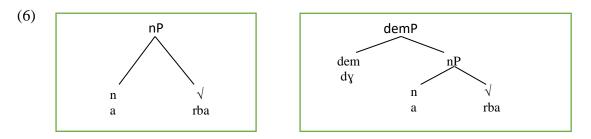
	Masculine	Feminine
Berberized loans	ø+a/i/uX a-bulis-iy 'policeman'	ta/talXt ta-bulis-iy-t tal-juhr-t 'pearl'
Retained Arabic loans	l/ CiCi X l-kas 'the cup' d-dars 'the lesson'	l/ CiCi X(t) l-mika 'the plastic bag' z-zn∂qt ' the avenue'

model analysis of the first initial vowel. Before that, let us briefly review some alternative approaches to the nature of the initial vowel.
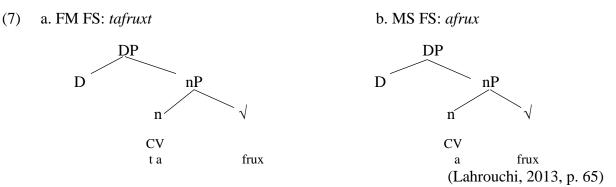
2.2 On the nature of the initial vowel

There is a theoretical debate as to the locus of gender feature, which goes beyond the case of Amazigh language. Vycichl (1957) treated the initial vowel as a definite article, Guerssel (1992) argued that it is a case marker, while Ouhalla (1996) and El hankari (2014) analyzed the vowel as a number marker. For various reasons, these studies failed to precise the exact nature of the vowel. I suggest that the initial vowel is not a definite article for the simple reason that the indefinite noun *argaz* 'man' is syntactically generated in a position different from that of definite nouns; *arba-dɣ* 'this man', *yan wrba* 'a boy', *arba-ns*. To capture this difference, I submit that *yan*, *dɣ*, and *ns* are generated in a position different from that of the initial vowel. The analysis in (6) highlights the structural difference.

(6)

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        nP                              demP
       /  \                            /    \
      /    \                       dem       nP
     n      √                      dɣ       /  \
     a      rba                           n      √
                                          a      rba
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El hankari (2014) posited that vowel alternation of the prefixal vowel is a real evidence that the initial vowel is a number marker, e.g. SG a-ḍar/ PL i-ḍar-n. If we assume this, one would fail to account for nouns that form their plural with *id/istt* and nouns where the prefixal vowel is absent in the singular form, e.g. *z3ṭuṭ--- i-z3ṭaṭ* 'monkey'.

Ritter (1993) was the first to suggest that gender and number do not share the same projection and that number is lower in the structure heading its own projection. Based on the data from Hebrew, she posited that gender heads its own projection just above N. Later on Lowenstamm (2008) in his study of French language and Yiddish nouns argues that the head of nP is the locus of gender. More precisely, according to his analysis, n is gender.

Lahrouchi 2013 posited that the initial vowel is generated as a nominal prefix and the gender marker under n. That is, ø + v for masculine and t+v for feminine, both under n, as demonstrated in (7).

(7) a. FM FS: *tafruxt*   b. MS FS: *afrux*

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          DP                                    DP
        /    \                                /    \
       D      nP                             D      nP
             /  \                                  /  \
            n    √                                n    √
            CV                                    CV
            t a      frux                         a      frux
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(Lahrouchi, 2013, p. 65)

2.3 The analysis

Following our previous discussion of the initial vowel in Amazigh language, it was shown that the initial vowel is generated as nominal marker under n, which results in ø+v for masculine and t+v for feminine. Thus, the categorial head exhibits two features; the initial

vowel bears some kind of nominality feature. This assumption finds its ground in the following facts. Initial vocalic nouns fall into the category of masculine nouns, but the feminine marker t- is never suffixed to a noun which is consonant-initial. Additionally, no feminine noun starts with a [tC] cluster in its free state form. If the initial vowel is said to be a masculine gender marker, it should be absent in the feminine for, e.g. MS FS a-rba 'boy' and Fem FS t-a-rba-t 'girl'. Moreover, nouns that start with a consonant (including kinship terms, compound nouns, and loan words) take id/istt to form their plural (e.g. id baffu 'naïve persons'/istt ma 'my sisters', unlike vowel-initial nouns which use vowel alternation and suffixation to form their plural (see the next part of this paper). Along with this analysis, mass nouns which start with a consonant undergo individuation through a-prefixation. This means that the initial vowel has something to do with nominality. Once mass nouns become countable, they can form their plural, as illustrated in (8).

