A partial reconstruction of Berber (Amazigh) deictics

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Abstract

This article studies a number of questions in the reconstruction of the Berber deictic system. Based on a comparative analysis informed by historical phonology, it is shown (1) that the variation of the form of the singular proximal deictics can be understood from a basic form *a*, which could be expanded by a complementary element *d*, and, possibly, also by an element *ʔ*; (2) that the proximal system of deictics originally had a number difference, even among adnominal deictics; (3) that the Ghadames (Libya) Anaphoric series sg *-e*, pl *-id* has clear parallels in other varieties, especially in Kabyle (Algeria), and that, as a consequence, it can be reconstructed for proto-Berber.

Keywords

Afroasiatic, Berber linguistics, deixis, historical linguistics, Kabyle

Abstract

Dans cet article, nous étudierons un certain nombre de questions concernant la reconstitution du système déictique en berbère. Sur la base d'une analyse comparative informée par la phonologie historique, il est montré (1) que la variation dans la forme des déictiques proximaux au singulier peut être comprise à partir d'une forme de base *a*, qui pouvait être étoffée par un élément complémentaire *d*, et, éventuellement, aussi par un élément *ʔ* ; (2) que le système proximal des déictiques comportait à l'origine une différence de nombre, même parmi les déictiques adnominaux ; (3) que la série anaphorique sg *-e*, pl *-id* à Ghadamès (Libye) a des parallèles évidents dans d'autres variétés, en particulier en kabyle (Algérie), et que, par conséquent, elle doit être reconstituée pour le proto-berbère.

Mots-clés

afroasiatique, linguistique berbère, deixis, linguistique comparative, kabyle

1. Introduction

Berber varieties[1] (also known as Amazigh) show an enormous variation in deictic systems and forms (Destaing 1922; Naumann 2001). Some only have two distinct forms, while others have up to seven distinctions, among others differentiating between spatial and temporal deixis (Mauri 2020).

These deictic distinctions are expressed in a number of morphosyntactic categories. In the first place, almost all Berber varieties have adnominal deictics, that is, deictic elements that are added directly to the noun. For example, in Nador Tarifiyt in (1).

(1)   Nador Tarifiyt [MA-Z] (Mourigh & Kossmann 2019: 173–175)

    aryaz   'the man, a man'

    aryaz-a   'this man here' (proximal)

    aryaz-in   'that man over there' (distal)

    aryaz-ənni   'the aforementioned man' (anaphoric)

Only very few Berber varieties lack this possibility; notable exceptions are Ayer Tuareg [NI-T] (Kossmann 2011: 107–109 based on older literature) and Zwara [LI-Z] (Galand 2005: 191), while Siwa [EG] has a very different (and probably innovative) system in adnominal deixis (Souag 2013: 140; Schiattarella 2015: 162–164; Schiattarella 2016: 33–35).[2]

In addition, deictic elements are combined with pronominal bases in order to create demonstrative pronouns. In most varieties, there is a clear connection between the adnominal deictic elements and the elements as found in demonstratives, as for example in (2).

(2)   Nador Tarifiyt [MA-Z]

    w-a   'this one over here' (M:SG:PRX)

    w-in   'that one over there' (M:SG:DIST)

    w-ənni 'the one just mentioned' (M:SG:ANA)

While demonstratives of this type are found in all Berber varieties, the connection with the adnominal forms is not always straightforward, as will be shown below.

Finally, a number of adverbial elements can be combined with deictic elements. These can be more or less lexicalized. Some examples are given in (3).

(3)   Nador Tarifiyt [MA-Z]

    da   'here' (proximal)

    din   'over there' (distal)

    diha   'over there' (far distal)

    dinni   'over there' (anaphoric)

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1. I use "variety" as a neutral term to refer to the different geographically defined lects that Berber encompasses. While some of these could easily be considered different languages, in many cases, the differentiation between "language" and "dialect" – problematic in itself – is impossible. There is no generally accepted sub-classification of Berber. I will use the term "Zenatic" for a group of strongly related varieties in eastern Morocco and Algeria, see Kossmann (1999: 31–32) for a list and arguments, and Souag (2013: 20–26) for further discussion. The names of the varieties will be followed by an abbreviation of the country where they are spoken, adding -Z for Zenatic, and -T for Tuareg. A list of abbreviations can be found at the end of the article.

2. Constructions with a demonstrative following a noun are not unknown in other varieties either. Thus Tarifiyt [MA-Z] allows constructions where a form with a proximal deictic is followed by the extended form of the proximal demonstrative -*anita,* like *nəcc iɛəjb ayi lməwḍuɛ-a wanita* (<nech i3ajbayi al mawdo3a wanita>) 'as for me, I like this subject (lit. this subject pleases me)', including the Noun Phrase *lməwḍuɛ-a wanita* 'subject-PRX DEM:M:SG:PRX'. Cited from a reader's comment to a post on nadorcity.com from March 26, 2010. On the development of pre-nominal deixis, as found in Zwara [LI-Z] and Figuig [MA-Z], see Kossmann (2013a: 321–324).

It has been proposed that the adnominal deictics are historically derived from constructions of a noun followed by a pronoun. Thus, Galand (2005: 191) writes about adnominal deictics:

> À l'origine de la construction, il y a simplement reprise du nom(inal) par un pronom, comme en touareg (Ahaggar) : *aləs wa-rəġ* « homme celui-ci » = « cet homme-ci ». Mais le plus souvent cette origine est perdue de vue, le pronom est réduit à l'état d'élément invariable et il fonctionne simplement comme une marque qui accompagne le nom : chleuh *argaz-ad*, kabyle *argaz-agi*, nefusi *atəRas-uh* « cet homme-ci ».[3]

In the citation above, it is not entirely clear if Galand considers forms like *argaz-ad* to be phonetically reduced outcomes of **argaz wad*, or that he considers *ad* to be a pronoun in itself (as suggested by a slightly different formulation in Galand 2010: 156). The first analysis (**argaz wad*) would put us way beyond the timeframe of reconstructible Berber, as almost every Berber variety has adnominal deictics that are added directly to the noun. The few varieties that do not have this construction have fossilized forms that show the previous presence of adnominal deixis, such as Ayer Tuareg [NI-T] *ămer-ă* 'at this moment, now'; Siwa [EG] *asf-a* 'today'; Zwara [LI-Z] *ass-u* 'today'. Moreover, it is important to keep in mind when studying Tuareg examples like *aləs wa-răɣ* 'this man', that almost all Tuareg varieties also have constructions with adnominal deictics, such as Ahaggar [AL-T] *aləs-a* 'the man we are talking about' (Prasse 2010: 116), and it is very well possible that the Tuareg construction with demonstrative-like pronouns (*wa-răɣ*) is a local innovation (Prasse 1972: 193).

The second interpretation of Galand's analysis would be about a refunctionalization of a now-defunct independent pronominal element into a bound morpheme, presumably the "*supports de détermination*" (pronominal elements that constitute the head of a modified or determined NP); on this question, see Section 5 for further discussion.

In any case, the adnominal construction with bound deictic elements like in *aləs-a*, clearly has a long history. Adnominal deictics originally had number agreement to the noun (see Section 2). One could speculate that Galand – who, as far as I know, never commented on this phenomenon – would have considered this an argument in favor of their synchronic status as pronominal elements.

Most Berber systems have been described as distinguishing at least two deictic points of spatial reference (proximal and distal; exophoric reference in the terminology of Diessel 1999) and, in addition, a dedicated expression of anaphoric deixis (endophoric reference), marking that the referent is already mentioned, or deducible from context. Some varieties distinguish more spatial points of reference, adding for example a difference between 'near distal' (or 'near the hearer') and 'far distal'. This can be the case all over the deictic system of the variety, but can also be restricted to certain subsystems. Thus, in Tarifiyt [MA-Z], locational adverbs differentiate between general distal *din* and far distal *diha*, while it has only one distal element (*-in*) in the adnominal and demonstrative subsystems. There are a few varieties that only have two spatial deictics. Here the split seems to be between an exophoric proximal and a second deictic used both for distal and anaphoric reference (cf. Kossmann 2015 for Figuig [MA-Z]). One should also mention the case of Tetserret [NI], a non-Tuareg variety from Niger, which has an adnominal element *ad*, which is largely neutral in its deictic reference, opposed to an element *un*, which tends to be related to the expression of distance (Lux 2013: 443). As argued by Lux, fixed expressions point to an earlier proximal value of *ad*, e.g. *ell-ad* 'here'.

In a groundbreaking study of the semantics and pragmatics of deixis in Kabyle [AL], Amina Mettouchi (2011) has shown that their use is less about describing space in reality, but rather about interpersonal construction of reference. As a result, the boundary between endophoric and exophoric deixis is much more permeable than suggested by the common analysis (see also Mauri 2020). It is very well possible (and even probable) that the systems in other Berber varieties are as complex and

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3. 'Originally the construction simply involved the recapitulation of the noun (or nominal element) by a pronoun, as in Tuareg (Ahaggar): *aləs wa-rəġ* "man this one" = "this man". But, commonly, this origin has become out of sight, and the pronoun is reduced to the state of an invariable element, which simply functions as a marker accompanying the noun: Tashelhiyt *argaz-ad*, Kabyle *argaz-agi*, Nefusi *atəRas-uh* "this man".'

subtle as in Kabyle [AL]. However, as long as there are only few detailed studies of the use of deictics, especially in conversation,[4] it is impossible to say to what extent the Kabyle [AL] situation applies to Berber deixis in general.

