Archaic and innovative Islamic prayer names around the Sahara

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Abstract

Berber in the Sahara and southern Morocco, and several West African languages including Soninké, Mandinka and Songhay, all refer to the five Islamic daily prayers using terms not derived from their usual Arabic names, and showing striking mutual similarities. The motivation behind these names has not hitherto been explained. An examination of Islamic sources reveals that many correspond to terms attested within Arabic from an early period but which have passed out of use elsewhere. Others, with a more limited distribution, reflect transfer from a time-keeping system widely attested among Berber-speaking oases of the northern Sahara. These results demonstrate that the variant prayer terminologies attested in the *ḥadith* reflect popular usages that were still commonplace at the time when North Africa was conquered, and underscore the conservatism of non-Arabic Islamic religious terminology in and around the Sahara.
Keywords: Arabic, Berber, Sahel, Etymology, Prayer, Early Islam

1. Introduction

North Africa occupies a special position in the history of Islam, as the first region to be separated politically from the caliphate while maintaining the religion. By the early ʿAbbāsid period, the coast had passed out of effective ʿAbbāsid control, while the fringes of the Sahara were dominated by Ibāḍī and Ṣufrī states, which rejected not only the rule of the ʿAbbāsids but also their Sunnī orthodoxy, and were hence rather reserved in their attitude towards the works of the most influential religious scholars of the ʿAbbāsid era. This position is reflected in the religious terminology of the non-Arabic languages of the region, which preserve reflexes of variant forms attested in early Islamic traditions but are obsolete in most other parts of the Islamic world.[1]

A significant number of Berber languages, along with some of their neighbours, refer to the five daily prayers of Islam using words that cannot be derived from their usual Arabic names; most of these are internal formations, briefly discussed by Naït-Zerrad (1998), while others are Arabic loans. Van den Boogert and Kossmann (1997) give Berber-internal etymologies for these forms, and argue that their consistent use by both Sunnī and Ibāḍī groups indicates that

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1   Most, but not all; shortly after this article was accepted for publication, François de Blois (personal communication) pointed out that some of the names discussed here have close Persian parallels, which must be taken into account in future work.

they must have been produced by a single centre of Islamization, probably Ibāḍī, in a period before the Sunnī–Ibāḍī split became a significant factor in the region, i.e. no later than the Umayyad era. Comparable forms, which have attracted less comment, are found in a number of West African languages – notably Soninké and Songhay, the languages of the first major Sahelian states to come into direct contact with Islam – as well as their neighbours to the south, such as Mandinka and Pular. Section 6 of this article tabulates all available prayer names in languages for which data was available, along with references.

In this article I will show that some of these unexpected forms can be traced directly back to variants attested in the early *ḥadīth* literature, via borrowing or calquing. While modern Islamic literature consistently refers to the prayers by the names *Fajr / Ṣubḥ* (in the morning), *Ḍuhr*[2] (at noon), *ʿAṣr* (in the afternoon), *Maghrib* (at sunset), and *ʿIshāʾ* (at nightfall), mainly derived from terms referring to the time of day, authoritative earlier sources including Ṣaḥīḥ al-Bukhārī attest to the existence and wide usage within Arabic of alternative names for several of these prayers, as noted briefly in Wensinck (1987). These names have long since disappeared from Arabic usage, but reflexes of them continue to be used across much of North and West Africa. Their ubiquity throughout the Sahara constitutes compelling evidence that the first Arabs to introduce Islam to the region habitually used these alternative terms in their speech, and not the ones that have become usual. In this particular instance, seemingly non-standard traditions of Islam in the Sahara do not reflect local innovation, but rather provide information on the distribution of variation that was accepted within early Islam and only later came to be levelled out.

Other Berber forms that are almost as widespread, however, cannot be derived from Arabic through calquing or otherwise: they are rather derivations based on Berber numerals, with ʿAṣr = four, Maghrib = five, and ʿIshāʾ = six. The reasons for the choice of these numbers have not been convincingly explained. I will argue below that these forms reflect a system of time-keeping widespread among Saharan oases, and used within living memory. The wide usage of these forms suggests that this time-keeping system too dates back at least to the Umayyad period.

2. Early prayer names in Arabic

An obvious starting point for the early variation in prayer names is the *ḥadīth* literature: convenient sources include Mālik (d. 795), ʿAbd al-Razzāq (d. 826), al-Bukhārī (d. 870) and Muslim (d. 875). For the most part, these all use the familiar names mentioned above; however, they also faithfully record variants that do not correspond to the preferred terminology. Of several *ḥadīth* reflecting these variations, the following (Bukhārī #547, 2001: 114) is particularly revealing:

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2   The transcription followed in this paper for both Arabic and non-Arabic data uses the following digraphs: sh for [ʃ], th for [θ], dh for [ð], kh for [x] / [χ], gh for [ʁ]. This transcription follows this journal's usual practice except in the case of ḍ [ðˤ] for ظ, chosen since Berber phonology makes extensive use of ẓ [zˤ]. The author thanks anonymous reviewers and Maarten Kossmann for helpful comments on earlier drafts.

... عن سيار بن سلامة، قال دخلت أنا وأبي، على أبي برزة الأسلمي، فقال له أبي كيف كان
رسول الله صلى الله عليه وسلم يصلي المكتوبة فقال كان يصلي الهجير التي تدعونها الأولى
حين تدحض الشمس ويصلي العصر ثم يرجع أحدنا إلى رحله في أقصى المدينة والشمس حية
ونسيت ما قال في المغرب وكان يستحب أن يؤخر العشاء التي تدعونها العتمة وكان يكره
النوم قبلها والحديث بعدها وكان ينفتل من صلاة الغداة حين يعرف الرجل جليسه ويقرأ بالستين
إلى المائة.

