

Kabyle noun-initial *a* and the construct state*

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SUMMARY

Almost all nouns in the construct state in Kabyle Berber can be derived from the free state using the rules given by Bader and Kenstowicz (1987). However one rule, initial-vowel deletion, does not apply to all nouns. My proposal to explain this is that initial-vowel deletion applies to the morpheme *a-*; thus only nouns that do not begin with *a-* but instead begin with a vowel in their root retain their vowels. Interpreting *a-* as a morpheme allows one to predict the construct state form of any noun, and also the initial vowel of its plural form. This is Guerssel's (1983) hypothesis, and I provide more evidence from a variety of phenomena in Kabyle that *a-* is a separate morpheme. My supporting evidence includes data on pluralization, derived nouns, words derived from nouns, and loanwords. This evidence shows that *a-* is added to derived and borrowed nouns, and is not present in words derived from noun roots. I argue that *a-* is a determiner, based on an alternation between *a-* and the determiner *l-* in loanwords.

RÉSUMÉ

Presque tous les noms dans l'état d'annexion (l'état construit) en kabyle peuvent être dérivés de l'état libre en utilisant les règles données par Bader & Kenstowicz (1987). Mais l'un de ces règles, élision de la voyelle initiale, n'applique pas à tous les noms. Afin de l'expliquer, je propose que l'élision de la voyelle initiale applique au morphème *a-*; donc seulement les noms qui ne commencent pas par *a-* mais par une voyelle dans leur racine conservent leurs voyelles initiales. En regardant *a-* comme morphème, on peut prévoir la forme d'état d'annexion de tout nom et la voyelle initiale du pluriel aussi. Ceci est l'hypothèse de Guerssel (1983), et je montre plus de preuve d'une variété des phénomènes en kabyle que *a-* fonctionne comme un morphème. Mon évidence inclut les données sur la pluralisation, les noms dérivés, les mots dérivés de noms et les emprunts lexicaux. Cette preuve montre que *a-* est ajouté aux noms dérivés et empruntés et que *a-* n'apparaît pas dans les mots dérivés des racines de noms. Je soutiens que *a-* est un déterminant, basé sur une alternation entre *a-* et le déterminant *l-* dans les emprunts.

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1 INTRODUCTION

Most nouns in the construct state in Kabyle can be derived from their free state counterparts using the rules given by Bader and Kenstowicz (1987). However one of their rules, initial-vowel deletion, does not apply to all nouns. My proposal to explain this is that initial-vowel deletion applies to the morpheme *a-* (*i-* in the plural); thus only nouns that do not begin with *a-* but instead begin with a vowel in their root retain their initial vowels in the construct state. This analysis, as opposed to a simpler system of deletion of any initial vowel, has previously been proposed by Guerssel (1983) and Penchoen (1973), and I will provide more evidence for it from a variety of phenomena in Kabyle.

My analysis of *a-* has implications for the construct state derivation, pluralization, and noun derivation in Kabyle. All construct state forms can be correctly derived if *a-* is taken into account. In addition, the initial vowel of all (regular) plural nouns can be predicted from their singular forms based on whether they begin with *a-* or a stem vowel. Lastly, all derived nouns begin with *a-*, which further supports its status as a morpheme.

I will also present some evidence that *a-* is a determiner. This is based mainly on an analysis of loanwords, which have the borrowed determiner *l-* instead of *a-*. The analysis of *a-* as a determiner has broader implications for the structure of DPs in Kabyle.

It has been argued in the past that *a-* is (or was) a determiner for a variety of reasons independent of the argument presented below based on loanwords. An argument for *a-* as a determiner in modern Kabyle based on evidence from prepositional phrases is found in Achab (2003), and an overview of historical evidence for *a-* as a determiner (which does not assert that it is still synchronically a determiner) is found in Chaker (2018).

I will first give some background data on the construct state, its derivation, and the data my proposal must account for in section 2. In section 3, I will explain my proposal and its implications. Section 4 gives supporting evidence: data on pluralization, nouns derived from verbs, verbs derived from nouns, feminine noun derivation, and loanwords. Finally, I discuss my results and conclude in section 5.