This article will provide a partial analysis of the history of the morphology of deictic systems in Berber. As this is a study of morphology and not of semantics, I have chosen to retain the common denominations of these series. Thus, in spite of Mettouchi's insights, I will stick to 'proximal', 'distal', 'anaphoric', even though there is no doubt that this is just an oversimplified characterization of much more complex semantic and pragmatic facts.

This article will focus on three subjects. The first subject is the reconstruction of the singular forms of the proximal deictic. The second subject is the expression of number together with the expression of deixis. The third subject is a series of deictics, which is only sporadically attested in Berber, but will be proposed here as being ancient. This article does in no way pretend to provide a full analysis of all aspects of Berber deictic forms. For example, there are more series, especially those including a non-proximal element *n* (e.g. Tarifiyt [MA-Z] *-in* and *-nni*), which will only be mentioned where relevant, and left out of our general efforts in reconstruction. This omission is in no way a dismissal of these forms as innovative. Similarly, the history of elements specialized in expressing temporal deixis will not be studied here.

One variety that illustrates the systems that will be studied here is Ghadames [LI] (Ayt Waziten dialect; Lanfry 1968; Kossmann 2013b). In this variety, there are three basic series, which have different forms depending on number (4). In addition, the proximal and the distal deictics have extended forms using a suffix *-ăt*.

(4)   Ghadames [LI] (Ayt Waziten dialect; Lanfry 1968; Kossmann 2013b)

	PRX	PRX.EXT[5]	DIST	DIST.EXT	ANA
ADNOM:SG	*-o*	*-odăt*	*-ănn ~ -onn*	*-ănnăt ~ -onnăt*	*-e*
ADNOM:PL	*-i*	*-idăt*	*-inn*	*-innăt*	*-id*

The origin of the singular proximal forms *-o* and *-odăt* will be treated in Section 2; the plural forms will be treated in Section 3, while the anaphoric series *-e/-id* will be the subject of Section 4.

2. THE SINGULAR FORMS OF THE PROXIMAL DEICTIC

Berber varieties show three different basic forms of the proximal deictic (Destaing 1922; Naumann 2001). Zenaga [MT] will be treated below.

-a

-o and *–u*

-ad

Forms in *a* are found in Tuareg, in Kabyle [AL], and in a number of Central Moroccan, Senhaja de Sraïr [MA], and Zenatic varieties, as well as in Awjila [LI]. Forms in *-u* and *-o* are found in a sub-set of Zenatic and in Ghadames [LI]. Forms in *ad* are typical of Moroccan Berber: Tashelhiyt [MA], most Central Moroccan dialects [MA], Ghomara [MA], and some Senhaja de Sraïr [MA] varieties. They also occur in Tasahlit [AL], in Zenaga [MT], and in Tetserret [NI].

Ghadames [LI] points to a fourth option, *-od*. In this variety, the proximal and distal deictics have extended forms ending in *ăt*. In the distal, this *ăt* is simply joined to the deictic: *-ănn-ăt*. In the

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proximal, the basis seems to be *od* rather than *o*, and we get *-od-ăt*. The extra *d* also appears in the extended form of the locational adverb, *da*, which is *dadăt* 'here'.

In addition, a few varieties have proximal forms ending in *h*. The first one is Jebel Nefusa (Jado) [LI], which has a binary distinction between proximal and distal forms. The consonant *h* is found in both deictic series, for example, in the adnominal suffixes PRX *-uh* ~ *-uha*; DIST *-ih* ~ *-iha* (Beguinot 1942: 120). The second one is Zwara [LI-z], where *h*-final forms are restricted to proximal demonstratives (Mitchell 1953: 376–377); *h* does not occur in the few fossilized forms with adnominal deixis such as *ass-u* 'today' (Mitchell 2009: 80). Like in Jebel Nefusa, this variety only expresses two degrees of deixis, with the proximal demonstratives *wuh* (M:SG), *yih* (M:PL) (F: *tuh/tih*), and the non-proximal demonstratives *wəddin* (M:SG), *yidin* (M:PL) (F: *təddin/tidin*).

In Siwa [EG], final *h* is typical for the distal demonstratives, e.g., *wih* 'that one', and in many other varieties, *h* functions as (part of) the distal element (cf. Tarifiyt [MA-z] *diha* 'over there'). One way to explain why *h* functions as a proximal in Zwara [LI-z], while it seems to have distal semantics elsewhere, is the following – perforce speculative – scenario. Originally, both Jebel Nefusa [LI] and Zwara [LI-z] had two (or more) forms, one of which was non-proximal, and ended in *-h*, while another was proximal, and did not end in *-h*. In both varieties, the final *h* was generalized to the proximal deictic. This is the situation as currently found in Jebel Nefusa (Jado). In Zwara, this expansion of *-h* to the proximal deictic did not extend to all fixed expressions, as witnessed by *ass-u* 'today'. In a later development, Zwara lost the non-proximal form ending in *-h*, whose function was taken over by forms in *-ddin*, which may or may not have been part of the larger deictic system already. As a result, the only remaining form ending in *-h* in Zwara is the proximal, even though *h* originally comes from a non-proximal form.

It has been long remarked that the *d* in proximal deictics is similar in form with the directional clitic *dd*, which, generally speaking, expresses movement towards the speaker (on which, see Bentolila 1969; Kossmann 2014; Taine-Cheikh 2015, and many others; for a critical reassessment, Mettouchi 2015). The comparison is strengthened by the fact that in many varieties, distal and/or anaphoric deictics contain the consonant *n*, which can be compared to the directional clitic *nn* expressing movement away from the speaker. Thus, for example, Tashelhiyt [MA] has a highly symmetric system (5).

(5)   Tashelhiyt [MA]

	directional	deictic
PRX	*dd*	*ad* (also *a*)
DIST	*nn*	*ann*

This has lead scholars to reconstruct the proximal deictic in Berber as a non-deictic vocalic element *a*, followed by a deictic element *d*. According to one account, the varieties without *d* in the deictic would have lost it somewhere during their history due to phonetic erosion (Marcy 1939: 157; Reesink 1979: II, 297). However, the idea that *a* and *o/u* constitute shortened forms of *ad* runs into phonological problems, as I am not aware of any other phonetic development in Berber where word-final *d* would be elided.[6] There is no reason to assume analogical pressure that could have lead to the elision either.

Therefore, it is better to consider forms with *a* and *o/u* as alternatives to *ad* rather than derivations from it (Galand 2002: 208 [1969]; 2010: 156; Taine-Cheikh 2010). Whether *d* is really identical to the directional clitic, and, if so, which directionality we should assume, are questions that lie outside the scope of this article (cf. Gutova 2021: 309 for a discussion with references).

This brings us to the next question: how should we understand the dialectal alternation between *a(d)* on the one hand and *u/o* on the other? At this point, the advances in Berber historical phonology of the last few decades come to our rescue. As shown in Kossmann (2001), stressed *ăʔ* became *o* in Ghadames [LI] and *u* in a number of Zenatic varieties and in Jebel Nefusa [LI]. The evidence is based

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6. The deictic element *d* has been recognized in a number of other grammatical elements, see Taine-Cheikh (2010) for an overview with references.

on correspondences found in verb conjugations that have an original glottal stop in Zenaga, the only Berber variety that has preserved this phoneme (Taine-Cheikh 2004).

Van Putten (2015) has shown that the same phonetic rules probably applied to *aʔ. As the varieties that have *o* or *u* in the proximal deictic are the same as those that show *o* or *u* in the verb system,[7] this strongly suggests that the deictic *o/u* goes back to stressed *ăʔ or *aʔ. For the sake of brevity, I will refer to this reconstructed form as *aʔ.

As for the varieties that have *a(d)*, there is a distinct possibility that they also go back to *aʔ, as *a* is the regular correspondent there. However, a reconstruction *a* is also possible, and for the individual varieties, it is impossible to decide which one to choose. In fact, the original forms may have been different for different varieties.

It is relevant that the varieties that have *o* or *u* (< *aʔ) as their adnominal deictic have deictic forms with -*a* in locational adverbs. A number of varieties of this type are listed in (6).

(6)

	ADNOM:PRX(:SG)	'here'	source
Ghadames [LI]	-*o*	*da*	Lanfry (1968)
Jebel Nefusa [LI]	-*uh(a)*	*dah*	Beguinot (1942)
Ouargla [AL-Z]	-*u*	*da*	Delheure (1987)
Figuig [MA-Z]	-*u*	*da*	Kossmann (1997)
Ayt Seghrushen [MA-Z]	-*u*	*da*	Bentolila (1981)

This suggests that, at some moment in their history, these varieties had both a deictic with *aʔ and one with *a*; the form with *ʔ was generalized to adnominal and demonstrative deixis, while the form without *ʔ was retained in some spatial adverbs.

This idea is reinforced by the existence of a further set of demonstrative pronouns in Ghadames [LI], which have SG *a* instead of *o*. This is the case of the pronoun 'another', e.g., M:SG *wa-yiḍ* and the interrogative 'which one', e.g., M:SG *wa-din* (Kossmann 2013b: 49). These forms are likely derived from a basis *-*a* rather than *-aʔ.