... from Sayyār b. Salama: "My father and I entered into the presence of
Abū Barza al-ʿAslamī. My father asked him: 'How did the Messenger
of God, blessings and peace be upon him, pray the prescribed (prayers)?'
He replied: 'He used to pray *al-hajīr*, which you (pl.) call *al-ʿūlā*, when the
sun declines (from the meridian), and pray *al-ʿaṣr* such that one of us
could return to his home at the far end of Medina while the sun was
still lively.' I forget what he said about *al-maghrib*. 'And he used to prefer
to delay *al-ʿishāʾ*, which you (pl.) call *al-ʿatama*, and he used to hate
sleeping before it or speaking after it. And he used to return from the
ghadāt prayer when a person could recognise the one sitting next to
him, and read sixty to a hundred (*ʿāyāt*.)'"

The people in this conversation were most likely living in Basra in the early
eighth century, but this *ḥadīth* presents them not only as not using the set of
prayer names familiar to modern Arabic speakers, but as each using a slightly
different set of names. The familiarity of Abū Barza with the set he attributes
to "you (pl.)", however, suggests that the latter rather than the former was preva-
lent in contemporary Basra. By implication, the terms for which he does not give
an alternative were presumably common to both groups.

A similar usage combining features of both sets – possibly with reference to
the times rather than to the associated prayers – is attributed to the Prophet him-
self in Mālik 3:3 (1985: 78) = Bukhārī #652 (2001: 132):

... عن أبي هريرة أن رسول الله صلى الله عليه وسلم قال لو يعلم الناس ما في النداء والصف الأول
ثم لم يجدوا إلا أن يستهموا عليه لاستهموا ولو يعلمون ما في التهجير لاستبقوا إليه ولو يعلمون ما
في العتمة والصبح لأتوهما ولو حبوا.

... from Abū Hurayra, that the Messenger of God, blessings and peace be
upon him, said: "If people knew what is in the call and the first row, and
found no (alternative) but to draw lots for it, they would draw lots. If they
knew what is in *al-tahjīr* they would race each other to it. If they knew
what was in *al-ʿatama* and *al-ṣubḥ*, they would come to it even crawling."

Outside the *ḥadīth* literature, the book *Al-Kāmil* by al-Mubarrad (d. 898), from
Basra, mentions all three of the relevant terms, in a discussion of genitive
constructions (Mubarrad 1864: 128):

وعتمة اسم للوقت، فلذلك سميت الصلاة بذلك الوقت، وكل صلاة مضافة إلى وقتها، تقول: صلاة
الغداة، وصلاة الظهر، وصلاة العصر.وما قولك: الصلاة الأولى، فالأولى نعت لها إذا كانت أول ما
صلي، وقيل أول ما أظهر.

And *ʿatama* is the name of a time, and the prayer at that time was named after it; every prayer is *muḍāf* (annexed) to its time, so you say: *ṣalāt al-ghadāt, ṣalāt al-ḍuhr, ṣalāt al-ʿaṣr*. As for your saying: *al-ṣalāt al-ʔūlā*, "first" (*ʔūlā*) is an adjective modifying it, it being the first to have been prayed, and some say the first to be made known.

A practically isolated term nevertheless attested quite early is *ṣalāt al-nawm*, reported in ʿAbd al-Razzāq #2136 (Ṣanʿānī 1970: 562):

عن يحيى بن العلاء ، عن الأعمش ، عن أبي وائل قال : طلبت حذيفة ، فقال : لم طلبتني ؟ قال : قلت : للحديث ، فقال : إن عمر بن الخطاب رضي الله عنه ، كان يحذر بالحديث بعد صلاة النوم .

From Yaḥyā b. al-ʿAlāʾ, from al-Aʿmash, from Abū Wāʾil who said: I asked for Ḥudayfa, and he said: Why have you asked for me? I said: For conversation. He said: ʿUmar b. al-Khaṭṭāb, may God be pleased with him, used to warn against conversation after *ṣalāt al-nawm*.

A further dimension of variation applies to the meaning of *al-ʿishāʾ*. Some speakers used this term to refer not to ʿIshāʾ but to Maghrib – a usage condemned as a Bedouin solecism in the following *ḥadīth* (Bukhārī #563, 2001: 117):

حدثنا أبو معمر ـ هو عبد الله بن عمرو ـ قال حدثنا عبد الوارث، عن الحسين، قال حدثنا عبد الله بن بريدة، قال حدثني عبد الله المزني، أن النبي صلى الله عليه وسلم قال "لا تغلبنكم الأعراب على اسم صلاتكم المغرب ".قال الأعراب وتقول هي العشاء.

... ʿAbd Allāh al-Māzinī told us that the Prophet, blessings and peace be upon him, said: "Do not let the Bedouin prevail over you in the name of your prayer *al-maghrib*." He said the Bedouin, and they call it *al-ʿishāʾ*.

This confusion might be avoided by referring to ʿIshāʾ as *al-ʿishāʾ al-ʿākhira*, as in Muslim 465c (2006: 215):

... عن جابر بن عبد الله، أن معاذ بن جبل، كان يصلي مع رسول الله صلى الله عليه وسلم العشاء الآخرة ثم يرجعُ إلى قومهِ فيصلي بهم تلك الصلاة .