(8)

Mass Noun	Singular	Plural	
lluz	t-a-lluz-tt	-a-lluz-in	'almonds '
dduj	t -a-dduj-t	t-a-dduj-in	'nuts'

A counter-argument is that why we should submit that the initial vowel is a nominal marker since verbs also can start with a vowel. The answer is that the template of verbs in Amazigh language is different from that of nouns. That is, we can find nouns of the form aCCaC (e.g. argaz 'man') but no verbs of the form aCCaC.We can find verbs of the form aCi (e.g. asi 'take') but no noun has that form. A counter-example would be aCa: noun aga 'well bucket", and the verb ara 'write'. According to Idrissi's (2000) statistical corpus, the class of nouns with aCa template reprents only 26٪ in Amazigh language.

3. NUMBER

This section addresses the issue of nominal plural formation in Amazigh language. It provides a descriptive and a straightforward account of the plural formation adopting the morphological model introduced by Saib (1976); Guerssel (1992); El Moujahid (1997); Idrissi (2000); Bensoukas (2015), and others. My claims about the noun structure are the following. First, the noun, in general, consists of maximally three main parts: a prefix, a lexical base, and a suffix. Second, the majority of Berber noun stems involve, at least, one vowel in addition to the prefixal vowel (e.g. 'a-ḍar' foot, 'a-funas' bull, 'a-ɣrum' bread). Third, when the plural noun is specified as [+feminine], it takes the gender morpheme t-. Fourth, number is not a lexical category, but it takes the form of a feature assigned lexically to the noun.

Nouns in Amazigh language can be singular or plural. The major distinction in literature is made between three types of plurals; sound, broken, mixed, and the plural formed in[id] and [istt] (see Hamimi, (1997); El Moujahid, (1997); Idrissi, (2000); Ennaji and Sadiqi, (2004); Bensoukas, (2018b) and (2019a)).Some scholars classify plurals into internal and external. These plurals correspond to A-plurals and N-plurals introduced in traditional studies (see Saib, 1986). We form the sound plural by an alternation of the initial singular vowel [a/i]9 followed by the suffixation of the plural morpheme [ən] or its variants; /an/ or /n/ for

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[9]Saib (1976) distinguishes between constant vowels and non-constant ones; constant vowels are part of the root while non-constant vowels are part of the prefix. In this regard, Alderete, John (2015) labeled the initial vowel from a prefix an 'augment'. The differences are:
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- Augments that are [a] are always [i] in the plural. e.g. a-drar /i-drar-n/ ;
- Initial vowels from a stem do not change. e.g. a-ylal /a-ylal-n/;

Alderete, John (2015)

the masculine, and [in] for feminine. The broken plural involves a change in the vowels in the root while the mixed plural is a combination of the two. We obtain the plural with [id] and [istt] by putting the plural morphemes before the noun.

To form the plural of some nouns, the initial vowel undergoes some changes because of nominal inflection. It can either change or remain constant. In general, the initial vowels /i/ and /u/ are constant. The constant initial vowels are an integral part of the nominal stem. This rule can be illustrated in the following way:

(9)   [V STEM] ─ [a/i/u + STEM]

The initial vowel is sometimes subject to change. The first initial vowel /a/ sometimes alternates with the initial non-round vowel /i/ to form the regular plural of some nouns. For example, MS SG 'a-rgaz' man, MS PL 'i-rgz-an' men. According to Saib (1976), Dell and Jebbour (1995), and Idrissi (2000), the initial vowel alternation singular /a/ into /i/ is 'pan-Berber'. The initial non-constant vowel is part of the prefix not of the stem. This alternation is captured as follows:

(10)   [V + STEM] ─ [i + STEM]

3.1 Sound plural

The first class to be considered is exemplified in (11).

(11)

	MS SG	Fem SG	MS PL	Fem PL	Gloss
a.	a-ḍar	t-a-ḍar-t	i-ḍar-n	t-i-ḍar-in	'foot'
	a-tbir	t-a-tbir-t	i-tbir-n	t-i-tbir-in	'pigeon'
	a-lɣm	t-a-lɣm-t	i-lɣm-an	t-i-lɣm-in	'camel'
b.	i-fdan	t-ifdan-t	i-fdn-an	t-i-fdn-in	'toe'
c.	i-kru[10]	t-ikru-t	i-krw-an	t-i-krw-in	'lamb'
	a-mksa	t-amksa-t	i-mksaw-n	t-i-mksaw-in	'shepherd

Before delving into the analysis, the nouns above, in general, consist of maximally three main parts: a prefix, a lexical base, and a suffix. We form this type of plural by an alternation of the initial singular vowel [a/i] accompanied by the suffixation of the morpheme [n] or its variants [an] for masculine nouns, and the morpheme [in] or its variants [ən] for feminine nouns.