Things become more complicated once we include the evidence from Zenaga [MT] (Taine-Cheikh 2010). Zenaga has a threefold distinction in its deictic system, which is described by Taine-Cheikh as essentially exophoric with a proximal, a medial and a distal form. The medial is also often used for anaphoric reference. The singular demonstrative forms have basically the same system as the adnominal forms,[8] but the morphology of locational adverbs is different (7).

(7)   Zenaga [MT] (Taine-Cheikh 2010)

	PRX	MED	DIST
ADNOM:SG	*äḏ*	*iʔḏ*	*ān*
DEM:M:SG	*äḏ*	*iʔḏ*	*ān*
DEM:F:SG	*täḏ*	*tiʔḏ*	*tān*
NEUTRAL	*äyḏ*	*äʔḏ*	*ān*
LOCATIONAL ADVERB	*ḏāḏ*	*ḏäʔḏ*	*y*

As one can see, Zenaga has a deictic form with a glottal stop, but this is in the medial series, which is characterized by a non-low vowel. Zenaga *i* can go back to proto-Berber *ə, *i, *u, *e, but not to *ă and *a (Kossmann 2002), so Zenaga *iʔḏ* cannot be directly cognate to *aʔ or *ăʔ.

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7. See also Prasse (1972: 193, fn. 142). An exception is Ayt Iznasen [MA-Z], which has proximal *u*, but verb forms ending in *a*. This may be a case of dialect mixing: dialects to the west of Ayt Iznasen have *a* under both conditions, while dialects to its south, such as Ayt Buzeggu [MA-Z], have *u* under both conditions (cf. Lafkioui 2007: 154 and 178).

8. Note that Zenaga demonstrative pronouns lack the initial masculine marker *w*-, commonly found elsewhere in Berber. Plural demonstratives are based on a gender marker (M: ø, F: *t*) followed by a plural element * əḏn*, followed by the plural form of the adnominal deictic: DEM:M:PL:PRX *əḏniḏ*, DEM:M:PL:MED *əḏniʔḏ*, DEM:M:PL:DIST *əḏnān*, and corresponding feminine forms with initial *t*-. The origin of the pluralizing element *əḏn* lies beyond the scope of this article.

The forms of the locational adverbs in Zenaga are difficult to explain, as the origin of the long vowel in *đāđ* 'here' is unclear. One may conjecture that they somehow go back to a locational basis *da-* followed by the deictic element, and that **da-ad* became *đāđ*, while **da-iʔd* became *đäʔđ*. The latter vowel coalescence rule might also be used to explain the neutral medial pronoun *äʔđ* (< **a-iʔđ*?), but the rule **a-a > ā* needed for *đāđ* does not have a counterpart elsewhere in the language. In fact, the origin of other long vowels in Zenaga seems to be different, and therefore this explanation of *đāđ* is, at best, pure speculation.

There are two ways to explain the relationship between the Ghadames [LI] (etc.) forms with reconstructible glottal stops and the Zenaga [MT] system. In order to do so, we will also take into consideration the Zenaga medial deictics, which, arguably, correspond to the Ghadames anaphoric deictics in *-e* (see Section 4 for a comprehensive discussion).

In the first scenario, an early phase of Berber had a system that included the following deictic singular forms (forms with *n* have not been included):

> **-a*
> **-ad*
> **-aʔ* (or **-ăʔ*)
> **-iʔ* (or **-eʔ*)

At some point in time, the element *d* was added to the medial *iʔ*, while the original deictics **-a* and *-aʔ* were lost in Zenaga [MT].[9] According to this scenario, in Ghadames [LI] (etc.) **-ad* was lost, while **-a* only survives in locational adverbs and in 'another' and 'which one' (8).

(8)	Scenario 1	Ancestral system	Zenaga [MT]	Ghadames [LI]
PRX-1	**-a*	lost	(maintained in adverbs)
PRX-2	**-ad*	*-äđ*	lost
PRX-3	**-aʔ*	lost	*-o*
MED / ANA	**-iʔ*	**-iʔ + d >> -iʔđ*	*-e*

In the alternative explanation, there would not have been an element **-aʔ* in proto-Berber, and the subset of deictics that concern us here could be reconstructed as follows:

> **-a*
> **-ad*
> **-iʔ*

In Zenaga [MT], **-a* was lost, and the consonant *d* was joined to **-iʔ* according to the same developments as proposed in the first scenario. In Ghadames [LI], Jebel Nefusa [LI] and (part of?) Zenatic, the glottal stop of **iʔ* was extended to proximal deixis (except in adverbs), and, in an unrelated development, **ad* was lost. The second scenario is summarized in (9).

(9)	Scenario 2	Ancestral system	Zenaga [MT]	Ghadames [LI]
PRX	**-ad*	*-äđ*	lost
PRX-2	**-a*	lost	**-a + ʔ >> -aʔ > -o* adverbs maintain **-a*
MED / ANA	**-iʔ*	**-iʔ + d >> -iʔđ*	*-e*

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9. Note that in present-day Zenaga underlying word-final VʔV# is pronounced without the following glottal stop (cf. Taine-Cheikh 2004), while – in my analysis –, underlying word-final V# is pronounced with an offglide *h* (Kossmann 2001). In this reconstruction, these underlying forms are mapped on the predecessor of Zenaga.

Both scenarios are predicated upon the presence of a glottal stop in the original form of the Anaphoric series in Ghadames [LI]. This is impossible to prove or disprove outside Zenaga [MT], as (stressed) *əʔ and likely also *iʔ (or *eʔ) merged with e or i everywhere (cf. van Putten 2016: 27), so Ghadames -e could go back both to *iʔ (or *e) and to *e.

These scenarios are, of course, speculative, and I have no strong opinion about which of them should be considered more likely.

Thus, harking back to the general reconstruction of the proximal system, there would be an element a (with a plural i, see Section 3), which could be combined with either d or (possibly) ʔ. There is little evidence that d and ʔ could be combined, but the extended form -odăt in Ghadames [LI] might be reconstructed as something like *-a-ʔ-d + -ăt. It is very well possible, though, that the vowel o in the Ghadames extended form was analogically introduced from the short form o, and that the original forms were *-a-ʔ and *-a-d-ăt.[10]

We may safely assume that there was a semantic difference between proximal forms without a formative, forms with d and, if reconstructible, forms with ʔ. As there is no variety that has clearly preserved this original system, it is impossible to decide what difference this could have been exactly.

3. Number marking in deictic forms

3.1 Introduction

The majority of Berber varieties do not have gender or number marking in adnominal deixis. Thus, in Tarifiyt [MA-Z], -a, -in, -nni can be combined with singular and plural nouns, and with feminine and masculine nouns without any changes, as, for example, in (10).

(10)   Nador Tarifiyt [MA-Z]

	PRX	DIST	ANA
'donkey' (M:SG)	aɣyuř-a	aɣyuř-in	aɣyuř-ənni
'donkeys' (M:PL)	iɣyař-a	iɣyař-in	iɣyař-ənni
'donkey'(F:SG)	taɣyuč-a	taɣyuč-in	taɣyuč-ənni
'donkeys' (F:PL)	tiɣyař-a	tiɣyař-in	tiɣyař-ənni

Demonstratives, on the other hand, normally have gender and number marking. Gender is marked in the initial consonant of the pronoun, while number is marked in the vowel following this initial consonant, or by other means (on which, see Section 4).

In the case of Tarifiyt [MA-Z], the demonstrative can be analyzed as the combination of a pronominal element, which includes gender and number marking, and the same deictic elements that are used for adnominal deixis (11).

(11)   Nador Tarifiyt [MA-Z]

	PRX	DIST	ANA
ADNOM	-a	-in	-nni
DEM:M:SG	w-a	w-in	w-ənni
DEM:M:PL	in-a	in-in	in-ni (< in-nni)
DEM:F:SG	t-a	t-in	t-ənni
DEM:F:PL	tin-a	tin-in	tin-ni (< tin-nni)
NEUTRAL[11]	ay-a	-	ay-ənni

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10. Note that, in Ghadames, o also spread to the distal system, where adnominal deictics attached to feminine nouns, and feminine demonstratives show variation between -ănn, -ănnăt and -onn, -onnăt (Lanfry 1968: 255).

11. The neutral pronominal basis is used for vague reference, and does not have a gender or number opposition. In the literature, it is known under different names, such as "indefinite" (Chaker 1983) and "collective" (Prasse 1972).

The Ashtuken Tashelhiyt [MA] system is even more balanced, with clearly distinguished gender marking, number marking and deictic marking (12).

(12)   Ashtuken Tashelhiyt [MA] (Aspinion 1953: 92–94; forms adding initial ɣ not included)

	PRX	MED	DIST	ANA
ADNOM	*ad*	*nna*	*ann*	*lli*
DEM:M:SG	*w-a-d*	*w-a-nna*	*w-a-nn*	*w-a-lli*
DEM:M:PL	*w-i-d*	*w-i-nna*	*w-i-nn*	*w-i-lli*
DEM:F:SG	*t-a-d*	*t-a-nna*	*t-a-nn*	*t-a-lli*
DEM:F:PL	*t-i-d*	*t-i-nna*	*t-i-nn*	*t-i-lli*
NEUTRAL	*ay-a-d, ay-a*	*ay-nna*	*ay-a-nn*	*ay-lli*

In varieties like Tashelhiyt [MA], morphemic analysis is simple, and it makes sense to distinguish a pronominal basis with gender/number marking from a second part that consists of the specific morphemes that indicate deixis.

