MEDIEVAL BERBER ORTHOGRAPHY

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Introduction

In the Middle Ages, Berber was written in the Maghribi style of the Arabic script, in what is to all appearances a standardized orthography. The earliest known examples of the medieval Berber spelling date from the middle of the 10th century A.D., while the youngest examples date from the 14th century.

Although there is some variation in the representation of a number of consonants, the orthography is remarkably consistent. In this respect it is quite unlike the early orthographies of the European vernaculars, where the same word is often written in different ways even within one line of text. This consistency implies that the Berber orthography was consciously designed, and that it was formally taught to berberophones.

It is to be noted that the highest consistency is found in the oldest manuscripts. Copies of medieval texts dating from the post-medieval period, when the old orthography had fallen into disuse, show varying degrees of corruption. This is partly due to some copyists being non-berberophones. Other copies were made by speakers of Tashelhit, which from the end of the 16th century up to the present has been written in a spelling which is fundamentally different from the medieval orthography (see on this orthography van den Boogert, 1997, chapter 3).

This article will first present a concise survey of the available sources, followed by an explanation of the rules and conventions of the orthography.¹ It is hoped that this will enable future editors to transcribe and interpret medieval Berber materials more accurately than has hitherto been the case.

¹. Some of the basic rules of the medieval orthography were noted by Marcy in an article (1932).
The sources

The sources for our knowledge of the medieval orthography are much more numerous than one might think. In fact, a number of these sources have been available in print for quite some time, although Berberologists have so far failed to exploit them. The sources can be divided into four groups:

(1) Pharmacological manuals. Almost all works on this subject that were written in the Maghrib contain a number of Berber names of plants and animals, sometimes only a handful, but in some cases more than a hundred. The following published sources were consulted for this article:

- Ibn Beklāresh of Saragossa, al-Musta’inī (written ca. 1000 A.D.), contains some forty Berber names. Most of these are quoted by Renaud in an article (1930) and in his annotations to the edition of the Tuhfa. Some names are mentioned by Dozy in his Supplément.
- Maimonides of Cordova (d. 601/1204), Sharḥ Asmā’ al-‘Uqqār (ed. and tr. Meyerhof, 1940), contains 27 Berber names of plants.
- ‘Abdallāh ibn Ṣāliḥ al-Kutāmī (early 13th c. A.D.), commentary on Dioscurides (ed. and tr. Dietrich, 1988), contains more than 170 Berber names of plants and animals.
- Ibn al-Baitār of Malaga (d. 646/1248), al-Jāmi‘ (ed. Boulaq, 1874-5, tr. Leclerc, 1877-83), contains some 55 Berber names of plants and animals. These Berber materials were studied by René Basset in an article (1899); his transcriptions are generally imprecise and he presents only 41 out of 55 names.

The editions by al-Khaṭṭābī of Ibn ‘Abdūn, and the Boulaq edition of Ibn al-Baitār are not up to modern scientific standards, but they are serviceable for our present purpose. Some important pharmacological manuals containing Berber materials remain unpublished, among them works by az-Zahrāwī (Abulcasis), as-Suwaidī and al-Idrīsī (on whom see Ullmann, 1970, pp. 149-151, 284, 278).

2. The same edition was published twice (Rabat, 1990 and Beirut, 1996), with some revisions and a different numerations of the entries.
Medical Berber orthography

Berber names of plants in medieval spelling are often quoted in post-medieval sources, among them:

- al-Jaza‘īrī (fl. 1130/1717-8), Kashf ar-Rumūz (tr. Leclerc, 1874), ca 50 Berber names.

{p. 359} (2) Arabic works on history, geography and biography. Four of these sources were examined for this article:

- The anonymous Kitāb al-Ansāb (ed. and tr. Lévi-Provençal, 1928).
- The memoirs of Abū Bakr ibn ‘Alī as-Ṣanhājī, a close companion of Ibn Tumert, known by the nickname al-Baidhaq ‘the Pawn’ (ed. and tr. Lévi-Provençal, 1928).

These two texts, written in 12th and 13th centuries A.D., deal with the early history of the Almohads. They contain hundreds of personal names, tribal names and place names as well as a dozen phrases in Berber. Marcy has tried, with scant success, to transcribe and translate the phrases in an article (1932).

- al-Bakrī (d. 487/1094), Kitāb al-Masālik wa-l-Mamālik (ed. de Slane, 1857), contains many Berber place-names.³

(3) The Arabic-Berber dictionary Kitāb al-Asmā‘ compiled in the year in 540/1146 by Ibn Tunart (ابن تونارت, 478-567 A.H., 1085-1172 A.D.). This is the richest source for medieval Berber, containing more than 2,500 Berber words and phrases, including more than 250 names of plants.⁴

(4) The ‘Leiden fragment’ (Leiden ms. Or. 23.306). This is a unique fragment

³. Some of these names were studied by Chaker (1981).
⁴. An edition of Ibn Tunart’s Berber materials is in preparation by the present author. For a brief description of this source see also van den Boogert, 1998, pp. 11-13.
consisting of one leaf from a medieval manuscript (possibly 14th c.). The leaf contains a total of sixteen lines of continuous Berber text, written in calligraphic script. The subject of the text is ethics. This fragment may be seen as the 'smoking gun': apart from its mere existence, its contents as well as its external appearance are clear evidence that a mature and well-established written tradition in Berber existed in the medieval period. An edition and full analysis of the Leiden fragment is being prepared by the present author.

In the following exposition the rules and conventions of medieval Berber spelling will be illustrated mainly with plant names taken from the above-mentioned pharmacological handbooks and from Ibn Tunart's dictionary.

Judging from the Leiden fragment, medieval Berber texts appear to have been written with full vocalization. In most of the other sources, Berber words are fully or partially unvocalized. The examples below will be quoted without vocalization. In cases where it is necessary to know the full vocalization, a transliteration will be given between square brackets.