Considering the data in (11), the question of the prefixal vowel and noun internal change imposes itself. How can we account for the relationship between singular and plural stems to derive sound plurals?

In this regard, Guerssel (1992b) views the prefixal vowel as default case marker, as stated earlier in this paper, which takes the appropriate form when the stem bears the future [+plural]. Following Guerssel ((1992b), Idrissi (2000) claims that, since the prefixal vowel is viewed as default case marker, there is no need to account for the process which derives /i/ from /a/. However, this rule system is not sufficient to mark the plural. The argument which refutes such account is the presence of nouns where the prefixal vowel is constant (e.g. *i-fri— i-fr-an* 'cave'), nouns where the prefixal vowel is absent in the singular form (e.g. *z3ṭuṭ--- i-*
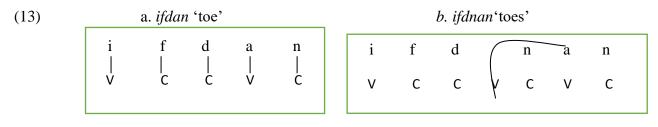
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[10]Jebbour (1996) claims that vowel final nouns on the surface, like [i-kru], [a-sṭṭa], and [a-sddi], end in the underlying representation with a glide which is dropped in the word final position. Hence, the words would be reanalyzed as /i-kruw/, /a-sṭṭaw/, and /a-sddiy/. In fact, this explains the emergence of the glide in their plural forms.

z3ṭaṭ 'monkey'). Considering this, one needs to fragment the pluralization system of the prefixal vowel into sub-processes, which adds to the complexity of the plural system in Amazigh language. I submit that the prefixal vowel /a/ which is a nominal marker, as argued in the previous section, sometimes alternates with the initial non-round vowel /i/ when it takes the feature [+plural] when it is part of the prefix, while the initial vowels /i/ and /u/ are constant as they are part of the stem. I suggest that there are two major noun classes. The first class where the initial vowel is part of the prefix and the second class where it is part of the stem referred to in El hankari (2014) as 'inflectional nouns' and 'root nouns'. To capture this, I suggest the analysis in (12).

(12)

b. A-dar 'foot' nP	a. ifri 'cave' nP
n √ a ḍar	n √ ø ifri

The plural shape in the data above highlights the complexity of the plural formation in Amazigh language. I argue that plural nouns are not derived from their singular counterpart, but they are derived from the same base.

Another problem arises with the data in (11b) is the deletion of the thematic vowel. Following Jebbour (1996), the deletion of the root vowel is due to some prosodic constraints. To implement a templatic analysis on a syntactic analysis, I argue suffixation of *an* and *in* triggers a process of prosodic adjustment in the following templatic structure VCCCVC.

(13)   a. *ifdan* 'toe'   b. *ifdnan* 'toes'

i	f	d	a	n
V	C	C	V	C

i	f	d		n	a	n
V	C	C	V	C	V	C

This lateral relation explains why the vowel is dropped when the plural suffix –an is added. The neighboring segments /d/ and /n/ trigger a process of prosodic adjustment and therefore the deletion of the thematic vowel.
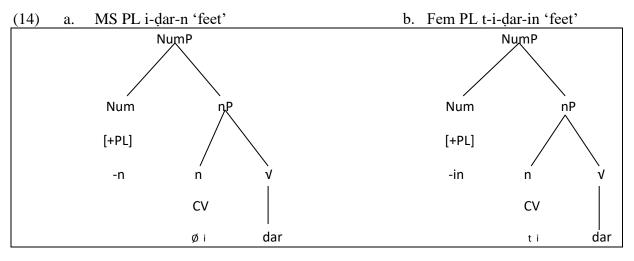
An additional point in the data (11c) concerns the insertion of the glide /w/ in the plural form. Where does /w/ of the plural come from? A good hypothesis that accounts for this morphological irregularity should propose a model analysis where morphological operations are more of a morphological than a phonological nature. In this regard, Jebbour (1996) argues that nouns ending in their surface with /a/, /u/, and /i/, normally end with /w/ and /y/ in their underlying representation. However, Idrissi (2000) argues that it will be less costly if we maintain that the only underlying glide is /w/, which turns into /y/ after /i/ by means of assimilation. A counter argument is the existence of nouns which exhibit different forms of plural (e.g. SG *a-mksa*, PL *i-mksat-n*/ *i-mksaw-n*; SG *azṭṭa*, PL *i-zṭṭat-n*/*i-zḍw-an*), nouns which form their plural via vowel ablauts even they end in a vowel without inserting the glide /w/ (e.g. SG *a-frdu*, PL *i-frda*; SG *a-gru*, PL *i-gra* 'frog'), and nouns which already end with the glides /w/ and /y/ in their surface (e.g. SG *a-ɣruy*, PL *i-ɣry-an*; SG *a-cicaw*, PL *i-cicaw-n* 'chick'). These arguments refute the claim that nouns ending in their surface with /a/,