2 BACKGROUND DATA

Nouns in Kabyle appear in two states: free state (FS), also known as *état libre*, and construct state (CS), also known as *état d'annexion*. Nouns are in the construct state after most prepositions and when they are subjects, as in (1). The free state, shown in (2), is used for objects, with a few specific prepositions, and for subjects in topic and focus constructions (which both have SVO word order).

- (1) *γezif-et tmeṭṭut*
 tall-F woman.CS
 ‘The woman is tall’

- (2) $a\gamma a-\gamma$ $tame\ddot{t}tut$
 married-1 woman
 ‘I married a woman’

Most construct state nouns can be derived from the free state using the following rules given by Bader and Kenstowicz (1987):

1. Glide addition: nouns are prefixed with a homorganic glide in the masculine.
2. Initial-vowel deletion: the noun-initial vowel is deleted.
3. Schwa insertion: schwa is inserted C_CC.
4. Vocalization: glides which are the nucleus of a syllable become vowels.

For example, some derivations are given in Table 1.

Table 1: Derivation of construct state from free state

Gloss	‘man’	‘woman’	‘hand’	‘men’
Free State	<i>argaz</i>	<i>tam\ddot{t}tut</i>	<i>afus</i>	<i>irgazn</i>
1. Glide addition	wargaz	—	wafus	yirgazn
2. Initial vowel deletion	wrgaz	tm\ddot{t}tut	wfus	yrgazen
3. Schwa insertion	wergaz	tme\ddot{t}tut	—	yergazen
4. Vocalization	—	—	ufus	—
Construct State	<i>wergaz</i>	<i>tme\ddot{t}tut</i>	<i>ufus</i>	<i>yergazen</i>

However, not all nouns follow this pattern – some do not undergo initial-vowel deletion. Bader and Kenstowicz (1987) do not offer an explanation as to why. Almost all nouns beginning with *a* undergo initial-vowel deletion, but a few (such as *aruy* ‘porcupine’) do not, as shown in (3).

- (3) a. *aruy*
 ‘porcupine’
 b. $i-te\ddot{t}$ $waruy/*uruy$
 3-eat porcupine.CS
 ‘The porcupine is eating’

Most nouns beginning with a vowel other than *a* do not undergo initial-vowel deletion, as shown in (4). Nouns beginning with a consonant other than the feminine marker (*t-*) or loanword determiner *l-* do not change at all, as in (5).

- (4) a. uccen
 ‘fox’
- b. i-teṭ wuccen
 3-eat fox.CS
 ‘The fox is eating’
- (5) a. vururu
 ‘owl’
- b. i-teṭ vururu
 3-eat owl.CS
 ‘The owl is eating’

3 PROPOSED EXPLANATION

I will show that nouns that do undergo initial-vowel deletion are made up of a root plus the morpheme *a-* to which this rule actually applies. (Thus, I will call it *a*-deletion from now on.) The vowel *a* in nouns which do not undergo *a*-deletion is not a separate morpheme, but instead part of the root and thus is never deleted. This argument was originally made by both Penchoen (1973) and Guerssel (1983). I will add more supporting evidence that *a-* is a morpheme from processes not discussed in those papers, in order to back up this claim. I will also make an argument that the function of *a-* is not just to mark state, but as a determiner.

I argue that *a-* is a separate morpheme using evidence from four phenomena in Kabyle. The bulk of my evidence that *a-* is a morpheme is that nouns do not contain *a-* in forms derived through any of a variety of morphological processes. If *a-* is indeed a morpheme which only appears on free state nouns, then *a-* is expected to no longer be present in words derived from noun roots, and to be added to new derived nouns and loanwords. If *a-* were not a separate morpheme but just part of the root noun, there is no reason why it would be inserted on new nouns or not be present in words derived from noun roots. The evidence I will present shows that *a-* is attached to all derived nouns and is not present in words derived from nouns, which supports Guerssel’s (1983) preliminary evidence from pluralization.