**Word-internal vowels**

Medieval Berber orthography distinguishes four vowels: \(a\), \(i\), \(u\) and \(e\) (schwa). In word-internal position, the vowels \(a\), \(i\) and \(u\) are written with the \(\textit{\(hur\)af al-madd}:\) \(\textit{alif}\) represents \(a\), \(\textit{\(ya’}\) represents \(i\) and \(\textit{\(waw}\) represents \(u\):}^5

\[
\begin{align*}
\text{tasaff} & \quad \text{tiznirt} & \quad \text{tululit} & \quad \text{‘oak’} \\
\text{‘fan palm’} & \quad \text{‘caper’}
\end{align*}
\]

In unvocalized script, the central vowel \(e\) (schwa) is not represented in word-internal position. Schwa may also occur in open syllables:

\[
\begin{align*}
\text{tamemmašt} & \quad \text{tasselt} & \quad \text{yeludi} & \quad \text{‘tamarisk’} \\
\text{‘laurel’} & \quad \text{‘Ranunculus sp.’}
\end{align*}
\]

5. An alphabetical list of quoted forms with references is appended at the end of this article.
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In fully vocalized script, *schwa* is most frequently written with *fatha*. In some sources it is written with *kasra*.

Word-initial vowels

In the *Kitāb al-Ansāb* and in the memoirs of al-Baidhaq, initial *i*- and *u*- are regularly written with *alif-madda* followed by *yāʾ* and *wāw*. Initial *a*- is written with *alif-madda* preceded by a high ‘chairless’ *hamza*: 6

\[
\begin{align*}
\text{آيت ورسان} & \quad \text{Ayet Wersanen} \\
\text{آيفشتالن} & \quad \text{Ifeshtalen} \\
\text{آوغزافن} & \quad \text{Uyzafen}
\end{align*}
\]

The other sources contain only one example of an initial vowel other than *a*- written with *alif-madda* (Tuḥfa no 17):

\[
\text{آرداد} \quad \text{udad} \quad \text{‘Barbary sheep'}
\]

This use of *madda* to indicate the presence of a word-initial vowel, *a*- as well as *i*- and *u*-, is typical of medieval Berber orthography. It is clearly a divergence from contemporary Arabic usage. 7

In fully or partially vocalized forms in Ibn Tunart’s *Kitāb al-Asmāʾ*, initial *a*- is written either with *alif-madda*, or with *alif-madda* with preceding low chair-less *hamza*, or with *alif* with preceding *hamza*:

\[
\begin{align*}
\text{آمكراز} & \quad \text{amekraz} \quad \text{‘plowman'} \\
\text{ءادرار} & \quad \text{adrar} \quad \text{‘Chinese lantern'} \\
\text{ءاغاز} & \quad \text{ayaz} \quad \text{‘fruit of the fan palm'}
\end{align*}
\]

These spellings of initial *a*- are also occasionally found in the other sources, especially *alif-madda*.

\[6. \text{Lévi-Provençal has made several changes in the spelling of the Berber materials in the printed edition. The following exposé is based on an examination of the photographic plates added to the edition (esp. plate III).}
\[7. \text{On the use of madda in Maghribi-Arabic spelling see van den Boogert, 1989, p. 33.} \]
In vocalized forms, Ibn Tunart writes initial \( i- \) with \( \text{alif} \) with subscript \( \text{hamza} \), followed by \( \text{ya} \)’:

\[
\text{إیردن} \quad \text{irden} \quad \text{‘wheat’}
\]

Initial \( u- \) is written with \( \text{alif} \) with hamza written through its middle (reproduced here with superscript \( \text{hamza} \) for typographical reasons), followed by \( \text{waw} \):

\[
\text{أوماد} \quad \text{ummad} \quad \text{‘diss grass’}
\]

Word-initial \textit{schwa} is represented by \( \text{alif} \) (with superscript \( \text{fatha} \) in vocalized text):

\[
\begin{align*}
\text{افسوا} & \quad \text{efsu} \quad \text{‘card (wool)!’} \\
\text{انس} & \quad \text{ennes} \quad \text{‘of him’} \\
\text{وار الاغ} & \quad \text{war ellay} \quad \text{‘dodder’}
\end{align*}
\]

In the other sources, Berber words are usually left unvocalized. When a word is written without vocalization, word-initial \( a- \) is written with \( \text{alif} \) and word-initial \( i- \) and \( u- \) are written with \( \text{alif} \) followed by the appropriate \textit{harf al-madd}:

\[
\begin{align*}
\text{ادمام} & \quad \text{adمام} \quad \text{‘medlar’} \\
\text{ايغرى} & \quad \text{iyrey} \quad \text{‘asphodel’} \\
\text{أوكان} & \quad \text{ukkan} \quad \text{‘Caralluma europea’}
\end{align*}
\]

Note that in the absence of vocalization, word-initial \( \text{alif-waw} \) may represent either \( u- \) or \( aw- \) and \( \text{alif-ya} \)’ may represent either \( i- \) or \( ay- \):

\[
\begin{align*}
\text{أوماد} & \quad \text{ummad} \quad \text{‘diss grass’} \\
\text{اوسرغينت} & \quad \text{awseyint} \quad \text{‘Corrigiola telephiifolia’} \\
\text{ايزيري} & \quad \text{izrey} \quad \text{‘wormwood’}
\end{align*}
\]

8. Also written as one word وارلاغ warellay. Etymologically \( \text{war} \) ‘he who has not’ and *\( \text{allay} \) ‘stalk, stem’ (cf. Touareg \( \text{allay} \) ‘javelin’, \( \text{tallaq} \) ‘wooden shaft of a lance’?). The epiphytic dodder (Cuscuta epithymum) indeed has no rooted stem, cf. also its name in Tashelhit, \( \text{azzar n tm\text{yarin}} \) ‘women’s hair’. 
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ایرنی ayerni 'friar's cowl'

On some examples in the work of Ibn al-Baitar of a divergent way of spelling word-initial vowels see below.

In order to present as clear a picture as possible, in the examples quoted below word-initial vowels will be written with simple alif, without hamza and/or madda, irrespective of the spelling found in the source.