/u/, and /i/, normally end with /w/ and /y/ in their underlying representation, and still question the exact nature of the glide that appears in some contexts.

I suggest that the only underlying glide is */w/*. Along with this proposal, I submit that there are two types of vowel final nouns in Amazigh language. Nouns which underlyingly allow the presence of the glide *w* like */a-mksaw/* 'shepherd' and */a-γnjaw/* 'ladle'. A support for this analysis is that the glide *w* surfaces after the final vowels of the feminine forms of these nouns; Fem SG *t-a- γnjaw-t* 'small spoon' and Fem SG *t-a-mksaw-t*. The second type are nouns which do not permit the presence of the glide in their underlying representation such as the MS SG *i-mi* and the MS PL *i-maw-n*. When we attach the plural suffix n, the glide emerges. If there were an underlying glide after the vowel, the feminine form of *i-mi* 'mouth' should surface as **t-i-imwt*, which is not attested in the Amazigh language.

3.1.1 Standard Number Projection Analysis

Following Lahrouchi and Ridouane (2016), I will propose a model analysis that determines the structural location of number and highlights the contrast between different types of plurals found in Amazigh language. I argue that sound plurals are associated with standard number projection (see Lahrouchi and Ridouane, (2016) on MA), and that the initial vowel is generated as a nominal prefix with the gender marker under n. That is, ø + v for masculine and t+v for feminine, both under n. The forms represented in (14) illustrate the analysis.

(14) a. MS PL i-ḍar-n 'feet'   b. Fem PL t-i-ḍar-in 'feet'
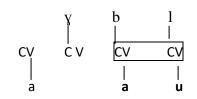

3.2 Broken plural

In addition to the initial vocalic alternation, this type of plural is achieved, sometimes, via vowel ablauts, the root vowel */u/* changes into */a/* and the vowel */a/* changes into */u/*.the nominal marker vowel */a/* following the feminine gender marker *t-* turns into */i/*. The feminine suffix -t is deleted.
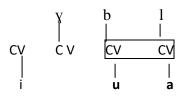
(15)

	Singular		Plural		Gloss
	Masculine	Feminine	Masculine	Feminine	
	a-sklu	t-a-sklu-t	i-skla	t-i-skla	'tree'

a-qmu	t- a-qmu-t	i-qma	t-i-qma	'face'[11]
a-ɣbalu	t- a-ɣbalu-t	i- ɣbula	t-i-ɣbula	'stream'
a-saru	t-a-saru-t	i-sura	t-isura	'key'

Considering the data in (15), the internal vocalic change is part of the pluralization process. The prefixal vowel /*a*/ turns into /*i*/ when the root takes the feature [+plural]. Along with Borer's (2005) proposal, roots are acategorial and need to be attached to a functional projection to have a count reading. The feminine plural is derived in parallel with the masculine form. Thus, the stem takes the feminine morpheme t- when it is assigned the feature [+feminine]; otherwise, it is masculine by default. Unlike sound plural, the singular and the plural stems are not identical because of the vowel ablaut. A good account which describes the process which derives /*u*/ from /*a*/ and vice versa needs to combine phonological analysis with a morphological one. In line with this proposal, I assume following Idrissi (2000) that the thematic vowel is affixal in nature like the plural marker. I posit that broken plurals are derived by means of a specific template whose ultimate or ultimate and penultimate CV units acts as derivational heads, as demonstrated in (16).