One implication of my proposal is that all nouns in Kabyle should begin with *a-*, unless there is some explanation as to why they do not. Kossmann (2013) states that many nouns borrowed from Arabic do not begin with *a-* but instead retain their morphology from Arabic. Another question raised by the establishment of *a-* as a separate morpheme is what its function and part of speech are. These two questions are intertwined, and I will present some preliminary evidence that *a-* is a determiner in my explanation of why many borrowed nouns do not begin with *a-*.

4 SUPPORTING EVIDENCE

4.1 PLURALIZATION

Guerssel's (1983) evidence for *a-* as a morpheme was mainly based on plural formation and nouns derived from verbs. My data is consistent with the evidence he gave: *a-* always becomes *i-* in the plural, as shown in (6). Root-initial vowels do not usually change in the plural, shown in (7), although they still sometimes change, as in (8). The data in (8) is inconsistent with Guerssel's argument that root-initial vowels never change in the plural.

- (6) a. a-rgaz
 'man'
 b. i-rgaz-en
 i-man-PL
 'men'

- (7) a. aggur
 'month'
 b. aggur-en
 month-PL
 'months'

- (8) a. ass
 'day'
 b. ussan
 'days'

Moreover, the plural *i-* also undergoes *a*-deletion when the noun is in the construct state, while root-initial vowel in plural forms do not, as shown in (9).

- (9) a. teṭ-en ye-rgaz-en
 eat-3PL CS-man-PL
 'The men are eating'
 b. teṭ-en w-aruy-en
 eat-3PL CS-porcupine-PL
 'The porcupines are eating'

4.2 NOUNS DERIVED FROM VERBS

Guerssel (1983) gave many examples of nouns derived from verbs in Ayt Seghroushen Berber, and I have replicated this in Kabyle with the same results. All such nouns begin with *a-*, and thus all of

them follow Bader & Kenstowicz's (1987) construct state rules, including *a*-deletion. In addition, *a*- becomes *i*- in their plurals. Some examples of this are given in Table 2.

Table 2: Construct state of nouns derived from verbs

Derived Noun (FS)	Noun in CS	Plural	Gloss	Verb	Gloss
<i>a-nejar</i>	<i>u-nejar</i>	<i>i-nejar-en</i>	'carpenter'	<i>njer</i>	'to do carpentry'
<i>a-gezzar</i>	<i>u-gezzar</i>	<i>i-gezzar-en</i>	'butcher'	<i>gzer</i>	'to butcher'
<i>a-xbac</i>	<i>we-xbac</i>	—	'scratching'	<i>xbec</i>	'to scratch'
<i>a-zway</i>	<i>we-zway</i>	—	'shaking'	<i>zwi</i>	'to shake off'

4.3 VERBS DERIVED FROM NOUNS

Guerssel (1983) also gave two examples of verbs derived from nouns using the prefix *s*-. I investigated this further, and found several more examples shown in Table 3. In all of these forms, the *a*- from the noun is no longer present when the noun becomes a verb. This is evidence that *a*- is a piece of noun morphology, not part of the root. Thus, it is not present in words derived from nouns.

Table 3: Verbs derived from nouns

Derived Verb	Gloss	Noun	Gloss
<i>s-εukkez</i>	'to use a cane'	<i>a-εekkaz</i>	'cane'
<i>s-εuggen</i>	'to pretend to be stupid'	<i>a-εeggun</i>	'stupid person'
<i>s-γuyyel</i>	'to make a fool of yourself'	<i>a-γγul</i>	'donkey'
<i>s-gugen</i>	'to make someone mute or quiet'	<i>a-gugam</i>	'mute person'
<i>s-nuffes</i>	'to breathe'	<i>nnefs</i>	'breath'
<i>s-kerkas</i>	'to lie'	<i>t-i-kerkas</i>	'lies'

Interestingly, most of these verbs derived from nouns using *s*- do not have a clearly causative meaning, although this appears to be the causative prefix. Verbs derived using *s*- on adjectives or *ss*- on verbs are always causative, but these nouns are not. This is a puzzle for future work on causatives in Kabyle.