In other varieties the situation is more complicated. In the first place, as will be shown in Section 3.2, there are varieties that also have number marking in adnominal deixis. In the second place, the morphemic analysis of the demonstrative as a pronominal element expressing gender and number and a deictic element expressing deixis only can be problematic. One example of the latter, which will be studied in more detail below (Section 4), is found in the Kabyle [AL] variety of Ayt Iraten (Chaker 1983: 156). In this variety, the singular distal demonstratives are *wihin* (M) and *tihin* (F), while the corresponding plural forms are *wihid* (M) and *tihid* (F). In such forms, the gender expressions *w* and *t* are separated from the number expressions *n* and *d* by an invariable element *ihi* which expresses distal deixis.[12] Therefore, one cannot maintain that there is a division between an initial pronominal part and a part that exclusively expresses deixis, as number marking follows the deictic expression. It is probably this kind of system that Basset (1952: 34) had in mind when stating: "Mais le plus souvent, le pluriel pose des problèmes extrêmement délicats et non résolus" (But most commonly, the plural poses extremely delicate, unresolved problems).

3.2 Number marking in adnominal deixis

Most Berber varieties do not express number in adnominal deictics.[13] There are, however, a number of varieties where the opposition also appears in this context. This is found all over the Berber speaking area: Libya, northern Algeria, northern Morocco and Zenaga in Mauritania. Table 1 lists those cases that I know of.

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12. Note that the morpheme boundaries are unclear. One could also assume, for instance, gender marking *wi*/*ti*, followed by deictic *h*, followed by number marking *in*/*id*.
13. Cases where adnominal deixis is expressed by means of a demonstrative or a construction clearly derived from a demonstrative, like in Siwa [EG] and Ayer Tuareg [NI], will be left out of the discussion.

Table 1 — Varieties that have a number opposition in adnominal deictics: distribution

Variety	Expression of number	Source
Zenaga [MT]	only proximal adnominal deictics	Taine-Cheikh (2010)
Senhaja (Ketama, Taghzout) [MA]	most adnominal deictics	Gutova (2021)
Ghomara [MA]	all adnominal deictics	Mourigh (2015)
Blida Atlas [AL]	only distal adnominal deictics	El Arifi (2016)
Eastern Kabyle (Ayt Mbarek) [AL]	proximal and distal adnominal deictics	Genevois (1955)
Tasahlit (Ayt Mhend) [AL]	only proximal adnominal deictics	Rabhi (1994)
Ghadames [LI]	all adnominal deictics	Lanfry (1968); Kossmann (2013b)
Awjila [LI]	all adnominal deictics	van Putten (2014a)
El-Fogaha [LI]	only proximal adnominal deictics	Paradisi (1963)

Number marking in adnominal deixis is found both in varieties that have final *d* in the proximal and varieties without *d*. Thus Zenaga [MT], Senhaja (Ketama) [MA], Ghomara [MA], and Tasahlit (Ayt Mhend) [AL] have forms in *d*, while Eastern Kabyle [AL] (Ayt Mbarek), Ghadames [LI], and Awjila [LI] lack *d*. One may therefore conclude that the presence of number marking is independent of the presence or absence of *d*. Table 2 presents the relevant forms (unless stated otherwise, proximal forms are listed).

Table 2 — Varieties that have a number opposition in adnominal deictics: proximal forms

Variety	SG	PL
Zenaga [MT]	*-äđ*	*-iđ*
Senhaja (Ketama) [MA]	*-ad*, *-adah*	*-id*, *-idah*
Senhaja (Taghzout) [MA]	*-ada*	*-idi*
Ghomara [MA]	*-ad*, *-adin*, *-adinət*	*-id*, *-idi*, *-idinət*
Blida Atlas [AL]	[DISTAL:] *-adin* (among other forms)	[DISTAL:] *-idin* (among other forms)
Eastern Kabyle (Ayt Mbarek) [AL]	*-a*	*-i*
Tasahlit (Ayt Mhend) [AL]	*-a*, *-ad*	*-i*, *-id*
Ghadames [LI]	*-o*, *-odăt*	*-i*, *-idăt*
Awjila [LI]	*-aya*, *-e*, *-ək*	*-iya*, *-iyək*
El-Fogaha [LI]	*-dda*	*-di*, *-ddi*

It seems that **iʔ* became *i* everywhere in Berber; therefore, all plural forms of the proximal could (but need not) go back to **iʔ*.

In the proximal forms, the main opposition is between *a(d)* (Ghadames [LI] *o*) in the singular and *i(d)* in the plural. One remarks, though, the El-Fogaha [LI] forms *-dda*, *-d(d)i*, where the number marking follows an element *dd*. I have no straightforward explanation for these forms.[14]

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14. The distal form is *-dden* without number agreement. One might speculate that El-Fogaha integrated locative adverbs, something like *da* 'here' and *den* 'there', into the deictic system, and then transposed the old number marking to the final vowel of *-dda* (cf. also Souag 2014a: 542). The locative adverbs that Paradisi presents for El-Fogaha seem to be composed of a presentative element and the locative elements *da* 'here' and *den* 'there', well attested elsewhere in Berber: *akkada* (= *akka-da*?) 'here'; *denhak* (= *den-hak*?) 'there'. For a more elaborate analysis, also involving nearby Sokna, see Souag (2014a: 542–547).

In many varieties with number marking in adnominal deictic elements, the same opposition appears in non-proximal deictics, as seen in (13)-(15) (for Kabyle [AL] forms see below).

(13)   Senhaja (Ketama) [MA][15]

	PRX	DIST
SG	*-ad(ah)*	*-adin*
PL	*-id(ah)*	*-idin*

(14)   Senhaja (Taghzout) [MA]

	PRX	MED	DIST
SG	*-adi*	*-ayəs*	*-an, -ayən, -ayənnah*
PL	*-idi*	*-iyyəs*	*-iyyən, -iyyənnah*

(15)   Ghomara [MA]

	PRX	MED	ANA
SG	*-ad, -adin, -adinət*	*-an, -ani, -anit*	*-ahən*
PL	*-id*, *-idi*, *-idinət*	*-in, -ini, -ininət*	*-ihən, ihin*

In Ghadames [LI] (see Section 1), the proximal *o/i* marking corresponds to a marking SG *-ănn ~ -onn*, PL *-inn* in the distal.

The situation in Awjila [LI] (16) is difficult to analyze, as the exact system behind the attested forms is unclear. While it is conceivable that *-aya* is an extended form of *-e*, the form *-ək* may in fact be related to Siwa [EG] forms with addressee agreement (van Putten 2014a: 121; Souag 2014a: 548; 2014b: 43).

(16)   Awjila [LI]

	PRX	MED	DIST
SG	*-aya, -e, -ək*	*-idin*	*-iwan*
PL	*-iya*, *-iyək*	*-*	*-idanin*

From the discussion above, one may conclude that in adnominal deixis number marking is widespread, being found in varieties of Mauritania, northern Morocco, eastern Algeria, and Libya. This suggests that it is an old phenomenon in Berber.

4. THE GHADAMES ANAPHORIC SERIES AND ITS COGNATES ELSEWHERE

4.1 Introduction

Ghadames [LI] is quite different from most Berber varieties in that it has two series of (adnominal and demonstrative) deictic elements that both end in a vowel in the singular. The Ghadames system is summarized in (17), leaving aside the extended forms in (*d*)*ăt* (Lanfry 1968; Kossmann 2013b).

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15. Gutova (2021) also mentions a rare medial form *-da* without number distinction. This seems to be restricted to a few speakers (Gutova p.c.). I am very grateful to Evgeniya Gutova for additional information about these forms.

(17) Ghadames [LI]

	PRX	DIST	ANA
ADNOM:SG	*-o*	*-ănn ~ -onn*[16]	*-e*
ADNOM:PL	*-i*	*-inn*	*-id*
DEM:M:SG	*w-o*	*w-ănn*	*w-e*
DEM:M:PL	*w-i*	*w-inn*	*w-id*
DEM:F:SG	*t-o*	*t-ănn ~ t-onn*	*t-e*
DEM:F:PL	*t-i*	*t-inn*	*t-id*

While the distal marker is characterized by the consonant *nn*, the proximal and the anaphoric marker are distinguished by having different vowels.

The anaphoric series in Ghadames, with its variation *-e* (SG), *-id* (PL) has a number of possible cognates in other eastern varieties. The exact meaning of the forms is sometimes different, and rarely well-described, so one should assume a certain degree of systemic reshuffling, either in Ghadames, or elsewhere, or both.

In Awjila [LI], the most obvious possible cognate is the variant *-e* of the PRX:SG. As mentioned above, the exact meaning of this suffix is unknown, so we may in fact be dealing with something that is not entirely equivalent to the other proximal forms in this variety, *-aya* and *-ǝk*. Another point of comparison is found in the distal forms. Assuming that Ghadames [LI] *-e* can also correspond to Awjila [LI] *-i*, the forms *-iwan* and *-idanin* might be analyzed as *i + wan* and *id + anin*,[17] where the SG element *w* is of unknown origin, while in the PL the final *in* (maybe from **an*, van Putten 2014b) could be some additional plural marker derived from nominal morphology. The demonstratives are similar in their structure to Ghadames, with a number-neutral pronominal base *w-* (M), *t-* (F), followed by deictic elements.