Word-final vowels

Word-final -a is regularly written with alif. It is occasionally written with alif maṣṣūra or with ḥā':

\{p. 362\}

تایدا tayda ‘pine’
تورزی turza ‘apple of Sodom’
تاسليغوه tasilighwa ‘carob’

Word-final -i is written with yā’, usually without its diacritical dots:

اسليلی astili ‘dill’
تیبی tibi ‘mallow’

Word-final wāw, representing either the vowel -u or the consonant -w, is often followed by an alif. This alif is a purely graphical device, and does not represent a vowel:

وایللو waytellu ‘henbane’
خیرو xizzu ‘carrots’
افرسیو afersiw ‘fern’
تیلفاو tilfaw ‘lupin’

In the modern standard orthography of Arabic this so-called alif al-wiqāya ‘prophylactic alif’ is written with plural verbal forms only. In the spelling of the Koran it is used more widely, e.g. II 41:1 ḥāl l-albābi, XIII 39:1 الله يمحوا
The consonants

The representation of the following consonants poses no problems:

<table>
<thead>
<tr>
<th>С</th>
<th>Н</th>
<th>К</th>
<th>Л</th>
<th>М</th>
<th>Н</th>
<th>И</th>
<th>У</th>
<th>Е</th>
</tr>
</thead>
<tbody>
<tr>
<td>ب</td>
<td>ت</td>
<td>خ</td>
<td>د</td>
<td>ر</td>
<td>ز</td>
<td>س</td>
<td>ش</td>
<td>غ</td>
</tr>
<tr>
<td>تيبتاتس</td>
<td>تيزخت</td>
<td>امراد</td>
<td>ارماس</td>
<td>ازنزوا</td>
<td>اساسنوا</td>
<td>تاشنتيت</td>
<td>تاتشنیت</td>
<td>تاقیفیت</td>
</tr>
<tr>
<td>اباون</td>
<td>تیباتست</td>
<td>تیزخت</td>
<td>امراد</td>
<td>ارماس</td>
<td>ازنزوا</td>
<td>اساسنوا</td>
<td>تاشنتيت</td>
<td>تاقیفیت</td>
</tr>
<tr>
<td>ibawen</td>
<td>tibitast</td>
<td>tizext</td>
<td>amrad</td>
<td>armas</td>
<td>azenzu</td>
<td>asasnu</td>
<td>tašentit</td>
<td>taşentit</td>
</tr>
<tr>
<td>'beans'</td>
<td>'beet'</td>
<td>'willow'</td>
<td>'acacia'</td>
<td>'orache'</td>
<td>'clematis'</td>
<td>'strawberry tree'</td>
<td>'rye'</td>
<td>'soapwort'</td>
</tr>
</tbody>
</table>

(p. 363) The spelling of the consonants d, z, g and ž is more complicated. Before looking at how these consonants are written, it is useful to take a brief look at the way in which a borrowed script is adjusted to represent consonants that are not present in the language for which the script was originally designed. An almost universally applied method of adaptation is to write a consonant for which the borrowed script has no separate letter with the letter that represents its nearest equivalent in the perception of the native speaker. This is usually its voiced or voiceless counterpart. For example, in early Persian orthography, the consonant g was written with the letter kāf, which also represented Persian k. In the same manner, the Persian consonant č was written with the letter gīm, which also repres-
ent Persin \( \ddot{g} \). This method was also applied in the representation of Berber consonants for which the Arabic script has no separate letter.

Thus, the consonant \( \ddot{d} \) is written with \( \ddot{t} \ddot{a} \) (voiceless counterpart):

\[
\begin{align*}
\text{ابلکوت} & \quad \text{anelkud} & \quad \text{‘borage’} \\
\text{تیکیدا} & \quad \text{tikida} & \quad \text{‘carobs’}
\end{align*}
\]

Note that at the time when the Berber orthography was devised, the letter \( \ddot{s} \), which in modern transcription systems is usually transcribed as \( \ddot{d} \), probably did not represent a dental stop \( \ddot{d} \) but rather an interdental or lateral fricative. In any case, Arabic \( \ddot{t} \) was apparently perceived as the nearest equivalent to Berber \( \ddot{d} \) and hence the letter \( \ddot{t} \ddot{a} \) was chosen to represent \( \ddot{d} \). Note also that Arabic \( \ddot{t} \) is replaced with \( \ddot{d} \) in loanwords, e.g. Arabic \( \ddot{t}\dot{a}\dot{b} \dot{b} \) ‘doctor’ becomes \( \ddot{a} \ddot{d} \ddot{b} \dot{b} \) in Berber. It is also possible, though not probable, that medieval Berber had \( \ddot{t} \) instead of \( \ddot{d} \) (voiceless \( \ddot{t} \) is still found in some dialects, e.g. in Jabal Nafusa and the Middle Atlas).

The letter \( \ddot{t} \ddot{a} \) also represents \( \ddot{t} \ddot{t} \) (tense counterpart of \( \ddot{d} \)):

\[
\begin{align*}
\text{اکطوم} & \quad \text{age\texttt{t}um} & \quad \text{‘twig’}
\end{align*}
\]

The consonant \( \ddot{z} \) is written either with \( \ddot{z} \dot{a} \ddot{y} \) (non-pharyngealized counterpart) or with \( \ddot{s} \ddot{a} \ddot{d} \) (voiceless counterpart):

\[
\begin{align*}
\text{تافرژیژت} & \quad \text{taferzi\texttt{z}t} & \quad \text{‘colocynth’} \\
\text{اصوكا} & \quad \text{azuka} & \quad \text{‘thuya’}
\end{align*}
\]

The sources contain an explicit statement that the letter \( \ddot{s} \ddot{a} \ddot{d} \) represents \( \ddot{z} \): Ibn al-\( \ddot{H} \ddot{a} \ddot{s} \ddot{h} \ddot{a} \) mentions the name \( \ddot{a} \ddot{l} \ddot{e} \ddot{z} \ddot{z} \ddot{a} \ddot{z} \) ‘Daphne gnidium’ and indicates its pronunciation by adding the phrase \( \text{bayn as-\( \ddot{s} \ddot{a} \ddot{d} \) wa-\( \ddot{z} \ddot{a} \ddot{y} \) } \), ‘between \( \ddot{s} \) and \( \ddot{z} \)’, i.e. a consonant which is pharyngealized like \( \ddot{s} \) and voiced like \( \ddot{z} \).\(^\text{10}\)

\(^9\) At a later stage, the two values of each letter were differentiated by forming the separate letters \( \ddot{c} \ddot{\ddot{\text{\texttt{m}}} \) and \( \ddot{g} \ddot{\ddot{\text{\texttt{f}}} \) by means of the addition of three diacritical points to \( \ddot{\text{\texttt{m}}} \) and \( \ddot{\text{\texttt{f}}} \).