4.4 DERIVING FEMININE NOUNS

The most common form of derivation from nouns in Kabyle is deriving feminine nouns from masculine ones. To form a feminine noun from a masculine one, *t*- *-t* (or *t*- *-f*) is added. Making a noun feminine can have a variety of effects on the meaning. It can turn a male person or animal into a female one, as shown in (10). It is used to form diminutives, as in (11).¹ And, it is used to make

¹ Similarly, turning a feminine noun masculine can form augmentatives (Kossmann, 2014), but these are more rare.

count nouns out of some mass nouns (or as Kossmann (2013) classifies them, unity nouns derived from collectives), as in (12).²

- (10) a. a-wtul
 ‘(male) rabbit’
 b. t-a-wtul-t
 F-a-rabbit-F
 ‘female rabbit’
- (11) a. a-kersi
 ‘chair’
 b. t-a-kersi-ṭ
 F-a-chair-F
 ‘stool (small chair)’
- (12) a. čina
 ‘orange (mass or collective noun)’
 b. t-a-čina-ṭ
 F-a-orange-F
 ‘an orange’

I investigated the feminine forms of nouns that do not begin with *a-* in the masculine. Nouns with a root-initial vowel are made feminine by adding *t-* *-t* (or *t-* *-ṭ*), as shown in Table 4. All and only nouns which do not lose their initial vowels in the construct state derivation have feminine forms that do not contain *a-*.

Table 4: Feminine nouns derived from masculine nouns with a root-initial vowel

M. Noun	Gloss	F. Noun	Gloss
<i>uccen</i>	‘fox’	<i>t-uccen-t</i>	‘female fox’
<i>ursu</i>	‘bear’	<i>t-ursu-t</i>	‘female bear’
<i>izi</i>	‘fly’	<i>t-izi-ṭ</i>	‘mosquito’

Nouns that begin with a consonant other than *l-* in the masculine are made feminine by adding not only *t-* *-t*, but also attaching *a-* to the masculine root, as in Table 5. *l-*initial nouns will be discussed shortly in section 4.5 on loanwords; almost all consonant-initial nouns in Kabyle begin with *l-* or an allomorph of it.

² There are also a few examples of Arabic collectives becoming unity nouns through masculine morphology, such as *l-ḥemmez* ‘chickpeas’ / *a-ḥemmuḥ* ‘one chickpea’ (Kossmann, 2013).

Table 5: Feminine nouns derived from consonant-initial masculine nouns

M. Noun	Gloss	F. Noun	Gloss
<i>vururu</i>	‘owl’	<i>t-a-vururu-t</i>	‘female owl’
<i>čina</i>	‘orange (mass noun)’	<i>t-a-čina-t</i>	‘an orange’
<i>ccix</i>	‘teacher’	<i>t-a-cixe-t</i>	‘female teacher’

As I have already demonstrated, all derived nouns in Kabyle must begin with *a-* if possible. My explanation for the data in Tables 4 and 5 is that because these feminine nouns are derived from masculine ones, *a-* is added to the root noun regardless of whether the masculine form contained *a-*. This explains the data in Table 5, but not Table 4.

My explanation for Table 4 is that *a-* is never prefixed to nouns whose root begins with a vowel, because “Kabyle does not tolerate a sequence of two vowels in a row” (Bader, 1984, p. 160). Thus, all derived feminine nouns should begin with *a-* except those whose root begins with a vowel. This generalization also explains why vowel-initial masculine roots such as *uccen* ‘fox’ are not prefixed with *a-* in the free state.

This analysis could be expanded to state that *a-* must be attached to all nouns if possible. However, then there would be a handful of exceptions such as *čina* ‘orange’ left unexplained.

4.5 LOANWORDS

Almost all Kabyle loanwords are from Arabic or French. In the case of Arabic, there are fairly clear signs that these are loanwords and not cognates (Kossmann, 2013). The source languages for Kabyle loanwords have two consequences. The first is that loanwords are borrowed into Kabyle along with their gender feature from the source: French, Arabic, and Kabyle all have masculine and feminine genders which are preserved when words are borrowed from French or Arabic into Kabyle. The second consequence is that many borrowed nouns in Kabyle begin with *l-* which comes from either Maghrebi Arabic *l-* or French *le*, both definite determiners, as shown in (13). Loanwords from Arabic may also begin with an allomorph of *l-* in the case of a following coronal consonant as in (13c); see (Kossmann, 2013).