... from Jābir b. ʿAbd Allāh that Muʿādh b. Jabal would pray *al-ʿishāʾ al-ʿākhira* with the Messenger of God, peace and blessings be upon him, then go back to his people and lead them in that prayer.

We can conclude that at least the variants shown in Table 1 were current in Arabic in the Umayyad era. A study of narrators might indicate whether these variants can be associated with particular regions or tribes, but that would take us beyond the scope of this paper. However, the same sources that indicate these variants also help explain their disappearance. The emergence of these *ḥadīth* compilations reflects a wider move to codify the religion in writing, which in itself gave the preferred variants cross-regional prestige; on top of this, the main variant names of Maghrib and ʿIshāʾ were explicitly condemned

Table 1. Variant prayer names in Arabic

	"Standard"	"Basran"	Other
Ṣubḥ	*al-ṣubḥ*	*al-ghadāt*	
Ḍuhr	*al-ḍuhr*	*al-ʿūlā*	*al-hajīr, al-tahjīr*
ʿAṣr	*al-ʿaṣr*		
Maghrib	*al-maghrib*		*al-ʿishāʾ*
ʿIshāʾ	*al-ʿishāʾ*	*al-ʿatama*	*al-ʿishāʾ al-ʿākhira, al-nawm*

as improper in several *ḥadīth*. The example above is considered ṣaḥīḥ, as is what looks rather like a variant of it in Muslim #644a:

وحدثني زهير بن حرب، وابن أبي عمر، قال زهير حدثنا سفيان بن عيينة، عن ابن أبي لبيد، عن أبي سلمة، عن عبد الله بن عمر، قال سمعت رسول الله صلى الله عليه وسلم يقول " لَا تغلبنكم الأعراب على اسم صلاتكم ألا إنها العشاء وهم يعتمون بالإبل " .

[...] From ʿAbd Allāh b. ʿUmar, who said: I heard the Messenger of God, blessings and peace be upon him, say: "Let the Bedouin not prevail over you in the name of your prayer, for it is *al-ʿishāʾ*; (they call it *ʿatama* because) they stay late (*ʿtm*) with their camels".

But some less well-supported *ḥadīth* object in much more extreme terms, such as Ibn ʿAbī Shayba #36971 (2006: 537), narrating from the same source:

حدثنا وكيع قال ثنا شريك عن أبي فزارة العبسي عن ميمون بن مهرانَ قال قلت لعبد الله بن عمر من أول من سماها العتمة ؟ قال : الشيطان .

. . . from Maymūn b. Mihrān, who said: I asked ʿAbd Allāh b. ʿUmar "Who first called it *al-ʿatama*?" He replied: "The Devil!"

The end result, observable today, is that Muslim prayer terminology is broadly uniform, in the Maghreb as elsewhere, and the variant oral traditions to which these *ḥadīth* attest are known only to scholars. However, at the time of these compilations, most of North Africa was outside of ʿAbbāsid control, and much of it, particularly the northern Sahara, was non-Sunnī. Mālikī Sunnism, though already present locally, would not begin to attain its current overwhelming preponderance until centuries later. This left ample time for the prayer names based on alternative oral traditions to become fixed in the region's languages, and the evidence below suggests that this is precisely what happened.

3. Variants in the western Islamic world

3.1. Ṣalāt al-ʿŪlā (Ḍuhr)

The term literally means "the first (f.)", *ʿūlā* being the feminine form of *ʿawwal*. A rather later authority, the Andalusian scholar al-Qurṭubī (d. 1273), offers an explanation for the name in his commentary on Quran 12: 109 (2006: 411):

ومن قال صلاة الأولى فمعناه: عند صلاة الفريضة الأولى؛ وإنما سميت الأولى لأنها أول ما صلي
حين فرضت الصلاة، وأول ما أظهر؛ فلذلك قيل لها أيضا الظهر.

> Whoever says ṣalāt al-ʔūlā, its meaning is "the first among the obligatory prayers", called "first" because it was the first prayer to be prayed when prayer was made obligatory, and the first to appear; that is why it is also called al-ḍuhr.

At an early period, this name must have been quite widespread in the western half of the Islamic world; the only part of North Africa where it is consistently absent is the Mediterranean coast and its mountains. Even within Arabic, some Moroccan varieties still use *luwli* (Harrell and Sobelman 2004: 73). As a loan, it survives in scattered points stretching from southern Syria to the Niger bend: Western Neo-Aramaic ʿ*alūla* "Mittag" (Arnold 1990: 333); in two eastern Berber languages – Sīwa *luli* "Ḍuhr" (western Egypt), Awjila *alûli* "Ḍuhr" (eastern Libya); and in Songhay *aluula* "Ḍuhr" (eastern Mali, western Niger). (See section 6 for sources and tables.) The *i* in the Berber forms reflects final imāla, echoed in Arabic dialects of the Egyptian oases (Woidich and Behnstedt 1982: 49).

As a calque, it survives in an area even larger than and even more distant from the Middle Eastern heartland of early Islam. Within Berber, the commonest form for "Ḍuhr", excluding loanwords, is one that can be reconstructed as *ti-zwar-(nin)*, a feminine plural derived from the Berber root $\sqrt{zwr}$ "be first, precede" (Tashelḥiyt *zwur*, Zenaga *äžbər*, Tamasheq *ǎzzar*). The post-consonantal *w* regularly corresponds to *b* in Zenaga, while many varieties replace *zw* with *zz*. Such forms are used to mean "Ḍuhr" across an enormous area including: Tashelḥiyt and Tamazight in southern Morocco; the Zenati Berber-speaking oases stretching across the northern Algerian Sahara, including the Gūrāra and Mẓāb; northwestern Libya, including the Nafūsa mountains and Zuwāra; Tuareg in the central Sahara; and Zenaga in Mauritania. Wolof (Senegal) and Korandjé (Algeria) have borrowed the Zenaga form: *tisbar*, *təzbəṛṛən* respectively.