\(^\text{10}\) Ibn al-\( \ddot{H} \ddot{a} \ddot{s} \ddot{h} \ddot{a} \), ed. Colin & Renaud, 1941, no 600.
Ibn Tunart consistently uses șād to write ẓ. In the other sources there seems to be free variation between ẓay and șād.

In a few rare cases, the letter șād represents ș:

تيبينصرت țibïnsert  'marsh mallow'
أصغر ăṣyfer  'wood, bush'

In the case of the well-attested plant name țibïnsert, the ș can be explained etymologically, as this name appears to be a contraction of تبيبي ان مصر tibi en Meser 'mallow of Egypt' (original form mentioned by Ibn Tunart). In the case of ăṣyfer, the spelling represents the form [ăṣyfer] (the emphatic r is never distinguished from r in the spelling) which is a variant of اسمفر ăṣyfer (also attested).

The consonant g is written either with ġīm, kāf or qāf:

إدجيل idgel  'cedar'
أتكارف angaref  'chaste tree'
أمازغور amezgur  'sorghum'

One plant name is found in the sources with all three spellings:

آرجان argan  'argan'
آركان id.  'id.'
آرقان id.  'id.'

Note that the name argan denotes a tree (Argania spinosa) which does not grow in berberophone areas where original g can become ẓ.\(^{11}\) It is therefore certain that ġīm represents g, as the form َارحزan does not exist.

That ġīm represented g can also be deduced from the spelling of some Arabic nisbas. For instance, members of the Tashelhit-speaking High Atlas tribe whose modern name is Igdïmn use the nisba الجدموي al-Jadmîwi,\(^{12}\) which is derived

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11. On g > ẓ see Kossmann, 1995.
12. The alternative spelling الجدموي al-Kadmîwi is also found.
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from the medieval Berber spelling Igedmiwen.

The letter qāf also represents qq (tense counterpart of ϱ):

\[
\begin{align*}
\text{ازفور} & \quad \text{azeqqur} & \quad \text{'tree-trunk'} \\
\text{تيقى} & \quad \text{tiqqi} & \quad \text{'juniper'}
\end{align*}
\]

In most sources the choice between ġim or kāf for g appears to be free. Qāf is consistently used by Ibn 'Abdūn, but it is rare in the other sources. It is probable that the variation between ḡim and kāf is the result of historical developments (see below).

The consonant ξ is written with ġim or šīn:

\[
\begin{align*}
\text{اناـصل} & \quad \text{anażel} & \quad \text{'bramble'} \\
\text{تونجيفين} & \quad \text{tunţifin} & \quad \text{'pearl barley'}
\end{align*}
\]

(p. 265) Ibn 'Abdūn of Seville, who mentions the name یش 'terebinth' (a Zenatic form), precisely indicates the pronunciation of šīn by adding the phrase bayn aš-šīn wa-z-zdy, 'between š and z', i.e. a consonant which is palatal like š and voiced like z (ed. al-Khaṭṭābī, 1996, no 1584).

Note that ōğ is always written with ġim:

\[
\begin{align*}
\text{ازـجيج} & \quad \text{azeğgig} & \quad \text{'flower'} \\
\text{تازجـاشت} & \quad \text{tazeggašt} & \quad \text{'convalescence'}
\end{align*}
\]

The variation found in the representation of g and ξ is probably the result of phonological changes that took place in the spoken Arabic of the Maghrib. It is possible to distinguish two basic stages in the development of the Berber orthography, as set out in the table below.
At stage 1, the letter ġūm was chosen to represent Berber g. At this time, ġūm must have represented Arabic g, or perhaps ġ. We have no knowledge of any variety of Arabic spoken in the Maghrib that has or had g or ġ corresponding to ġūm. An indication that such a dialect may once have existed is perhaps found in the Berber loanword timezgida ‘mosque’, which corresponds to an Arabic form *mesgida or *mesgida rather than the attested mesjid or mesgid (standard masjid). In addition, Ibn Tunart mentions a form ايتكارن iteggaren ‘traders’, cf. Arabic tażer (standard tāğir) ‘trader’.

At stage 1, the letter ġūm could not be used for Berber ż, so that śm (voiceless counterpart) was chosen instead.

At stage 2, Arabic g had changed to ġ or to ż, so that ġūm became available to write Berber ż. Berber g was then written with kāf (voiceless counterpart).

The Leiden fragment is the only source which consistently uses kāf for g, and which can thus be taken as representing stage 2. No source is available at present which represents stage 1. All other sources seem to represent an intermediate, transitional stage in the development of Berber orthography:

{p. 366} Intermediate stage

<table>
<thead>
<tr>
<th>letter</th>
<th>Arabic</th>
<th>Berber</th>
</tr>
</thead>
<tbody>
<tr>
<td>ج</td>
<td>ġ or ż</td>
<td>ż + g</td>
</tr>
<tr>
<td>ش</td>
<td>ś</td>
<td>ś + ż</td>
</tr>
<tr>
<td>ل</td>
<td>k</td>
<td>k + g</td>
</tr>
</tbody>
</table>

13. Cf. also Spanish mezquita.
The most illuminating example of this intermediate stage is provided by the Kitāb al-Ansāb, in which g is written with ġīm or kāf and in a few cases with ġīm with a small superscript kāf. In the printed edition, Lévi-Provençal has more or less systematically substituted kāf with three superscript dots (a post-medieval innovation) for ġīm or kāf representing g. The original spelling with ġīm + superscript kāf can be seen in the facsimiles, cf. plate II, line 1, Abu Wezreg and plate IV, line 13, جزلة Guzūla.14

The retention of ġīm to write g, and of śīn to write z, long after Arabic g/g had changed to ǧ/ž, is the result of the inertia that is characteristic of an established orthography.