(16) a. MS SG: a-ɣbalu
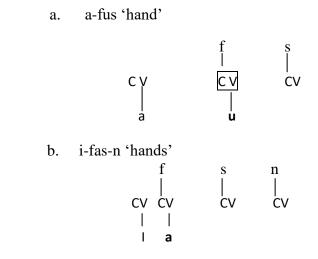

b. MS PL: i-ɣbula

3.3 Mixed plural

This type of plural is a mixture of sound plural and broken plural. It is derived by attaching the suffix [an] or one of its variants to the masculine base and [in] to the feminine base. Then, we replace the prefixal vowel /*a*/ with /*i*/, but if the prefixal vowel is /*i*/ it remains constant because it is part of the stem. Finally, we modify the thematic vowel of the stem (/*i*/ turns into /*a*/, /*a*/ into /*u*/, or /*u*/ into /*a*/). We maintain the final feminine singular morpheme [-t].

(17)

MS SG	Fem SG	MS PL	Fem PL	Gloss
a-fus	t- a-fus-t	i-fas-n	t-i-fass-in	'hand'
i-sli	t- i-sli-t	i-sla-n	t-i-slat-in	'bridegroom'
a-ḍaḍ	t- a-ḍaḍ-t	i-ḍuḍ-an	t- i-ḍuḍ-in	'finger'
i-sgni	t-i-sgni-t	i-sgnit-n	t-i-sgnat-in	'needle'

---

[11] According to a reviewer, the translation of the word 'aqmu' is mouth in English and not face. However, in Ait Atta variety of Amazigh language, the English translation of the word is face.

In relation to the examples in (17), I argued earlier in this work that the feminine suffix can be either [t] or a vowel. Unsurprisingly, vowel alternation is due to the plural inflection which replaces the singular suffix with a plural one. The stem initial vowel is not subject to change unlike the thematic one. Still, one would ask what derives /i/ from /a/, /a/ from /u/, and /u/ from /a/? The answer is that the penultimate CV unit of the stem derives a different vowel once the plural suffix is attached. This is illustrated below:

(18)   a.   a-fus 'hand'

```
                         f           s
                         |           |
        C V            [C V]        CV
          |              |
          a              u
```

          b.   i-fas-n 'hands'

```
                   f        s        n
                   |        |        |
        CV  CV     CV       CV
        |    |
        I    a
```

3.4 Special ways of pluralization

3.4.1 The plural in [id-] and [istt-]

The study of id-pluralization has not received much importance as compared to normal pluralization (see El Moujahid, (1997); Ennaji and Sadiqi, (2004); Bensoukas, (2015)). We obtain the plural in [id-][12] by putting the inflectional morpheme before the noun. We use this mode to form the plural of some proper nouns (19a), for both feminine and masculine, before nouns[13] borrowed from other languages (19b), compound nouns (19c), numerals (19d), kinship terms (19e and 19f)[14], and in some other contexts. I argue that id/istt-plurals are associated lower in the structure with the noun projection.

(19)

a. SG	Muha	Faḍma
PL	id Muha[15]	id faḍma

	'truck'	'door'	'table'
b.			
SG	lkamju	lbab	ṭ-ṭabla
PL	id lkamju	id lbab	id ṭ-ṭabla

The Arabic loan word 'ṭ-tabla' *table* in (19b) takes the Arabic article al- or its phonological variants which mark definiteness. In the example above, it is realized as a geminate initial consonant.

    c.   'water finder'   'butterfly'   'prostitute'   'naïve'

---

[12]Bensoukas (2015) considers [id] an ad-phrasal affix.

[13]Arabic loan words form their plural by retaining their Arabic plural forms. For instance, the plural of luqt (time) is lawqat (times).

[14] In Ait Atta variety of Amazigh language, the plural of the kinship term *uyma* (my brother) is *ait ma* (my brothers).

[15]The plural id Muha is different from ait Muha, which is a collective noun meaning 'Muha's family'.

SG	mafaman	frṭaṭṭu	tall aḍar	ssumm aḍaḍ
PL	id mafaman	id frṭaṭṭu	id tall aḍar	id ssumm aḍaḍ

d.	'twenty'	'hundred'	'thousand'	'million'
SG	ʕʃrin	mijja	alf	mljun
PL	id ʕʃrin	id mijja	id w-alf	id mljun

(Bensoukas, 2015, p. 11).