The relevant Berber root has both the senses of "be first" and "precede", and Naït-Zerrad (1998: 63) rendered these forms with the latter sense, as "celles qui précèdent", suggesting tentatively that it was so named because it was followed by additional recitations, as Lanfry noted for Ghadames. However, the Arabic loans exemplified above indicate that the relevant sense is not "precede", but rather "be first".

Soninké, the language of the early Sahelian state of Ghāna, has calqued rather than borrowed the term, whether directly from Arabic or from Berber, yielding *sállì-fànà* "prayer-first". This term has in turn been borrowed into West African languages to its south, such as Mandinka and Pular. In Bambara, it has been reinterpreted as based on *fàná* "meal" (Bailleul 1981), but the order indicates that this is a folk etymology, since the Bambara possessive construction is head-final.

3.2. *Ṣalāt al-Fiṭr* (Maghrib)

Unlike the other terms discussed here, this term, literally "prayer of fast-breaking" (*fiṭr* being a deverbal noun from *faṭar*[a] "break apart; break

(fast)"), appears to be non-classical in the appropriate sense; the normal sense of the phrase is "(congregational) prayer on ʿĪd al-Fiṭr (the fast-breaking festival after Ramadan)". The semantic shift is natural, given that in Ramadan one breaks one's fast each day at the time of Maghrib. No Arabic attestations of this usage have so far been found. However, their existence is implied by a series of West African terms for Maghrib which appear to be direct loans: Soninké *fùtúrò*, Mandinka *fítíri*, Timbuktu Songhay *fitirow / futurow*, etc. The vowels of the Soninké form suggest a possible alternative derivation from another form of the same root, *fuṭūr* "breakfast, fast-breaking meal"; however, the absence of a long vowel and the other West African forms make this less probable.

This form was calqued into Berber at an early period, yielding *ti-n-wučči* "that (f.) of eating". It survives mainly in the westernmost Berber varieties – Tashelḥiyt, Tamazight in southern Morocco, and Zenaga in Mauritania – but also in Zuwāra in north-western Libya. It was loaned into Korandjé (Algeria) as *tsyunəs*; the Wolof form *timis* may also derive from this, assuming assimilation *$nw > m$.

This form is not attested in Tuareg, which consistently uses *alməẓ* "twilight", presumably a not very literal translation of *maghrib* based on a pre-existing time period. The predominant Zenati forms will be discussed below.

3.3. Ṣalāt al-ʿIshāʾ (ʿIshāʾ/Maghrib)

In the sense of ʿIshāʾ, this form is dominant throughout modern Arabic, so its presence as a loan hardly merits comment. However, it is also present in one case as a calque within Berber: Nafusi *ti-n-mənsi* "that (f.) of supper". Since the homonymy of reflexes of ʿishāʾ ("evening", from the root ʕashiy^a "be night-blind") and ʿashāʾ is historically secondary, resulting from the weakening or loss of short vowels, this is probably a late development; comparison to Medieval Eastern Berber, which used *ti-n-iḍas* like most other Saharan Berber varieties (see below), would appear to confirm this.

A potentially more interesting calque based on this word is provided by Awjila *mnishiw* "p. del tramonto", to be derived by metathesis from *n-mishiw*, cp. *n* "of", *amishiw* "cena [supper]". Available data on this form is ambiguous; Mauri (2011, ms) indicates that this refers to ʿIshāʾ, but Paradisi's gloss rather suggests Maghrib. If the latter is correct, this usage would reflect the confusing dialectal practice, mentioned and specifically condemned in Bukhārī, of calling Maghrib *al-ʿishāʾ*. However, since Paradisi (1960) gives no gloss for ʿIshāʾ, it is difficult to be certain of the intended meaning.

3.4. Ṣalāt al-ʿAtama (ʿIshāʾ)

Several *ḥadīth* suggest that, in principle, the difference in name here corresponds with a difference in timing: *al-ʿatama* ("first third of the night", from the same root as ʿatam^a "be late, become dark") refers to the late end of the time in which ʿIshāʾ should be prayed, whereas *al-ʿishāʾ* refers to the early end. This form is rather less widely attested in North Africa than those seen so far, and no obvious calques are attested, but it occurs as a loan at opposite ends of the region. Alongside *luli* < *al-ʿūlā* for Ḍuhr, it is still used in Siwi for ʿIshāʾ: *lʿətmət*. This is likewise the source for Morisco Spanish *alatamo*. However, reflexes

of both *al-ʿishāʾ* and *al-ʿatama* were adopted by the Church for translating canonical hours, confirming that the original semantic distinction between the two times was preserved in at least some registers of Andalusi Arabic: Alcalá and Lagarde (1883: 329) renders Complines as *al âyxĭ*, and Matins as *al âáteme*.