In Siwa [EG], the original adnominal deictic series was lost, but in the demonstratives a system similar to Awjila [LI] and Ghadames [LI] appears (18). Siwa has three degrees of distance: proximal, medial, and distal. In the medial set, a difference is made according to the addressee (Naumann 2001: 70; Souag 2014a; 2014b; Schiattarella 2016: 33). These medial demonstratives derive from the incorporation of the preposition *ɣur̩* 'at' (Souag 2014a: 541; Souag & van Putten 2016: 192), and will not be provided or discussed here (forms following Souag 2014b: 36).

(18) Siwa [EG]

	PRX	DIST
DEM:M:SG	*wa, waya*	*wih*
DEM:F:SG	*ta, taya*	*tih*
DEM:PL	*wi, wiyya*	*widin*

The similarity to Ghadames [LI] is obvious: Ghadames ANA:PL *-e* corresponds to Siwa [EG] DIST:PL *-i* (*+ h*), while ANA:PL *-id* corresponds to Siwa DIST:PL *-id* (*+ in*).

There are a number of Berber varieties that have *-i* as a proximal or medial marker, both in the singular and in the plural. It is possible that they represent cognates of the Ghadames Anaphoric series. The following cases have been identified:

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16. According to Lanfry (1968: 355), the variant *-onn* and its extended form *-onnăt* are only used with feminine nouns.
17. In view of the common development **a > i* in Awjila, this could also come from **idanan*.

1. South-Eastern varieties of Central Moroccan Berber (Ayt Atta, Mauri 2020; Dades region, Willms 1972: 175): Proximal *-i*.

(19) Ayt Atta [MA] (Mauri 2020: 6)

nkkʷni   *n-kk*   *abrid-i*

we   1PL-pass:AO   road-PRX

'(and) we'll take this road'

Ayt Atta [MA] also has an alternative proximal marker, *-a*, which combines with a small subset of nouns mostly used in adverbial contexts, e.g., *ass* 'day', *ass-a* 'today'. Willms (1972: 175), writing about neighboring dialects, describes the forms with *i* as belonging to the "zweite Entfernungsstufe" ("second degree of distance"), which probably refers to near-hearer deixis, whereas *-i* is a simple proximal marker in the variety described by Mauri.

2. Jebel Nefusa (Jado) [LI] has two deictics, both neutral as to number: proximal *-uh(a)* and distal *-ih(a)* (Beguinot 1942: 120), where the final *h(a)* may be some kind of fossilized suffixed element. The distal form *-i* (+ *h*) could be cognate to Ghadames [LI] *-e*.
3. Mali Tuareg has a number-neutral proximal adnominal deictic *-i*, where other Tuareg varieties have *-a* (Heath 2005: 242). The same form *-i* is used in Ayer Tuareg [NI-T] for near-hearer deixis in some fixed expressions (Prasse et al. 2003: 966). It should be noted that in this case the correspondence with Ghadames [LI] *-e* is not straightforward. Tuareg has an opposition /e/ vs. /i/, and assuming a neutralization of this opposition in the relevant forms is *ad hoc*.
4. One may add Zenaga [MT], which has *-iʔđ* as the number-neutral medial deictic, both in adnominal deictics and in demonstratives. One way to analyze this is that its vowel is cognate to the Ghadames [LI] anaphoric form. The adjunction of *đ* may be considered a generalization of the final consonant of the plural form, probably also inspired by the final *đ* of the proximal *äđ* (see Section 2).

4.2 Greater Kabylia and the Ghadames anaphoric series

Varieties from Greater Kabylia [AL] provide highly relevant forms when it comes to this question. As mentioned above, Mettouchi (2011) has shown that the description of deixis as only related to distance and anaphora is too simplistic for Kabyle [AL]. The chosen labels should therefore be taken as representing different morphological series, and not as full (or even correct) descriptions of their usage.

In these varieties, the adnominal deictics are neutral for number and have the forms given in (20). [18]

(20) Greater Kabylia [AL]

	PRX	DIST	ANA
Irjen	*-a, -aġi*[19]	*-ihin, -ihina, -in* (rare)	*-nni*
At Iraten	*-a, -aġi, -aġini*	*-ihin, -inna*	*-nni*
At Mangellat	*-a, -aġi, -aġik, -aġikana*	*-ihin, -ihinna, -inna -ahin, -ahinna*	*-nni*
Iɛemṛanen	*-a*	*-ihin*	*-nni*

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18. Irjen data from Basset & Picard (1948); Ayt Iraten from Chaker (1983: 201); At Mangellat from Dallet (1982) and Vincennes & Dallet (1960); Iɛemṛanen from Aoumer (2013).
19. According to several sources, forms in *-a* and forms in *-aġi* do not have exactly the same meanings. For example, Basset & Picard (1948: 182–184) describe the demonstrative *w-a* as "precise", but not inherently proximal, while *aġi* is described as proximal. As the tables aim at giving a morphological analysis, and *-aġi* is evidently an extended form of *-a*, I have chosen to treat them together.

In addition, there are forms with *-ən*, which appear in adverbial expressions like *ass-ən* 'that day', *imir-ən* 'that time' (Basset & Picard 1948: 94–96; Chaker 1983: 178–179). Note that non-lenited *ġ* [g] in *-aġi* (etc.) comes from **yy*, so all forms with *-aġi* represent **-ayyi*.

With demonstratives the system is different. In the following, only the masculine demonstratives will be provided, which start in *w-*. Feminine forms are the same, except that *w-* is substituted by *t-*. In addition, there are neutral demonstratives based on *ay-*. They sometimes have combinatory restrictions with deictic elements, but this does not seem to be relevant to the issues at stake here.

We shall start with the system in At Iraten [AL] in (21), as described by Chaker (1983). In this variety, demonstratives have four degrees, which will be labeled here as proximal, medial, distal and anaphoric. In addition, there is an "indefinite" form, whose uses remain unexplained, and which is rare (Chaker 1983: 156; see also Naumann 2001: 41, who argues that the entire indefinite series should be detached from the demonstrative paradigm; see also the discussion in Section 5 concerning *supports de détermination*). Chaker's description of the uses of the demonstratives has been contested by Naumann (2001) on the basis of the texts annexed to Chaker's work.

(21) At Iraten [AL]

	PRX	INDEF	MED	DIST	ANA
DEM:M:SG	*wa, waġi, waġini*	*wi*	*winna*	*wihin*	*win*
DEM:M:PL	*wi, wiġi, wiġini*[20]	*wid, wiġad, aġad, iġad, widak*	*wiġadinna, widakinna*	*wihid, wiġadihin, widakihin*	*widnni, wiġadnni, widaknni*

The systems presented in the Kable [AL] varieties of Irjen (Basset & Picard 1948; Boulifa 1897: 21–23) in (22), At Mangellat (Vincennes & Dallet 1960: 93–95; Dallet 1982) in (23), and Iɛemṛanen (Aoumer 2013) in (24) are similar, although they present less distinctions than At Iraten Kabyle as described by Chaker. Sometimes the various descriptions provide different meanings for the same form; one may safely assume that this is at least in part due to the lack of precision inherent to this categorization.

(22) Irjen [AL]

	PRX	INDEF	DIST		ANA
DEM:M:SG	*wa, waġi, waġini, waġiknint*	*win*	*wihin, wihina*		*winna*
DEM:M:PL	*wi, wiġi, wiġini, wiġiknint*	*wid*	*wihid, wihidak*		*widak*

(23) At Mangellat [AL]

	PRX	DIST	ANA
DEM:M:SG	*wa, waġi, waġini, waġikana*	*wahi, wahin, wahinna, wahikana, wihin, wihinna*	*win, winna*
DEM:M:PL	*wi, wiġi, wiġini, wiġikana*	*wihidən, wihidak, wihikana*	*wid, wud, widən, widak*

(24) Iɛemṛanen [AL]

	PRX	LÀ₂[21]	LÀ₁
DEM:M:SG	*wa*	*wihin*	*win*
DEM:M:PL	*wiyi*	*widakihin*	*widak*

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20. Corrected from M:PL *tiġini* in Chaker (1983: 155), which is obviously a typographical error.

21. Aoumer labels the forms corresponding to "distal" elsewhere as "là₂" and those corresponding to "anaphoric" as "là₁". She cites five further forms: *wayinni*, *winna*, *widaka(yi)*, *widaknni*, *widakihin(n)a*, but does not explain which forms belong to which series and number (Aoumer 2013: 102).

In general, the singular forms of the demonstratives correspond to the forms of the adnominal deictics: proximal *wa* corresponds to *-a*; medial *winna* corresponds to *-nna*, one of the variants of the distal; distal *wihin* corresponds to distal *-ihin*; and anaphoric *winni* corresponds to anaphoric *-nni*. Forms like *win* may be analyzed as including the residual distal marker *-ən* attested in words like *ass-ən* 'that day'.

The situation is different in the plural. Let us summarize the situation, as in Table 3, leaving out some lengthened variants that are irrelevant to number marking, and adding some morphological analysis. By means of <.> I will mark a division of constituent parts in these forms based on the comparison, distinguishing the vowel part (*a/i* in the proximal; *i* elsewhere), the number-neutral part of the deictic component, the number marking, and what seem to be further extensions. The use of <.> is to be understood as a historical, not a synchronic analysis of the forms; thus Iɛemṛanen *widakihin* is presented as *w-i.d.ak.ihi.n* even though the elements *dak* and (*i*)*hin* are no doubt morphologically simplex in this variety.