- (13) a. *l-fur*
 ‘oven’ from French *le four*
 b. *l-jar*
 ‘neighbor’ from Arabic *l-jar*
 c. *s-suq*
 ‘market’ from Arabic *s-suq*

Interestingly, *l-*initial nouns do not undergo any change in the construct state, even though it will be shown that *l-* occupies the same morphosyntactic position as *a-*. Kossmann (2013) also observed

this, and says that *l*-initial nouns are ‘non-integrated’ loanwords, meaning they do not participate in Berber noun morphology.

The first piece of evidence that *l*- and *a*- occupy the same position is that *l*- and *a*- never appear together. Moreover, *l*- alternates with *a*- in feminine nouns derived from *l*-initial masculine nouns, as shown in Table 6. In other words, following the same pattern for derived feminine nouns as above, *l*- is replaced with *a*- in the derived word.

Table 6: Feminine nouns derived from *l*-initial borrowed nouns

M. Noun	From word (Arabic)	Gloss	Derived F. Noun	Gloss
<i>l-jar</i>	<i>al jarr</i>	‘neighbor’	<i>t-a-jar-t</i>	‘female neighbor’
<i>l-qaεa</i>	<i>al qaεa</i>	‘land’	<i>t-a-qaεe-t</i>	‘a piece of land’

Kossmann (2013) argues that there are two classes of nouns in Berber which follow different morphological rules: one for nouns following Berber morphology (integrated loanwords), and one for nouns following Arabic morphology (non-integrated loanwords). He states that forms from the same root which fall into two different classes ‘correspond’ to each other, while I would contend that the forms using Berber morphology are derived from those using Arabic morphology.

In addition, almost any loanword that does not begin with *l*- has *a*- added to it, as in Table 7.

Table 7: *a*- attached to loanwords

Noun	From word (French)	Gloss
<i>a-farmasian</i>	<i>(le) pharmacien</i>	‘pharmacist’
<i>a-kamyun</i>	<i>(le) camion</i>	‘truck’
<i>t-a-furced-t</i>	<i>(la) fourchette</i>	‘fork’
<i>a-baṭayu</i>	<i>(le) bataillon</i>	‘battalion’
<i>t-a-macin-t</i>	<i>(la) machine</i>	‘machine’

4.5.1 *a*- AS A DETERMINER

Thus, all loanwords contain *a*- – unless they begin with an *l*- from the language they were borrowed from. Because Maghrebi Arabic *l*- and French *le* are determiners, this suggests that *l*- is also a determiner. The alternate hypothesis would be that the *l* from the determiner was reanalyzed as part of the noun root when these words were borrowed, but that would not account for why *l* is not treated as part of the noun root but instead alternates with *a*-.

If *l*- is a determiner, and occupies the same position as *a*-, this is evidence that *a*-’s function must also be as a determiner. This idea has also been put forth by Achab (2003) for independent reasons. In addition, *a*- being a determiner could explain why many of the nouns that do not begin with *a*- are mass/collective nouns, such as *čina* ‘orange’.

5 DISCUSSION & CONCLUSION

I have demonstrated through a variety of data that *a-* is a morpheme attached to noun roots in Kabyle. It is added to all derived and borrowed nouns, and is not present in words derived from noun roots. Interpreting *a-* as a morpheme allows one to predict the construct state form of any noun, along with its plural form. I also presented some loanword evidence supporting the idea that *a-* is a determiner.

The evidence I have presented above supports Guerssel's (1983) original argument that *a-* is a separate morpheme, and that *a*-deletion applies only to it and not just to any vowel. This contradicts the claims of Bendjaballah and Haiden (2005), who attempt to explain the difference between *a*-initial nouns and nouns with root-initial vowels using syllable structure.

The analysis of *a-* as a separate morpheme explains all construct state forms in Kabyle: using Bader & Kenstowicz's (1987) rules with the modification that *a*-deletion only applies to the morphemes *a-* and *i-*, all construct state forms can be derived as shown in Table 8.