While not a calque, the widespread Tuareg name of ʿIshāʾ, *azuẓəg* "milking", may be indirectly associated with this name. Some of the *ḥadīth* cited as condemning the term *ʿatama* explain its usage as the result of a Bedouin practice of praying it after milking the camels after nightfall, cf. Musnad Aḥmad #4688 (Ibn Ḥanbal 1995: 315) (apparently a variant of the *ḥadīth* from Muslim cited above):

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(حديث مرفوع) حدثنا يحيى ، عن سفيان ، حدثني عبد الله بن أبي لبيد ، عن أبي سلمة ، عن ابن عمر ، عن النبي صلى الله عليه وسلم قال : " لا يغلبنكم الأعراب على اسم صلاتكم ، فإنها العشاء ، إنما يدعونها العتمة ، لإعتامهم بالإبل لحلابها " .

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[. . .] From Ibn ʿUmar, from the Prophet, blessings and peace be upon him, who said: "Let the Bedouins not prevail over you in the name of your prayer, for it is *al-ʿishāʾ*; they (the Bedouins) call it *al-ʿatama* because they keep the camels out late to milk them."

3.5. Ṣalāt al-Nawm (ʿIshāʾ)

This form, literally "prayer of sleep", is very marginal in the *ḥadīth* literature, but its rarity in Arabic contrasts with the overwhelming frequency in Berber of its calque, *ti-n-iḍəs* "that (f.) of sleep". This form is used in Tashelḥiyt and Tamazight in southern Morocco; the Zenati Berber-speaking oases stretching across the northern Algerian Sahara, including the Gūrāra and Mẓāb; western Libya, including Zuwāra, Ghadames, and Al-Fuqahāʾ; and Zenaga in Mauritania. It has been borrowed into Korandjé (Algeria), as *tsyaḍəs*.

The same calque was made in Soninké, whether directly from Arabic or from Berber: *sákhú-fó* ("sleep-thing"). From Soninké this form was borrowed, with regular loss of *kh* and compensatory vowel lengthening, into many other West African languages: Mandinka *sáafu*, Songhay *saafoo*, Pular *safˤi*, etc. The Songhay form is explained by Prost (1977: 637), following a suggestion by Marty (1920: 228) for Peul, as deriving from Arabic *shafaq* "twilight", but if that were the case we would expect a short vowel: **safoo* rather than *saafoo*. Nor would this explain the vowels and the position of the *kh* in the Soninké form. To make matters worse, ʿIshāʾ cannot be prayed until after *shafaq* has passed (Monnot 1995: 960); *shafaq* is in fact the time of the Maghrib prayer. The Peul form cited by Marty, *safako*, clearly is based on *shafaq*, but given its meaning, it is better viewed as the result of a folk-etymological reinterpretation (among Arabic-literate scholars) of a term originally based on *sákhú-fó*. Marty (1920: 70) links the Songhay form itself to *shafˤ*, the name of the optional prayer immediately following ʿIshāʾ; this fits the Pular form, but otherwise again fails to account for the long *aa* and the other regional forms.

3.6. Ṣalāt al-Ghadāt (Ṣubḥ)

This form has already been exemplified above. Medieval Eastern Berber used what I take to be a calque of *ghadāt* (properly "early morning"),

folk-etymologized as based on *ghad* "tomorrow": *ti-n-uzəčča* "that (f.) of tomor-row". This term, however, has not survived into any reported modern variety. Some of the Tuareg forms are ambiguous between *ṣubḥ* and *ghadāt*: *tufat* means both "morning" and "tomorrow", like Spanish *mañana*. Other Berber terms for the morning prayer show far more variation than the other four prayers; where they are not Arabic loans, they may be calques of *ṣubḥ* "(early) morning" (Tamasheq, Zenaga, Sīwa), or just terms meaning "early" (Zuwāra, Nafūsa).

3.7. *Ṣalāt al-Ghabasha* (Ṣubḥ)

Within North Africa, borrowed reflexes of this form are reported only in the Berber languages of the Mẓāb and Ouargla, two of the last strongholds of Ibāḍism, and Awjila (Paradisi glosses it only as "morning", but Mauri (2011, ms) confirms the prayer time sense). No early authority for this form as a prayer name has yet been found, but it is in current use in colloquial Arabic in the other main region where Ibāḍism has been maintained, eastern Arabia. Examples from Oman in a highly colloquial register can readily be found online, e.g.:

جاينكم بقوة بس تو اذن معنا..صلاة الغبشة قصدي الفجر

Coming in force but now the aḏān is with us ... the Ghubsha, I mean Fajr, prayer.[3]

سحور حال إيش !! نص الشعب من بعد صلاة الغبشة ، [...]

Suḥūr like what!! Half the people after Ghubsha prayer, [...]4

While the name itself seems absent from the *ḥadīth* literature, its motivation can readily be found there; cf. Mālik #1.9 (1985: 8):

[...] أنه سأل أبا هريرة عن وقت الصلاة فقال أبو هريرة أنا أخبرك صل الظهر إذا كان ظلك مثلك والعصر إذا كان ظلك مثليك والمغرب إذا غربت الشمس والعشاء ما بينك وبين ثلث الليل وصل الصبح بغبش يعني الغلس

[...] he asked Abū Hurayra about the time of prayer. Abū Hurayra replied: "I will tell you. Pray Ḍuhr when your shadow is your size, and ʿAṣr when it is twice your size, and Maghrib when the sun sets, and ʿIshāʾ within the (first) third of the night, and pray Ṣubḥ in *ghabash*, meaning *ghalas* (just before daybreak)."