Labialization

The labialization of velar consonants is indicated in vocalized script with the vowel sign damma, which may be written either on the letter representing the velar itself or on the preceding letter:

- تالغیت [tāluqqīt] talegg"it ‘white broom’
- اکئار [ākuṭār] ak"tar ‘yarrow’
- تاغتست [tāyundast] tary"endest ‘pellitory’
- یدختن [yadduxtān] yeddex"ten ‘mistletoe’

Ibn al-Baitār’s spelling of vowels

A divergent system to represent word-initial a- in Berber plant names is encountered in the initial entries in Ibn al-Baitār’s Jāmi’. This system is also found in other sources, but only for initial ā- in the Arabic transcription of Greek plant names.

15. The noun ak"tar, mentioned by al-Kutāmī and Ibn al-Baitār, contains what is perhaps the earliest attested example of spirantization. Ibn al-Baitār quotes Abū al-‘Abbās an-Nabāṭī saying that this plant is ‘well-known in the eastern part of the ‘Udwa’ (ma’rūf bi-šarq bilād al-‘udwa).
16. Etymologically yeddex" ‘he sticks (to)’ (3sgm) + ten ‘them’ (3plm): the sticky seeds of mistletoe cling to the branches of trees where they germinate.
Nico van den Boogert

Ibn al-Ba'tār’s entries nos 2-6 are all Berber plant names. The initial vowel $a$- is written with $alif-madda$, followed by a second $alif$:

<table>
<thead>
<tr>
<th>Berber Name</th>
<th>Arabic</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ادرياس</td>
<td>$ardiyis$</td>
<td>‘thapsia’</td>
</tr>
<tr>
<td>أرجان</td>
<td>$argan$</td>
<td>‘argan’</td>
</tr>
<tr>
<td>أزرود</td>
<td>$azrud$</td>
<td>‘melilot’</td>
</tr>
<tr>
<td>أ Geliş</td>
<td>$aryis$</td>
<td>‘barberry’</td>
</tr>
<tr>
<td>أ مليلس</td>
<td>$ameliles$</td>
<td>‘buckthorn’</td>
</tr>
<tr>
<td>أ أشروا</td>
<td>$agešru$</td>
<td>(unidentified)</td>
</tr>
<tr>
<td>أ ككتار</td>
<td>$ak&quot;tar$</td>
<td>‘yarrow’</td>
</tr>
<tr>
<td>أ أطريلال</td>
<td>$adereylal$</td>
<td>‘false bishop’s weed’</td>
</tr>
</tbody>
</table>

{p. 367} The same spelling is used in entry no 1, which is a Greek name.17

السن | $ālusan$ | ‘alyssum’, Gr. $\alphaλυσσον$

The logic behind this convention is that in this way all initial vowels are written with $alif$ followed by the appropriate $harf al-madd$, i.e. $alif-wāw$ for $u$-, $alif-yā’$ for $i$- and $alif-alif$ for $a$-.

Beginning with entry no 7 (Arabic $abhal$ ‘savin’), Ibn al-Ba’tār has abandoned this cumbersome spelling of initial $a$-. In the remaining part of his work, initial $a$- is written with single $alif$ in Berber as well as in Arabic and Greek names. The other Berber names with initial $a$- presented as main entries in the $bāb al-alif$ are:

<table>
<thead>
<tr>
<th>Berber Name</th>
<th>Arabic</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>أداد</td>
<td>$addad$</td>
<td>‘attractylis’</td>
</tr>
<tr>
<td>أدربيس</td>
<td>$aderiyis$</td>
<td>‘thapsia’</td>
</tr>
<tr>
<td>أرجان</td>
<td>$argan$</td>
<td>‘argan’</td>
</tr>
<tr>
<td>أزرود</td>
<td>$azrud$</td>
<td>‘melilot’</td>
</tr>
</tbody>
</table>

Another practice which Ibn al-Ba’tār quickly abandoned is the explicit description of the vocalization of a name. This is found in his first five entries, and sporadically in the rest of the book. From these explicit vocalizations it appears that Ibn al-Ba’tār used $kasra$ instead of $fatha$ to represent schwa (explicit vocalization between square brackets):

17. Fifteen examples of initial double $alif$ representing $a$- in Greek names are found in Dietrich’s $Dioscurides triumphans$ (see index to the Arabic text).
Medieval Berber orthography

In the older spelling of Arabic, the hurūf al-madd representing the long vowels ī and ā could be written with or without sukūn. Thus, in the spelling of Berber āryis, the vowel ī is explicitly written with ḫayn maksūra and yāʾ sākina, i.e. ḫayn with kasra and yāʾ with sukūn. However, since Ibn al-Baitār uses kasra to represent schwa, this spelling may also represent Berber -ey-, as in adereylal, explicitly written with rāʾ maksūra and yāʾ sākina. Arabic loans

Arabic loanwords in medieval Berber largely retain their original spelling. They are borrowed with the Arabic definite article, which is semantically ‘neutralized’. Tāʾ marbūta is usually replaced with tāʾ:

\[
\begin{align*}
\text{الترنج} & \quad \text{etterenz}^{20} \quad \text{‘citron’, Ar. at-turunā} \\
\text{الميمنون} & \quad \text{elmeymun} \quad \text{‘bryony’, Ar. al-maymūn} \\
\text{الغضب} & \quad \text{elfesset} \quad \text{‘lucerne’, Ar. al-fissat(t)}
\end{align*}
\]