Table 8: Derivation of construct state from free state

Gloss	'man'	'woman'	'hand'	'men'	'porcupine'	'neighbor'
Free State	<i>a-rgaz</i>	<i>t-a-mṭtu-t</i>	<i>a-fus</i>	<i>i-rgazn</i>	<i>aruy</i>	<i>l-jar</i>
1. Glide addition	wargaz	—	wafus	yirgazn	waruy	—
2. <i>a</i> -deletion	wrgaz	tṃttut	wfus	yrgazen	—	—
3. Schwa insertion	wergaz	tmeṭtut	—	yergazen	—	—
4. Vocalization	—	—	ufus	—	—	—
Construct State	<i>wergaz</i>	<i>tmeṭtut</i>	<i>ufus</i>	<i>yergazen</i>	<i>waruy</i>	<i>ljar</i>

It also explains most of the behavior of initial vowels in plural formation, as detailed in Guerssel (1983). In addition, it plays a crucial role in noun derivation: *a-* is attached to all derived nouns and to all borrowed nouns which are not borrowed with a determiner, and *a-* is not present in words derived from noun roots as it would be if it were part of the root.

However, there are a few reasons why not all nouns in Kabyle begin with *a-*. Most of the non-*a*-initial nouns begin with either a stem vowel or *l-*. I have argued that *a-* is suppressed for phonotactic reasons when the root begins with a vowel, and that *l-* alternates with *a-*. This leaves only a handful of attested nouns which do not begin with *a-* and yet do not fall into either the *l*-initial or vowel-initial-root case.³

I suspect that with some further investigation, most of the remaining exceptions could be explained using an analysis of *a-* as a determiner. Many of the remaining exceptions are mass nouns, which may not need a determiner in Kabyle. Consistent with this hypothesis, I have not found any *a*-initial mass nouns (although that is possibly because all or most of them are Arabic borrowings, according to Kossmann (2013)). However, some consonant-initial words do seem to be true exceptions, namely *vururu* 'owl' and *ccix* 'teacher', which are clearly not mass nouns, do not appear to

³ The only examples I have found are: *vururu* 'owl', *ccix* 'teacher', *čina* 'oranges (mass noun)', and *tffah* 'apples (mass noun)'.

be loanwords, and yet lack the expected *a-*.

In addition, some nouns begin with an *i* in the singular that behaves the same way as *a-* in the construct state derivation: it *is* deleted in the construct state. Guerssel (1983) posits that this is another morpheme that can occupy the same position that *a-* does, but does not guess what its meaning is. It is still not clear what this *i-* in the singular means: it may be a variant of *a-*, or it may have a different meaning or function from *a-*. Based on the evidence from *l-* in loanwords, *i-* may be another archaic or loaned determiner, but there is currently no evidence to support such an analysis.

One other question that the analysis of *a-* as a morpheme may be able to answer is whether the free state is the basic underlying form of a noun. Based on my analysis, *a-* is not part of the root and thus the free state is also derived from the root, just as the construct state is. However, the construct state glide insertion rule is affected by which vowel is in the free state form, so there is evidence that the construct state is derived from the free state. Otherwise, there is no way to predict which glide will surface in the construct state.

My analysis of *a-* as a determiner is consistent with Achab (2003), but not with Guerssel (1983), who says that *a-* and its plural counterpart *i-* simply indicate number. These two views of the function of *a-* could best be combined by concluding that *a-* is a singular determiner, and *i-* is its plural equivalent. Preliminarily, *a-* and *l-* do not appear to mark definiteness in modern Kabyle, but may just be (usually) obligatory determiners.

There is ample evidence that *a-* is at least derived from a determiner historically (Chaker, 2018). I argue that the evidence presented here supports the hypothesis that it still behaves as a determiner today, and certainly is not part of the noun root.

Future research could focus on finding more conclusive evidence that *a-* is a determiner in modern Kabyle. An investigation of mass/collective nouns and their relation to *a-* is also warranted, especially in words that are not clearly loanwords. Lastly, some of the behavior of *a-* and roots, and of derivations on Arabic loanwords, is not the same in some other Berber languages such as Ayt Seghroushen Berber (see Kossmann (2014) and Kossmann (2013)), so more cross-linguistic investigation would be interesting.

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