4. Berber-internal innovations

4.1. Prayer names based on calling

In several varieties spoken in or around south-western Libya, Ḍuhr is called *iməghri*, a verbal noun from *ghər* "to call". The same term is found in a Tuareg variety further from Libya, Tamasheq, but with reference to Ṣubḥ. A

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3   http://www.s-oman.net/avb/showthread.php?t=570770&page=7
4   http://www.omanlover.org/vb/om169981-7/

Table 2. Some numerals in Berber

		Four	Five	Six
Zenaga	(Taine-Cheikh 2008)	*akkuẓ*	*shämmush*	*shuḍish*
Tashelḥiyt	(Destaing 1920)	*kkuẓ*	*smmus*	*sḍiṣ*
Tamasheq	(Heath 2005)	*ăkkoẓ*	*sămmos*	*səḍis*

probably independent development of the same kind is Ayt Hdiddou *tighuṛiwin*, a feminine plural based on the same root, for Maghrib.

4.2. Prayer names based on numerals

While most Berber languages have borrowed most of their numerals from Arabic, several preserve the original system, as exemplified in Table 2.

As noted by Van den Boogert and Kossmann (1997), these seem to provide the sources for some Berber prayer names. Throughout a wide area, roughly coinciding with the distribution of *ti-zwar(-nin)* above (including Tashelḥiyt and Tamazight in southern Morocco; the Zenati Berber-speaking oases stretching across the northern Algerian Sahara, including the Gūrāra and Mẓāb; northwestern Libya, including the Nafūsa mountains and Zuwāra; Tuareg in the central Sahara; and Zenaga in Mauritania), ʿaṣr is referred to as *t-akkʷẓ-in*, a feminine plural based on *kkuẓ* "four". Beyond Berber, this form has been borrowed from Zenaga into Wolof, as *tàkkusaan*, and Korandjé, as *tsakʷẓẓən*.

In a rather smaller area, including most of the Zenati Berber-speaking oases of the northern Algerian Sahara, along with Nafūsa and Al-Fuqahāʾ in western Libya, the *maghrib* prayer is referred to as *ti-səmms-in*, a feminine plural based on *səmmus* "five". The term is also attested with a vaguer meaning "afternoon" in Tamezret (southern Tunisia).

In many Tuareg varieties, the ʿishāʾ prayer is *ti-suḍs-en*, an etymologically ambiguous feminine plural. Naït-Zerrad (1998) derives it from the causative verb *suḍəs* "to make sleep" (Foucauld 1951), thus fitting it with the *tin-iḍəs* forms seen above. However, Van den Boogert and Kossmann (1997) note that a derivation from *səḍis* "six" cannot be excluded. In light of the other two numerical forms, this derivation seems plausible.

Naït-Zerrad (1998: 63) explained the forms for ʿAṣr and Maghrib on the basis that the (24-hour) day starts after sunset, making Maghrib the fifth and final prayer within it. This view is reasonable in itself; such a definition of the day was commonplace in the Islamic world, and is supported by the Morisco Spanish form *alajere* "Maghrib" < *al-ʿākhira* (cp. Alcalá's (1883: 329) *al aḳirĭ*, given as "Nones" but probably transposed from "Vespers"). However, this does not sit well with the fact that, in all the languages which use these numerical forms, Ḍuhr is consistently named as "the first". If Maghrib is the fifth prayer, then Ḍuhr should be third; or, conversely, if speakers who view Ḍuhr as "first" are naming prayers ordinally, we expect ʿAṣr to be "second", and Maghrib "third". Moreover, we would have to dismiss the otherwise promising similarity between the Tuareg terms for ʿIshāʾ and "six" as a coincidence: there is no sixth obligatory prayer! Nor are there three prayers between Ḍuhr and ʿAṣr. For an explanation to fit the numerical forms for Ḍuhr, ʿAṣr, and Maghrib all at once, let alone ʿIshāʾ, we must abandon the idea of ordinally named prayers.

Happily, an alternative solution is available. Let us take the numerals to represent not an ordering of prayers, but rather the times of the prayers, as measured by some numerical time-keeping system. The average time between Ḍuhr and Maghrib is six hours; in fact, if we use seasonal rather than equinoctial hours, as medieval sources commonly do, the time between them is always six seasonal hours by definition. Thus, if the interval between Ḍuhr and Maghrib is (5–1) = four units, the unit in question must equal (6/4) hours, i.e. 1 hour 30 minutes. The day would be made up of eight such units, and the night of another eight such units.

Such a unit is not a mere artefact of imaginative reconstruction; it is well attested in Saharan Berber culture. In the desert, irrigation water is frequently too scarce to allow everyone unlimited use, and measurement by volume is rarely practical. Most Saharan oases instead handle water rights through time measurement: for any particular spring or canal, each owner has the right to irrigate from it for a specific time-span each day, determined contractually. In order to measure this time-span, they divide the day into a fixed number of units, just as modern society does. In Ouargla, Ghadames, and Sīwa, the day was divided into eight units of 1 hour 30 minutes each, called *ttmən* at Sīwa and Ouargla (< Arabic *ṯumn* "one-eighth"; Souag (2013: 119) for Sīwa, Delheure 1988: 196 for Ouargla), and *anattam* at Ghadames (< Berber, cp. *tam* "eight"; Lanfry 1973: 273).