We can express the numbers in (19d) by a mere combination of native and borrowed numbers. For example, *tlt mijja/ kraḍ id mijja* 'three hundred', *tlt alaf/ kraḍ id walf* 'three thousand', and *tlata d lmlajn/ kraḍ id mljun* 'three million'' (Bensoukas, 2015).
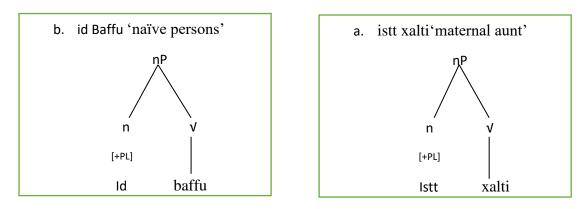
e.	maternal uncle'	'paternal uncle'	'elder brother'
MS SG	xali	ʕmmi	waba
PL SG	id xali	id ʕmmi	id waba

f.	'my sister'	'maternal aunt'	'paternal aunt'
Fem SG	ult-ma	xalti	ʕmmti
Fem PL	istt-ma	istt/id xalti	istt/id ʕmmti

In (19f) above, there is no overt marking for gender. Number is expressed by the pre-criticized marker istt for feminine nouns (id marks also the plural of some feminine nouns). Id-pluralization is also used with words that express a "pejorative meaning or indicate a hideous entity" (Bensoukas, 2015).

(20)	'naïve person'	'despicable'	'monster'	'monster'
MS SG	baffu	xittus	xuxxu	buʕʕu
MS PL	id baffu	id xittus	id xuxxu	id buʕʕu

3.4.2 nP Projection of id/istt-pluralization

To highlights the difference between sound plurals and id/istt-plurals in Ait Atta variety of Amazigh language, I assume that the latter are associated lower in the structure with the noun projection. Borer (2005) argues that roots are not specified for mass or count. Therefore, to have a count reading, we should combine the head n, which is specified for plural, with the unspecified root. The structure in (21) captures this morphological analysis.
(21)

From the data above, the internal constituency of the nouns in Amazigh language and their types may help in predicting the nouns which undergo normal pluralization, with its different types, and id-pluralization.

4. CONCLUSION

This paper provided a descriptive and straightforward account of gender and number marking in Amazigh language. It presented a classification of Amazigh plurals, borrowing insights from previous studies by Saib (1976); Guerssel (1992); El Moujahid (1997); Idrissi (2000); Bensoukas (2015); and others. The first part of this work claimed that gender is overtly marked on feminine nouns by the prefixation and suffixation of the gender morpheme [t]. The paper argued that [t…t] is not circumfix or discontinuous morpheme, but it is an asymmetric inflection. Furthermore, in the derivational system of gender, large majority of nouns allow for gender opposition, e.g. a-ḍar (MS) – t-a-ḍar-t (Fem) 'foot- small foot'. However, mass nouns allow only for one lexically determined gender and number .e.g. u-di (MS.SG) 'butter', t-idi (Fem.SG) 'sweat', a-man(MS.PL) 'water'. Moreover, the masculine has no overt realization in Amazigh language. Vocalic initial nouns fall into the category of masculine nouns. I posited that the initial vowel is a nominal marker rather than a gender marker. The second part distinguished four different types of plurals found in Amazigh language. Sound plurals formed by an alternation of the initial singular vowel [a/i] and the suffixation of the plural morpheme [ən] or its variants; /an/or /n/ for the masculine, and [in] for feminine. The paper argued that sound plurals are associated with standard number projection and that the initial vowel is generated as a nominal prefix with the gender marker under /n/. The broken plural involves a change in the vowels in the root, while the mixed plural is a combination of the two. I posited that broken plurals are derived by means of a specific template whose ultimate or ultimate and penultimate CV units acts as derivational heads, in addition to the prefix alternation. In mixed plural, the penultimate CV unit of the stem derives a different vowel once the plural suffix is attached and the prefixed vowel is altered. We obtain the plural with [id] and [istt] by putting the plural morphemes before the noun. I submitted that id/istt-plurals are associated lower in the structure with the noun projection.

LIST OF ABBREVIATIONS

AAV   Ait Atta Variety (a Sub-variety of Tamazight)

Adj   Adjective

Adj   Adjectival Phrase

CL   Clitic

Cs   Computational System

CS   CONSTRUCT State

D°   the head determiner

Dem   Demonstrative

DP   Determiner Phrase

FF   Formal Features

FEM   Feminine

FI   Full Interpretation

FP   Functional Projection

FS   Free State
Inter   Intermediate

LF   Logical Form

MA   Moroccan Arabic

MS   Masculine

N°   The head Noun

NP   Noun Phrase

PL   Plural

Spec Specifier

QP   Quantifier Phrase

SG   Singular

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