Table 3 — Historical morphological analysis of demonstratives in four Kabyle varieties

At Iraten [AL]	**PRX**	**INDEF**	**ANA**	**DIST**	**MED**
DEM:M:SG	*w-a*	*w-i*	*w-i.n*	*w-i.hi.n*	*w-i.nna* (*w-i.n.nna?*)
DEM:M:PL	*w-i*	*w-i.d, w-i.d.ak, w-i.ġa.d*	*w-i.d.nni* *w-i.d.ak.nni* *wi-ġa.d.nni*	*w-i.hi.d* *w-i.d.ak.ihi.n* *w-i.ġa.d.ihi.n*	*w-i.d.ak.i.nna* *w-i.ġa.d.i.nna*

Irjen [AL]	**PRX**		**INDEF**	**DIST**	**ANA**
DEM:M:SG	*w-a*		*w-i.n*	*w-i.hi.n*	*w-i.nna* (*w-i.n.nna?*)
DEM:M:PL	*w-i*		*w-i.d*	*w-i.hi.d*	*w-i.d.ak*

At Mangellat [AL]	**PRX**	**ANA (1)**	**DIST**	**ANA (2)**
DEM:M:SG	*w-a*	*w-i.n*	*w-a.hi* *w-a.hi.n* *w-i.hi.n*	*w-i.nna* (*w-i.n.nna?*)
DEM:M:PL	*w-i*	*w-i.d*	*w-i.hi.d.ak* *w-ihi.d.ən*	*w-i.d.ak* *w-i.d.ən*

Iɛemṛanen [AL]	**PRX**	**LÀ₁**	**LÀ₂**
DEM:M:SG	*w-a*	*w-i.n*	*w-i.hi.n*
DEM:M:PL	*w-i.yi*	*w-i.d.ak*	*w-i.d.ak.ihi.n*

We find the following markers related to number:

(i)   SG *n* VS. PL *d*

At Iraten	ANA, DIST (possibly MED)
Irjen	INDEF, DIST (possibly ANA)
At Mangellat	ANA1 (the situation with DIST and ANA2 is more complicated)
Iɛemṛanen	LÀ₁ (the situation in LÀ₂ is more complicated)

(ii)   SG ø vs. PL *d.ak*

    At Iraten   INDEF, ANA, DIST, MED

    Irjen   ANA

    At Mangellat   DIST, ANA2

    Iɛemṛanen   LÀ₁, LÀ₂

(iii) SG ø vs. PL *ġa.d*

    At Iraten   INDEF, ANA, DIST, MED

(iv)   SG *nna* vs. PL ø or *nni*

    Irjen   ANA

    At Mangellat   ANA2

(v)   SG ø vs. PL *nni*

    At Iraten   ANA

The forms under (iv) and (v) correspond to the adnominal deictics *-nni* and *-inna*. The plural element *ak* in (ii) – always combined with *d* – is no doubt some kind of fossilized particle (Reesink 1979: II, 297), maybe related to *akkʷ* 'all'.[22] The plural element *ġa* [ga] (< **yya*) – always combined with *d* – seems to be related to the common extension *(a)ġi* (cf. forms like DEM:M:SG:PRX *w-a.ġi* [wagi] < **w-a.yyi*), which somehow became restricted to the plural in these forms. We may therefore assume that in the cases (ii)-(iii)-(iv)-(v) the adjunction of these elements constitutes an innovation.

    This is not at all obvious for (i), that is, the opposition of SG *n* to PL *d* as found in the At Iraten and Irjen forms *w-ihin* / *w-ihid*, and in the Irjen Indefinite form *w-in* / *w-id*. An element *d* is also easily recognized in the composite elements *d.ak* and *ġa.d*, which are only used in the plural.

    At Mangellat DIST *w-ahi(n)*, *w-ihidən* is a bit more complicated, as the *n* is found both in the singular and in the plural forms. It should be remarked that in neither number the presence of *n* is obligatory: At Mangellat also has SG *w-ahi* and PL forms like *w-ihidak*, *w-ihikana*, without the final *n*. One remarks the same adjunction of *n* to the plural forms in the ANA2 form *w-idən* (corresponding to SG *w-inna*).

    A different situation is found in Iɛemṛanen *w-ihin*, *w-idakihin*. In these forms, the main marker of LÀ₂ deixis is *ihin* in both numbers, with the addition of *(i)dak* to mark the plural. This is best un-derstood as a functional change in which the final *n* is no more interpreted as a number marker, but constitutes a stable part of the deictic element. Note that in adnominal deixis, the singular form has been generalized (*-ihin*), so the analogical pressure towards this reinterpretation is particularly strong.

    Thus, Greater Kabyle [AL] demonstratives present evidence for a number opposition expressed by means of *n* in the singular and *d* in the plural. In At Iraten and Irjen forms like *w-i.hi.n* / *w-i.hi.d* the number markers follows the deictic element; hence *n/d* cannot be part of the initial pronominal element in the demonstrative.

4.3 Varieties from the peripheries of Kabylia

Varieties more to the geographical periphery of Kabylia show systems that can be analyzed to some degree as going back to a similar system, even though a large number of – mostly transparent – innovations blur the picture considerably.

    We shall look at three eastern varieties, two of which are normally included in Kabyle [AL], while the third is part of Tasahlit [AL].

    The first system is that in Ayt Mbarek. Here we find the forms given in (25) (only masculine forms cited).

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22. Demonstrative forms involving *k* are also found in other varieties. For an analysis, see Souag (2014a: 542–549). As the forms analyzed by Souag are unrelated to number expression, they may have a different origin from the ones in Kabyle [AL].

(25)   Ayt Mbarek [AL] (Genevois 1955: 47)

	PRX	DIST	ANA
ADNOM:SG	*-a*	*-nanha*	*-ən*
ADNOM:PL	*-i*	*-ninhi*	*-ən*
DEM:M:SG	*waha*	*wanha*	*win*
DEM:M:PL	*wihi*	*winhi*	*widak*

This variety has a final element SG *ha* PL *hi* in the distal, as well as in the demonstrative forms of the proximal. The adnominal distal is composed of a deictic marker *n*, followed by a (deictic) number marker *a/i*, followed by a repetition of the deictic marker *n*, followed by *h* and a repetition of the number marker *a/i*. The distal demonstratives lack the initial *n*, but are the same otherwise. It is difficult to see how this four-part form came into being, but it likely constitutes an innovation.

On the other hand, the anaphoric demonstratives display forms well-known from Greater Kabylia, a singular form ending in *n* and a plural form ending in *d* extended by *ak*.

In the Ihbachen dialect, we find the forms given in (26).

(26)   Ihbachen [AL] (Rabdi 2004: 72–74)

	PRX	DIST	ANA
ADNOM	*-a, -ayyi, -ayyina*	*-ihin, -ihinna*	*-nni, -n, -in,*
DEM:M:SG	*wa, wayyi, wayyina*	*wihin, wihinna*	*winn, winna*
DEM:M:PL	*wiyya, widakayyi*	*widakihin, widakihinna*	*widaknni*

This system has a number of interesting features. The forms of the proximal demonstrative show an intriguing variation between singular *ayyi* and plural *iyya*. While there is little doubt that these are extended forms based on *a/i*, the final vowel of the extension shows the opposite correlation to number: SG *ayyi*, PL *iyya*. While the singular form *wayyi* corresponds perfectly to other Kabyle forms such as *waǧi* (< *wayyi*), the final *a* in the plural *wiyya* is unexpected. One may speculate that this pattern was inspired by nominal plural patterns with forms like SG *aṭaksi* PL *iṭuksa* 'car' (Rabdi 2004: 64), where the final vowel also changes SG *i* to PL *a*.

The demonstrative distal forms are reminiscent of those in Iɛemṛanen Kabyle [AL], where the part *ihin* is common to both numbers, while the plural demonstrative adds (*i*)*dak* to express the plural. However, while the element *dak* is restricted to non-proximal deixis in Iɛemṛanen, it can occur in all deictic degrees in Ihbachen, and thus has become a general marker of plurality.

The Tasahlit variety of Ayt Mhend (Aokas) [AL] described by Rabhi (1994: 48–50) and Berkai (2013: 87–90) presents us with an extremely complicated system. Among these two sources, Berkai (2013) focuses on the demonstratives, and only provides limited information about adnominal deixis.

In this variety, number marking in the deictic is complemented by gender marking. Both the adnominal and the demonstrative system have forms distinguishing gender and number. For ease of understanding, the gender markers have been detached by hyphenation from the other parts of the deictic in the presentation in (27).

(27)   Tasahlit (Ayt Mhend) [AL] (Rabhi 1994)

	PRX	PRX:GENDER	DIST	DIST:GENDER	ANA
ADNOM:M:SG	*-a(d)*	*-ad-aka(d), -ad-akaya*	*-nnanha*	*-nn-akan*	*-ənn*
ADNOM:F:SG	*-a(d)*	*-ad-atta(d), -ad-attaya*		*-nn-attan*	*-ənn*
ADNOM:M:PL	*-i(d)*	*-id-akni(d)*	*-nnanha*[23]	*-nn-aknin*	*-ənn*
ADNOM:F:PL	*-i(d)*	*-id-akti(d)*		*-nn-aktin*	*-ənn*

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23. Rabhi (1994: 49, fn. 1) points to the neighboring dialects of Ayt Smaal, that have *-nninhi* in the plural, similar to Ayt Mbarek.