In some cases the spelling is changed to reflect Berber pronunciation:

\[
\begin{align*}
\text{الدونيت} & \quad \text{edduneyt} \quad \text{‘world’, Ar. ad-dunyā} \\
\text{الشيشيت} & \quad \text{eṣṣiṣeyt} \quad \text{‘bonnet’, Ar. aš-šāsiya(t)}
\end{align*}
\]

Notes on phonology and morphology

No full survey of Medieval Berber grammar will be attempted here; only some of

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18. In modern standard orthography, the hurūf al-madd are always written without sukūn.
19. In the spelling of entry no 5, ameliles, Ibn al-Baitār does not indicate whether the yāʾ has sukūn. He simply states al-mīn wa-l-šāshān min hu maksūra wa-s-sīn muhmala, ‘the mīn and the two šāshān have kasra, the sīn is without diacritical points.’
20. Explicitly Berber, explicitly vocalized bi-fath at-tāʾ wa-r-rāʾ.
the more salient features will be pointed out.

(1) The vowel *a* is sometimes (though not regularly) reduced to *e* before the consonant *r*, e.g.:\(^1\)

<table>
<thead>
<tr>
<th>medieval</th>
<th>Tashelhit</th>
</tr>
</thead>
<tbody>
<tr>
<td>تازرت</td>
<td>tazert</td>
</tr>
<tr>
<td>اسقر</td>
<td>asyer</td>
</tr>
<tr>
<td>تامرت</td>
<td>tamert</td>
</tr>
<tr>
<td>تازرت</td>
<td>tazart</td>
</tr>
<tr>
<td>اسقر</td>
<td>asyar</td>
</tr>
<tr>
<td>تامرت</td>
<td>tamart</td>
</tr>
</tbody>
</table>

(2) Plurals with nominal prefixes *u-* and *tu-* occur frequently where corresponding forms in the modern Berber languages have *i-* and *ti*:\(^2\)

<table>
<thead>
<tr>
<th>medieval</th>
<th>Tashelhit</th>
</tr>
</thead>
<tbody>
<tr>
<td>اوكرموندن</td>
<td>ikrmudn ‘leguminous plants’</td>
</tr>
<tr>
<td>توروفين</td>
<td>tirufin ‘roasted barley’</td>
</tr>
</tbody>
</table>

Tashelhit is in fact the only Berber language for which comparable forms are attested, e.g. *tumzin* ‘barley’, *timyarin* ‘women’ (*timzin*, *timyarin* in other languages).

(3) The forms of the *état d’annexion* of masculine nouns are as follows:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>اجليد</td>
<td>agellid</td>
<td>‘king’</td>
</tr>
<tr>
<td>وجليد</td>
<td>wegellid</td>
<td></td>
</tr>
<tr>
<td>اصروا</td>
<td>açru</td>
<td>‘stone’</td>
</tr>
<tr>
<td>وصروا</td>
<td>weçru</td>
<td></td>
</tr>
<tr>
<td>امان</td>
<td>aman</td>
<td>‘water’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>état libre</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>état d’annexion</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>é.l.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>é.a.</em></td>
</tr>
</tbody>
</table>

---

21. All three forms are attested in more than one source; it is unlikely that they are misspellings or corruptions.
22. Cf. also the ethnonyms *Uguzulen* and *Urýafen* mentioned above.
### Medieval Berber orthography

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Modern Arabic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>وامان</td>
<td>waman</td>
<td>é.a.</td>
</tr>
<tr>
<td>ايف</td>
<td>iyef</td>
<td>‘head’</td>
</tr>
<tr>
<td>ييف</td>
<td>yeiyef</td>
<td>é.l.</td>
</tr>
<tr>
<td>ايكران</td>
<td>igran</td>
<td>‘fields’</td>
</tr>
<tr>
<td>بكران</td>
<td>yeigran</td>
<td>é.a.</td>
</tr>
<tr>
<td>ايل</td>
<td>ilel</td>
<td>‘sea’</td>
</tr>
<tr>
<td>بييل</td>
<td>yiilel</td>
<td>é.a.</td>
</tr>
<tr>
<td>اوشن</td>
<td>usušen</td>
<td>‘jackal’</td>
</tr>
<tr>
<td>ووشن</td>
<td>wuššen</td>
<td>é.a.</td>
</tr>
</tbody>
</table>

The construct states with *we*- and *ye*- have consistently been transcribed incorrectly in the past, viz. with initial vowels *i*- or *u*- (e.g. *æuellid* instead of *wegellid*). The letters *yah* and *waw* in word-initial position always represent the consonants *y*- and *w*- . The vowels *i*- and *u*- in word-initial position can only be written with *alif* followed by *yah* c.q. *waw*.

(4) The *état d’annexion* is found, among others, in possessive constructions:

- تونين ان وجليد | tunin en wegellid | ‘wells of the king’
- تيسنت ان وصروا | tisent en weçru | ‘salt of stone’
- ايديد ان وامان | ayeddid en waman | ‘sack of water’
- انکاص ان يغف | angaz en iyef | ‘pain of the head’
- تووطفا ان يكران | tuwedfa en yeigran | ‘possession of fields’
- اطوا ان ييلل | adu en yiilel | ‘wind of the sea’
- اطيل ان ووشن | adil en wuššen | ‘grape of the jackal’

Other examples include:

- ايكر ان وسانان | iger en weesunnan | ‘field of thorns’
In many possessive constructions, the preposition *en* ‘of’ is omitted, while the possessor remains in the *état d’annexion*:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>اسان يسيدان</td>
<td>‘water of ostriches’</td>
</tr>
<tr>
<td>اصغر يقينر</td>
<td>‘shrub of the kid’</td>
</tr>
<tr>
<td>çäçäf fäfger</td>
<td>‘shrub of the serpent’</td>
</tr>
<tr>
<td>تافرط ووسن</td>
<td>‘knife of the jackal’</td>
</tr>
<tr>
<td>تامارت ومسون</td>
<td>‘beard of Amsoun’</td>
</tr>
<tr>
<td>تيلت تفيغرا</td>
<td>‘herb of the serpent’</td>
</tr>
</tbody>
</table>

The elimination of the nominal prefix leads one step further toward compound nouns:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>اطار ايلال</td>
<td>‘false bishop’s weed’</td>
</tr>
</tbody>
</table>

The same name is also attested as a full compound *adereylal* (Ibn al-Baiṭār, cf. above), with *a* reduced to *e* before *r*.