This would yield, on average, the following times for prayers:

1st	anattam	Ḍuhr	12:00 (normalized; add or subtract depending on time zone)
2nd	anattam	–	13:30
3rd	anattam	–	15:00
4th	anattam	ʿAṣr	16:30
5th	anattam	Maghrib	18:00
6th	anattam	ʿIshāʾ	19:30

The time given here for ʿAṣr will strike most modern North Africans as a little too late. Contrast the actual spring equinox times for Ghadames as calculated by IslamicFinder.org,[5] subtracting thirty minutes to normalize for the time zone:

Ḍuhr	12:00
ʿAṣr	15:27
Maghrib	18:05
ʿIshāʾ	19:22

According to this calculation, Maghrib and ʿIshāʾ are correct to within less than ten minutes. However, ʿAṣr is incorrect by an hour. This, however, can easily be remedied. ʿAṣr has not one recognized time, but two: while most schools prefer

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5 http://www.islamicfinder.org/prayerPrintable.php?city2=Ghadames&state=&id=11837&
longi=9.5000&lati=30.1333&country2=Libya&zipcode=&today_date_flag=2013-3-23&
changeTime=16&pmethod=2&HanfiShafi=1&DhuhrInterval=1&MaghribInterval=1&day
Light=0&dayl=0&timez=2& dayLight_self_change=&prayerCustomize=1&lang=&fajr
Twilight=0&ishaTwilight=0&ishaInterval=0&month=3&year=2013

to pray it when the shadow of an object is longer than at noon by the same length as its height, the Ḥanafī school instead prays it when it is longer by twice its height, and both alternatives are supported by *ḥadīth* (King 1990). If we change the calculation method to Ḥanafī on the same site, and again subtract thirty minutes, then we get the following:

Ḍuhr   12:00
ʿAṣr   16:22
Maghrib   18:05
ʿIshāʾ   19:22

On the simple assumption that the twice-height method was followed, the anomaly thus disappears, and the implied timing is almost exactly correct.

Archaeological investigations of Garamantian settlements have made it clear that irrigation-based oasis agriculture was already practised by the Berbers of central Libya centuries before Islam (Wilson 2005). Such irrigation is hardly practicable without some means of dividing up time in order to divide water appropriately. It is therefore probable that, at the arrival of Islam, the settled Berbers of the Sahara and its fringes already had a time-telling system corresponding to the *anattam* of Ghadames and the *ttmən* of Sīwa and Ouargla. They adopted noon as "the first" based on the prayer's alternative Arabic name, and named the following prayers based on the number of *anattam*s elapsed counting from noon.

5. Conclusion

Saharan and Moroccan Berber, Soninké and Songhay have all preserved, and transmitted to their neighbours, traces of Islamic religious terminology found in the *ḥadīth* literature but largely obliterated elsewhere by pressures towards standardization which can already be seen in that very literature. Indeed, Siwi Berber preserves the variant system labelled "Basran" above almost in its entirety. The terminology *al-ʿūlā* for Ḍuhr and *al-nawm/al-ʿatama* for ʿIshāʾ must have been dominant among the Muslims who reached the region in the Umayyad period. These variants' distribution correlates well with the fact that, at the time when what would come to be accepted as the key *ḥadīth* collections and Sunnī *madhhabs* were emerging, the trans-Saharan trade was largely in the hands of Muslims who did not accept the political authority of the ʿAbbāsid empire or the religious authority of its scholars. In addition to calquing Arabic terminology, Berber also coined new terms based on pre-existing Berber timekeeping systems, whose relative antiquity this fact confirms.

6. Data: Names of prayer times in languages of the western Islamic world

Tables 3 and 4 summarize the data used in this paper. A few Berber languages also have attested native terms for *tarawīḥ*, the long supererogatory prayers of Ramadan: Ouargla *tizgrarin*, Zenaga *tǝžǝgrärǝn*. The etymology is transparent in both cases, being the feminine plural of the Berber adjective "long" in Ouargla (though Zenaga uses a different root for the adjective).

Table 3. Variant prayer names in Berber

		Ṣubḥ	Ḍuhr	ʿAṣr	Maghrib	ʿIshāʾ
Zenaga	(Taine-Cheikh 2008)	t(ä)näzzäT	təẕbaṛən	takkūẓ́ən	tnutᵛshaʔn	təNᵛuḍashshən
Moroccan Atlas:						
Old Tashelḥiyt	(Ibn Tūnirt, via Boogert and Kossmann 1997)		tizwarn	takkẓin	tiwwutshi	tiyyiṭs
Tashelḥiyt	(Destaing 1920)	(ṣṣbah)	tizwarən	takʷzin	tiwutsh	tiyiḍəs
Ait Hdiddou Tamazight	(Azdoud 2011)	(ləfžər) (ṣṣubḥ)	tizwarrin, (ḍḍuhṛ)	(lʿaṣr)	tighuṛiwin, (lməghṛəb)	tin yiṭṣ, (lʿisha)
Ait Atta Tamazight	(Amaniss 1980)		tizwarnin		tin-wittshi	tin-yiṭs
Ait Khebbach Tamazight	(author's field data)	(ṣbah)	tizwarnin, tuzwarin	(lʿaṣər)	tinwuččin, tawučči	tinyaṭs
Tuareg:						
Tamasheq	(Heath 2006)	tífawt, emăghăˊrr	tézzar	tákkəṣt	álməẓ	tisóḍsen
Ahaggar Tamahaq	(Foucauld 1951: 1157)	tufat	tezzar, eməghri	takkəṣt	alməẓ	aẓuẓəǵ, tisuṭsin
Ghāṭ Tamahaq	(Nehlil 1909: 193)	tufat	iməghri	takəst	alməẓ	tadəǧǧat
Taitoq Tamajeq	(Masqueray 1893: 266)	tufat	tizzar	takkost	aləmoẓ	aẓozeǧ
Zenati:						
Figuig	(Sahli 2008, Kossmann p.c.)	ləfžər	tizzarnin	(lʿaṣər)	(lməghrəb)	tinyiṭ
Igli	https://web.archive.org/web/20120108191954/http://www.igli08.com/vb/showthread.php?t=941		tizarnin	(lʿaṣr)	tisəmsin	tiniṭs