As one can see, this is a variety where the proximal optionally has the final *d* (see Section 2). Gender marking is according to agreement with the gender of the noun, and based on a paradigm M:SG *-aka-*, F:SG *-atta-*; M:PL *-akni-*; F:PL *-akti-*. These elements are transparently derived from proximal and distal presentative forms, such as *akaya* 'here he is', *akni* 'here they (M) are', *aknan* 'there they (M) are' (Berkai 2013: 90, 575).

The demonstratives are a bit different, as seen in (28).[24]

(28)   Tasahlit (Ayt Mhend) [AL] (R = Rabhi 1994; B = Berkai 2013)

	PRX	PRX:GENDER	DIST:GENDER	ANA
DEM:M:SG	*wa(d)* [R,B]	*wad-aka* [R,B]	*wann-akan* [R,B]	*wann*[25] [R,B]
	waha [R,B]	*wad-akaya* [R]		*wahann* [R,B]
	wahad [R]	*wad-akad* [B]		*win* [B]
		wahad-aka [B]		
DEM:F:SG	*ta(d)* [R,B]	*tad-atta* [R,B]	*tann-attan* [R,B]	*tann* [R,B]
	taha [R,B]	*tad-attaya* [R]		*tahann* [R,B]
	tahad [R]	*tad-attad* [B]		*tin* [B]
		tahad-atta [B]		
DEM:M:PL	*wi(d)* [R,B]	*wid-akni(d)* [R,B]	*winn-aknan* [R,B]	*winn* [R]
	wihi [R,B]	*wihid-akni* [B]	*winn-aknin* [R]	*widak* [B]
	wihid [R]			*widakənn* [R,B]
				wihinn [R]
DEM:F:PL	*ti(d)* [R,B]	*tid-akti(d)* [R,B]	*tinn-aktan* [R,B]	*tinn* [R]
	tihi [R,B]	*tihid-akti(d)* [B]	*tinn-aktin* [R]	*tidak* [B]
	tihid [R]			*tidakənn* [R,B]
				tihinn [R]

There is no demonstrative counterpart to the gender-neutral adnominal deictic *-nnanha*.

In comparison to the adnominal forms, the distal demonstratives have the number sensitive initial vowel *a/i* preceding the deictic element, which is exclusive to the proximal forms in adnominal deixis. The same element is found in the anaphoric demonstratives as described by Rabhi. In Berkai's materials, *win*(*n*) and *tin*(*n*) are singular forms (see the discussion in Berkai 2013: 90).

Otherwise, the proximal and the distal forms are mostly the same as in adnominal deixis; the most important differences are the optional presence of an added *ha/hi* in the proximal, and the presence of an initial vowel *a/i* in the distal forms. The anaphoric forms are quite different in the demonstrative series. In the first place, there are lengthened forms with *ha/hi* preceding the deictic element. In the second place, some variants have a dedicated plural marker *dak* following the initial vowel.

As regards the *n/d* number opposition, Tasahlit only provides restricted evidence. The forms with *d* in the gender-sensitive forms of the proximal are both singular and plural, and the *d* here is no doubt related to the proximal marker *d*, which is also found in short forms. The only clear indication of an ancient number opposition using *d* as a plural marker appears in the anaphoric plural demonstratives *widak*, *tidak*, *widakənn*, *tidakənn*.

At the western side of Kabylia, the variety spoken in the Blida Atlas [AL] also shows adnominal and demonstrative systems (29) highly different from the Greater Kabylia forms (El Arifi 2016: 741–743 and *s.v.*). El Arifi only distinguishes two degrees of deixis, proximal and distal. In the adnominal forms, only the distal forms have number opposition. El Arifi's data stem from a large number of dialects; as it is not clear for every single form to which dialect it belongs, I will present them together in the table below, providing the dialectal information, as far as given by the source, in footnotes.

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24. Collective demonstratives have been left out of the discussion.
25. In this series, Berkai consistently gives forms with *n* instead of *nn*.

(29)   Blida Atlas [AL]

	PRX	DIST
ADNOM:SG	*-a, -ay, -ayi, -ayyi, -aǧi, -aǧǧi*[26] *-yayyi*[27] *-ayin, -ayini -u -iyu*	*-iyin, -iyinuwa, -inubbʷa*[28] *-adin -nni*
ADNOM:PL	= SG	*-idin*[29] *-inni*
DEM:M:SG	*wa*[30] *wadda, wada watta*	*win*[31] *winuwwa, winubbʷa wadi, waḍi waḍin, waḍin winni, winna*
DEM:M:PL	*widdi, widi, widda witta waddi*	*wid, wiḍ widin*

As in Greater Kabylia, the feminine forms differ mostly by having initial *t-* rather *w-*. One notes however an enigmatic DEM:F:PL form *twidi* (Ayt Ṣaleḥ; next to expected *tiddi*).

The demonstratives incorporate a number of extensions, like *da*/*di* and *adin*/*idin* which encapsulate the locational deictics *da* 'here' and *din* 'there'.[32]

Most important for our purposes, however, are the distal demonstratives without extentions, which show a variation SG *-in* PL *-id* very similar to what is found in Greater Kabylia.

5. DISCUSSION

The Kabyle [AL] and Tasahlit [AL] forms show great variability in their formation of adnominal and demonstrative deictics. Many of these elements and variants can be explained as extensions and grammaticalizations that became fixed to more simple forms. Abstracting away from these extensions and grammaticalizations, we find a number of basic patterns:

1. The proximal series has a number distinction sg *a*, pl *i*. This is found in adnominal deixis in a number of varieties, and – with few exceptions – consistently in demonstratives. By analogical extension, the *a*/*i* distinction was introduced to the other demonstratives in many varieties, especially in Morocco (Basset 1933). In these varieties, they should now be synchronically analyzed as part of the pronominal first half of the demonstrative.

2. In Kabyle [AL], non-proximal deixis tends to start in a number-neutral vowel *i*. In demonstratives, varieties from Greater Kabylia show a distinction SG *n*, PL *d*. While this distinction has been altered elsewhere in Kabyle, and in Tasahlit [AL], remnants are found all over the region, esp. in non-proximal plurals containing *d*. In the varieties that preserve the distinction, the number-sensitive elements may follow other deictic markers (e.g., *w-ihin*, *w-ihid*). This implies that the *n*/*d* marking is not part of the initial pronominal element of the demonstrative.

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26. For Ayt Ṣaleḥ, *-a, -ay, -ayi, -ayyi, -yayyi, -aǧi*, and *-ayini* are noted; for Ayt Mesɛud, *-ay, -yayyi*; for Ayt Miṣra: *-aya, -ayin, -iyu*, and for Ayt Mnaṣir: *-u*. The Ayt Mnaṣir form is akin to certain Zenatic forms of the proximal deictic.

27. This is probably a form used when nouns end in a vowel, as in the example provided by El Arifi (2016: 133, 641) *abučči-yayyi iqbaḥ* 'ce garçon est turbulent'.

28. *(w)inubbʷa* is typical for the dialect of Ayt Mesɛud, while *(w)inuwwa* belongs to the Ayt Ṣaleḥ variety. *bbʷ* is the regular outcome of **ww* in many Kabyle varieties.

29. From the presentation of the examples in El Arifi (2016: 134), this may be a form used in Ayt Ṣaleḥ only. *-iyin* is cited both for Ayt Ṣaleḥ and Ayt Mesɛud.

30. In the singular, *wa* and *wada* are indicated as Ayt Ṣaleḥ (El Arifi 2016: 136); *wadda* is indicated as used both in Ayt Ṣaleḥ and Ayt Miṣra. For *watta* no indication of dialect provenance is provided. In the plural, *widi, widdi*, and *widda* are indicated as Ayt Ṣaleḥ, while *waddi* is indicated as Ayt Miṣra.

31. Among these forms, the following are used in Ayt Ṣaleḥ: *win, winuwwa, winubbʷa, wadin, waḍin, winni, winna*. The following forms are (also) marked as Ayt Miṣra: *win, wadi, waḍi, wadin, waḍin*. The following forms are (also) marked as Ayt Mesɛud: *waḍin, winubbʷa*. The masculine plural forms are only marked for Ayt Ṣaleḥ.

32. The latter is only given for Ayt Miṣra (El Arifi 2016: 335), but one can easily imagine that it also existed at some point in time in neighboring dialects.

This situation is at many points similar to what is found in Ghadames [LI], which has proximal -*o*/-*i* (corresponding to (1)) and anaphoric -*e*/-*id* (corresponding to (2)). The most salient difference is the absence of *n* as a marker of the singular in the Ghadames [LI] -*e*/-*id* set.

Summarizing:

a. There are scattered indications all over Berber for a deictic series with (singular) **-e* (> -*i*). The Kabyle [AL] correspondent seems to be -*in* (which could go back to **en*)
b. Kabyle [AL] and Ghadames [LO] point to a number distinction in this series, where the plural is *id*.

In view of Zenaga [MT] *iʔd̄* (SG=PL), probably from SG **iʔ* PL **iʔd* (see Section 2), one may assume that this series included a glottal stop. Therefore, we may conclude that proto-Berber had a deictic series that was something like SG **-eʔ(n)* PL **-iʔd*, in addition to other deictic series. Parallel to one of the reconstructions of the proximal, one could also posit that proto-Berber had forms with and without a glottal stop in this series. As the difference between **/i/*, **/e/*, on the one hand, and **/iʔ/*, **/eʔ/* on the other has not been maintained anywhere but in Zenaga, there is no way to prove or disprove this.