Some examples of compounds are:

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>اطوماير</td>
<td>‘figwort’</td>
</tr>
</tbody>
</table>

---

23. Amsoun or Msoun is the name of a valley located north-west of Taza where the plant which bears this name (a variety of dodder) is said to grow.


Medieval Berber orthography

(19)

asγersif

'willow'

(5) In personal names, Arabic (a)bū ‘father of, he who has’ and ibn ‘son of’ may be followed by a Berber noun in the état d’annexion:

- بع وغيول Bū Weγyul ‘he with the donkey’
- أبو ينيكف Abū Yenikef ‘father of Hedgehog’
- ibn ولوون ibn Welwun ‘son of Ram’
- ibn ومغار ibn Wenygar ‘son of the Chief’

Arabic ibn is also used in the sense ‘native of’:

- ibn وجادير ibn Wegadir ‘native of Agadir’
- ibn وندلوس ibn Wendelus ‘native of (al-)Andalus’

Concluding remarks

An important question which has not been addressed thus far is: Which variety of Berber is, or which varieties are recorded in the medieval sources? Some brief remarks may be made here.

The more substantial sources record a variety of Berber which is most closely related to modern Tashelhit, as appears from a comparison of lexicon and morphology. These sources are: Ibn Tunart’s Kitāb al-Asmā’, the Leiden Fragment, the Kitāb al-Ansāb and the memoirs of al-Baidhaq. These sources also share some special features (e.g. reduction of a to e before r, schwa in open syllables, plurals with prefixes u-, tu-) which show that they all record the same variety of Berber. ‘Old Tashelhit’ may be an appropriate name for this language.

The most striking fact concerning the pharmacological manuals is that the {p. 371} majority of them were written in al-Andalus (az-Zahrāwi, Ibn Beklāresh, Ibn ‘Abdūn), or by writers of Andalusian birth working in the Middle East (Maimo-

26. Litt. ‘river tree’: asγer ‘bush, tree’ and asif ‘river’.
28. This point is elaborated in van den Boogert, 1998, p. 12.
nides, Ibn al-Baïtûr). It is likely that a substantial body of speakers of a variety of Berber akin to Tashelhit lived in al-Andalus, and that al-Andalus is the place where this language was first committed to writing.²⁹ That there were indeed Berbers in Spain who spoke a Tashelhit-like language is shown by the fact that at the end of the 15th century, as a consequence of the reconquista, a group or groups of berberophones are known to have migrated from Spain to the Sous in southern Morocco, where they became known as the ‘people of the ship’ (ayt ɯrrabbit). One of them is Sa‘îd al-Kurramî (Seîd Akmramu, d. 882/1477-8), who is reputed to be the last surviving Berber scholar who had received his schooling in Granada.³⁰ The Andalusian Arabic loanwords which are still found in Tashelhit, such as İmrî ‘mirror’, İkîr’d ‘paper’, İlxrrt ‘hereafter’, Şşištî ‘bonnet’, etc., also point to a connection between Tashelhit and al-Andalus.³¹

It is noteworthy that in the Kitâb al-Ansâb and the memoirs of al-Baidhaq, who was certainly born in the South of Morocco, the Berber phrases are repeatedly said to be ‘in the language of the Gharb’ (lîsân al-γarb). The coastal area in Morocco which is known as the West (al-γarb) is now inhabited by arabophones. The berberophone Ghomara, in northern Morocco, may be an isolated remnant of the original Berber language spoken in this area.³²

The botanist ‘Abdallâh ibn Šâliḥ al-Kutâmî belonged to the Kutâmî or İk’tamen tribe. Members of this tribe had settled in various parts of North-Africa and al-Andalus.³³ Al-Kutâmî had a druggist’s shop in Marrakech. He was one of the teachers of Ibn al-Baïtûr (cf. Ullmann, 1970, p. 279).

Ibn al-Hasshấ may have spoken a Tashelhit-like Berber language, as he worked in the service of the first sultan of the Ḥafṣid dynasty of Tunisia (cf. Ullmann, 1970, p. 236). The Ḥafṣids were the descendants of Abû Ḥafṣ ‘Umar (a.k.a. ‘Umar Inti, d. 571/1176), a Berber of the South Moroccan Hantâta tribe and one of the close companions of Ibn Tumert.

31. Standard Arabic ā often changed to ë in Andalusian colloquial Arabic; compare the standard forms al-μir‘ā(t), al-καγιδ, al-‘aṣṣira(t), aš-ṣâṣiya(t). Pedro de Alcalá actually mentions the forms miři ‘mirror’ and xixia ‘bonnet’. See also van den Boogert, 1998, p. 195.
32. The present-day Ghomara claim that they are related to the Chleuh, the speakers of Tashelhit (cf. Colin, 1929).
33. See EP, ‘Kutâmî’.
Medieval Berber orthography

The gradual expulsion of the Muslims from Spain in the course of the 15th century probably put an end to Old Tashelhit as a written language. A century or so later, (pre-)modern Tashelhit emerged as a literary language, in the garb of a different, newly devised orthography.\(^\text{34}\)

There are also medieval sources which record a variety of Berber which is clearly not closely related to Tashelhit. In fact, the oldest examples of Berber in Arabic script known to the present author are the plant names which are found in the *Kitâb al-I’timād*, a pharmacological manual compiled in the second half of the 10th c. A.D. by Ibn al-Jazzâr (d. 369/980 or 395/1004). The names are:

<table>
<thead>
<tr>
<th>Berber Name</th>
<th>Arabic Name</th>
<th>Phytological Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>تيکسو توان</td>
<td><em>tigirutan</em></td>
<td>‘dittany’</td>
</tr>
<tr>
<td>التشتیوان</td>
<td><em>(at-)</em> <em>teštiwan</em></td>
<td>‘polypody’</td>
</tr>
<tr>
<td>التاکندست</td>
<td><em>(at-)</em> <em>tagendest</em></td>
<td>‘pellitory’</td>
</tr>
<tr>
<td>التاکوت</td>
<td><em>(at-)</em> <em>takewt</em></td>
<td>‘Euphorbia resinifera’</td>
</tr>
<tr>
<td>التانغوت</td>
<td><em>(at-)</em> <em>taneγut</em></td>
<td>‘Euphorbia pithyusa’</td>
</tr>
<tr>
<td>التانغیت</td>
<td><em>(at-)</em> <em>taneγit</em></td>
<td>‘id.’</td>
</tr>
<tr>
<td>التافروت</td>
<td><em>(at-)</em> <em>tafrut</em></td>
<td>‘iris’</td>
</tr>
</tbody>
</table>

All of these names except one are written with the Arabic definite article. Note the plural ending *-an* with feminine nouns, which is only attested in the language of the Ghomara.\(^\text{35}\) Ibn al-Jazzâr lived and worked in Kairouan in Tunisia; of his ethnic background nothing is known.

The use at this early date of the letter *kāf* to represent the Berber consonant *g* in *tigirutan* may be an indication that stage 1 in the development of the Berber orthography is to be dated to even earlier time, possibly in the 9th or even 8th century A.D.

Among the sources that were not examined for this article there are some in which eastern varieties of Berber are recorded. These include the Berber passages in

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\(^\text{34}\) The oldest preserved text in the ‘new’ orthography is the *‘Aqā’il ad-Dīn* by Ibrāhīm ibn ‘Abdallāh aš-Ṣanḥājī (a.k.a. Brahim Aznâg, d. 1005/1597). See van den Boogert, 1997, chapter 5.

\(^\text{35}\) Cf. also the name of Tétouan, litt. ‘the wells’ (*Tittawin* تيطاوان in the memoirs of al-Baidhaq).
Ibadite scriptures (cf. Lewicki, 1934 and Ould-Braham, 1988), the ‘manuscript of Zuwāra’ (cf. Motylinski, 1907) and the abundant onomastic materials in the works of Ibn Khaldūn. These eastern materials are written in an orthography which is clearly based on the same principles as the orthography of the far West. Further study of the available materials will be necessary before we can determine where and when the medieval Berber orthography originated.
Alphabetical list of quoted medieval Berber forms

Only the reference to the source from which a particular form is quoted in this list. Many of the plant names are found in more than one source. The letter γ is placed after g in the alphabetical order.

Abdun     Ibn 'Abdūn, 'Umdat al-Ṭabīb, ed. al-Khaṭṭābī, 1996 (Beirut)
Ansab     Anon., Kitāb al-Ansāb, ed. Lêvi-Provençal, 1928
Bakri      al-Bakrī, Kitāb al-Mamālik wa-l-Masālik, ed. de Slane, 1857
Baidhaq    al-Baidhaq, memoirs, ed. Lêvi-Provençal, 1928
Baitar     Ibn ul-Baijār, al-Jāmi', tr. Leclerc, 1877-1883
Hassha     Ibn al-Ḥashshā', Mufid al-‘Ulūm, ed. Colin & Renaud, 1941
Jazzar     Ibn al-Jazzār, Kitāb al-I'timād, facsimile, 1985
Kutami     al-Kutāmī, commentary on Dioscurides, ed. Dietrich, 1988
Maimonides Maimonides, Sharḥ Asmā' al-‘Uqqār, ed. Meyerhof, 1940
Tadili      at-Tādilī, at-Tashawwuf, ed. Faure, 1958
Tuhfa      Anon., Tuhfat al-Aḥbāb, ed. Renaud & Colin, 1934
Tunart     Ibn Tunart, Kitāb al-Asmā', Leiden ms. Or. 23.333 (Lq) and Or. 23.348 (La)

Abu Wezreg, Ansab p. 29
Abū Yenikef, Tadili p. 218
addad, Baitar no 27
aderyis, Tunart Lq 23v°
adnam, Kutami I 62
adrar, Tunart 23r°
adder eylal, Tunart La 14v°
adder eylal, Baitar no 2
adil en wuššen, Tunart La 14v°
aḍu en yilel, Tunart La 15v°
aḍunazir, Kutami IV 83
afersiw, Tuhfa no 366
agešru, Baitar no 6
ageṭṭum, Tunart La 13v°
ager, Tunart Lq 23r°
ak"tar, Baitar no 3 (double initial alif)
ak"tar, Kutami IV 91 (single initial alif)

alezzzaq, Hassha no 600
atilī, Kutami IV 72
alwun, Tunart La 10r°
amen yesidan, Bakri p. 156
anekraz, Tunart Lq 20v°
amelles, Baitar no 5
ameznur, Abdun no 872
amrad, Tuhfa no 204
anažel, Tunart La 13r°
angaz en yegef, Tunart Lq 14r°
anelkud, Tunart La 14v°
angaref, Tunart La 13r°
anli, Abdun no 219
armas, Abdun no 1802
argan, Baitar no 56 (with ḫīm)
argan, Baitar no 1145 (with qāf)
argan, Tunart La 13r° (with kāf)
arīs, Baitar no 4
asasnu, Kutami I 98
asyer ye'yeyd, Kutami III 91
asyersif, Kutami I 73
asyer ye'yeryer, Baitar no 1604
astili, Kutami III 56
awseryint, Kutami IV 7
ayeddid en waman, Tunart Lq 16v°
ayerni, Kutami II 149
Ayet Wersanen, Ansab p. 44
azeqigg, Tunart Lq 24v°
azenzu, Tuhfa no 206
azeqqu, Tunart La 13v°
azrud, Baitar no 61
azuka, Tunart Lq 23r°
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