It should be noted that Reesink (1979: II, 297) provides a different interpretation of the history of the Kabyle [AL] demonstratives:

> Ce qui frappe en kabyle, est le manque de parallélisme [between the adnominal deictics and the demonstratives, and the singular and the plural. MK] (…). [A]insi les pluriels *wihidən*, *widak* ne correspondent pas, morphologiquement, aux sing. *wahin(na)* et *winna* : ils semblent, histo-riquement, dérivés d'un ancien pronom **wad*, plur. **wid*-, augmentés d'une particule déictique (-*ak*) ou d'orientation (-*n*).[33]

The status of Reesink's reconstructed pronoun **wad*, **wid* remains unclear. According to Reesink's own analyses, the proximal (adnominal) deictic -*a* goes back to -*ad*, and includes a cognate to the directional deictic *dd*. It is difficult to see how the proximal pronoun would include the proximal deictic *d* and then get augmented by a distal deictic element *n*, as in SG *wahin*, which, if I understand Reesink correctly, would go back to something like **wad-hi-n*. More importantly, forms like *wihidən* show that the element *d* is not adjacent to the element *wi*. Therefore, positing a pronominal element *wid* does not solve the morphological problem.

In Berber studies, demonstratives are analyzed as a complex of several elements: a gender-mar-king pronominal element *w*/*t*, an element consisting of a vowel, and a specifically deictic part, which clarifies what kind of deixis is meant. The gender-marking pronominal element is absent in adnominal deixis, while the vowel element and the deictic part occur both in adnominal deixis and in demonstra-tive pronouns. Thus, forms like *ad* and *ann* in Tashelhiyt [MA] (*argaz-ad* 'this man', *argaz-ann* 'that man') are interpreted as containing a vowel element *a* and the explicit deictic markers *d*, resp. *nn*.

In an analysis proposed by Galand (Galand 2002 [1969]; 1988: 231, etc.), but already implicit in Basset & Picard (1948), the vowel part is identified with certain more independent pronominal ele-ments that may constitute the head of a modified or determined NP ("support de détermination").[34] This looks relatively straightforward in the case of the vowel element *a*, which has a clear counterpart in the *support de détermination* system. It should be stressed, however, that within the class of *supports de détermination* and forms possibly derived from them, the existence of number marking by means of *a*/*i* is unique to the deictic system. Galand notes this (2010: 99–101) without presenting an explanation.

Things are more complicated if one wants to include the second deictic series represented by Ghadames [LI] -*e*/-*id* in this analysis. Indeed, there exist *supports de détermination* based on *i* (also *e*, cf. Prasse et al. 2003: 147), which express that the referent is explicitly indefinite (Galand 1974). This

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33. 'One remarkable feature in Kabyle is the lack of parallelism [between the adnominal deictics and the demonstratives, and the singular and the plural. MK] (…). Thus, the plurals *wihidən, widak*, do not correspond, in their morphology, to singular *wahin(na)* and *winna*: they seem to be derived historically from an ancient pronoun **wad*, plur. **wid*-, which was augmented by a deictic particle (-*ak*) or by an orientational particle (-*n*).'
34. Independent from Galand, Prasse (1972: 193) proposes a similar history for the Ahaggar Tuareg [AL-T] deictic -*a*.

is found, for example in the Iwellemmeden Tuareg [NI-T] phrase in (30), where the indefinite *support de détermination i* is modified by a relative clause:

(30)   Iwellemmeden Tuareg [NI-T] (Prasse *et al.* 2003: 964)

gámmăy-ăɣ	*i*	*dəy*	*i-llíl-ăn*
look:IPV-1SG	INDEF:M	1SG:IO	PTC-help:PV2-PTC

‘I am looking for somebody (*i*) to help me’

As has often been observed, this pronoun is related to a large range of different constructions elsewhere (e.g., Basset & Picard 1948: 185–187), among others the wide-spread indefinite pronoun *wi* ‘whoever’,[35] as in (31) and (32).

(31)   Kabyle [AL] (Reesink 1979: II, 302)

wi	*t-ufi-ḍ,*	*awy*	*i*	*t*	*id*
whoever	2SG-find: PV-2SG	carry:AO:IPT:SG	1SG:IO	3SG:M:DO	hither

‘whoever (*wi*) you find, bring him to me’

(32)   Figuig [MA-Z] (Kossmann 1997: 201)

wi	*xəf*	*dd*	*y-us*	*a*	*ss*	*awy-əx*
whoever	on	hither	3SG:M-come:PV	IRREALIS	3SG:M:DO	carry:AO-1SG

‘whoever (*wi*) it fits, I will marry her’

Basset & Picard (1948: 182) consider the *a* vowel forms in Kabyle [AL] deictics – that is, proximals – to be “défini” or “précis”, and the *i* vowel forms – that is, non-proximals – to be (originally) “indéfini” or “imprécis”.[36] This seems be based on a historical derivation from the indefinite *i supports de détermination* mentioned above. I find it difficult to see how an inherently indefinite or imprecise form would have been the basis for distal or anaphoric deixis, neither of which are inherently imprecise or indefinite (cf. Naumann 2001 for a similar point).

Therefore, I think one should remain cautious in conflating the *supports de détermination* related to (in)definiteness with the forms found in the deictic system. While the two categories may have been somehow related originally, this seems to be something that precedes the oldest reconstructible stage of Berber. In any case, whatever the final verdict on the relation between *supports de détermination* and deictics, such an analysis should include the **-eʕ(n)/*-iʕd* series.

6. Conclusions

On the basis of the foregoing discussion, one can conclude that adnominal deictics and demonstratives in Berber originally had a number of highly different series.

Proximal deictics are characterized by an element SG *a*, PL *i*. This element can be followed by a further proximal extension. Depending on the variety, this is *d* or (possibly) **ʕ*. As a result, two or three major types of proximal marking are reconstructed:

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35. In some varieties, *wi* ‘whoever’ is also used as an interrogative ‘who’. Note that in varieties like Kabyle [AL] and Figuig [MA-Z], *wi* is neutral as to gender and number. In agreement, it is interpreted as a masculine singular pronoun, as shown by the masculine Direct Object clitic *ss* in the Figuig example, which in this passage refers to a woman.

36. Basset & Picard (1948: 182) speak of “traces d’une opposition entre défini et indéfini”. Chaker (1983: 156) seems to consider the opposition relevant to the synchronic state of the language, even though he puts the terms “défini” and “indéfini” in quotation marks – a convention that is often chosen by this author, the meaning of which is not always entirely clear.

    a. *a/i* without a further marker

    b. *a/i + d*

    c. *a/i + ʔ* (possibly; depending on the reconstruction)

No doubt there were meaning differences between these forms, but they can no more be determined.

    In addition, there was a set of non-proximal deictics consisting of an element SG **eʔ(n)* PL **iʔd*. The reconstruction of the singular is uncertain. This set of deictics can be combined with further specifications of deixis, such as the element *ihi*.

    There were also further deictics, such as those based on a non-proximal element *n(n)*. These have not been studied here, but as they are found almost everywhere in Berber, they are undoubtedly ancient.

    Most modern varieties have done away with the **eʔ(n)/*iʔd* set of deictics. The reason behind this is obvious in many cases. If a variety has *ad* and *id* as proximals, where *d* functions as a gender-neutral proximal marker, there is strong analogical pressure against having a different element *id* in the non-proximal, dedicated to the expression of number. In varieties that lack final *d* in the proximal, the pressure is less strong, and it is especially here that we find remnants of the second series.

ACKNOWLEDGMENTS

ABBREVIATIONS AND TRANSCRIPTION

The following abbreviations are used:

ADNOM	Adnominal
ANA	Anaphoric
AO	Aorist
DEM	Demonstrative
DIST	Distal
DO	Direct Object
EXT	Extended
F	Feminine
INDEF	Indefinite
IO	Indirect Object
IPT	Imperative
IPV	Imperfective
M	Masculine
MED	Medial
PL	Plural
PRX	Proximal
PTC	Participle (= subject relative form)
PV	Perfective
PV2	Long Perfective
SG	Singular

The following codes are used to refer to the countries where the cited varieties are spoken:

[AL]	Algeria
[AL-T]	Algeria (Tuareg)
[AL-Z]	Algeria (Zenatic)
[EG]	Egypt
[LI]	Libya
[LI-Z]	Libya (Zenatic)
[MA]	Morocco
[MA-Z]	Morocco (Zenatic)
[MT]	Mauritania
[NI]	Niger
[NI-T]	Niger (Tuareg)

Transcriptions of northern Berber forms have been adopted to the Kabyle standard as used in Dallet (1982). The most important characteristic of this standard is that the mostly phonetic lenition of non-geminated plosives is not written, while the rare remaining non-geminated plosives are written by means of a dot above the letter. Thus <ġ> stands for [g], <k̇> for [k], <ṫ> for <t>, and <ḋ> stands for [d]. Different from Kabyle orthography, schwa will be written <ə>. Some sources do not write schwa; in that case it has not been added. The transcriptions of Tuareg and Ghadames follow the conventions used, among others, in Kossmann (2011) and Kossmann (2013b), respectively. Zenaga transcriptions follow the transcription system used by Catherine Taine-Cheikh. In direct quotations, the transcriptions are as in the original.

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