Table 3. Continued

		Ṣubḥ	Ḍuhr	ʿAṣr	Maghrib	ʾIshāʾ
Timimoun	(Boudot-Lamotte 1964)		tizzaʿnin	takzin	tisəmsin	tinnist
Ouargla	(Delheure 1987)	(ghabəshsha)	tazzarnin	takkʷẓin	tisəmməsin	tinniḍəs
Mẓāb	(Abdessalam and Abdessalam 1996: 47)	(ghbəshsha)	tizzarnin	takʷẓin	tisəmsin	tinniḍəs
"Eastern":						
Tamezret	(Ben Mamou 2005)				tisəmsin "après-midi"	
Zuwāra	(Mitchell 2009: 327)	talži	tizzarnin	tuqzin	timutshu	tiniḍəs
Nafūsa	(Calassanti-Motylinski 1898: 36)	afəllaḥ n taji	tizarnin	tuqzin	tisəmsin	tinmənsi
Old Eastern Berber	(Calassanti-Motylinski 1898: 36)	tinuzəčča	tizarnin	tuqzin	tinučču	tiniḍas
Sawkna	(Sarnelli 1924: 21)		iməghri			
Al-Fuqahāʾ	(Paradisi 1963: 118)	(əlfəʿžər)	mghári	(əlʿásar)	tsəmsín	tniaṭəʾst
Ghadames	(Lanfry 1973: 194)	(əṣṣāla) / məddēn	amaʿri	(ălʿaṣər)	aβənnəβən	tənēḍəs
Awjila	(Paradisi 1960; 1961)	(əlghábəsh "mattino presto")	(alúli)	(lʿáṣar)	mnishíw	
Sīwa	(author's field data)	tənnaddan / sra	(luli)	(laʿṣar)	(mməghrəb)	(lʿətmət)

Table 4. Variant prayer names in non-Berber languages

		Ṣubḥ	Ḍuhr	ʿAṣr	Maghrib	ʿIshāʾ
Morisco Spanish (16th c.)	(Dadson 2012; Gredilla 1874)	(alcobh, cofe)	(doar, dohar)	(hazar, alaçare)	(elegin, alajere)	(hatamay, alatamo)
Wolof	(Diouf 2003)	njël, (fajar)	tisbar	tàkkusaan	timis	geewe
Korandjé	(author's field data)	(l)məndər	təzbərrən	tsakʷẓẓən	tsyunəs	tsyạḍəs
Gao Songhay	(Heath 1998)	(subbaahi)	(aluula)	(alaasar)	(almaari)	assaafoo
Timbuktu Songhay	(Heath 1998)	(alfajar)	(aluula)	(alaasara)	(fitirow, futurow, fitrow)	assaafoo, saafoo
Soninké	(Diagana 2011)	(fájìrí)	sállì-fànà ("prayer-first")	(làxáasàrá)	(fûtúrò)	sákhú-fó ("sleep-thing")
Bozo of Mopti	(Daget et al. 1953)	(alfadyiri, fadyiri)	salifana			saà pɔ́ ("sleep-thing")
Mandinka	(Creissels 2011)	(súbaa)	sálífanaa	(alánsara)	(fítíri)	sáafu
Bambara	(Bailleul 1981)		selifàna	(làansàra)	(fìtiri)	saafo
Futa Jalon Pular	(Bah 2012)	subaka	fanaa	alansaraa	futuroo	safʾi, geeyè
Macina Peul	(Marty 1920: 228)	fadyiri	sallifana	lassara	fitiri	safako, guédié

References

Abdessalam, Brahim and Bekir Abdessalam. 1996. *al-Wajīz fī Qawāʿid al-Kitāba wa-n-Naḥw li-l-Lugha al-ʿAmāzīghiyya* "*al-Mẓābiyya*" – *al-Juzʾ al-ʿAwwal*. Ghardaia: al-Maṭbaʿa al-ʿArabiyya.

de Alcalá, Pedro and Paul de Lagarde. 1883. *Petri Hispani de Lingua Arabica libri duo*. Osnabrück: Otto Zeller. http://archive.org/details/petrihispanidel00lagagoog (28 March 2013).

Amaniss, Ali. 1980. *Dictionnaire tamazight–français (parlers du Maroc centrale)*. http://www.amazighworld.org/uploadedfiles/dictionnaire_Francais_Tamazight.pdf.

Arnold, Werner. 1990. *Das Neuwestaramäische*. (Semitica Viva 4.) Wiesbaden: Harrassowitz.

Azdoud, Driss. 2011. *Dictionnaire berbère–français*. Paris: Maison des sciences de l'homme.

Bah, Oumar. 2012. "Saggitorde". Peeral.com. http://peeral.com/saggitorde/abstract/main.htm.

Bailleul, Charles. 1981. *Petit dictionnaire bambara–français, français–bambara*. Amersham: Avebury.

Boogert, Nico van den and Maarten Kossmann. 1997. "Les premiers emprunts arabes en berbère", *Arabica: Journal of Arabic and Islamic Studies* 44, 317–22.

Boudot-Lamotte, Antoine. 1964. "Notes ethnographiques et linguistiques sur le parler berbère de Timimoun", *Journal Asiatique* CCLII, 487–558.

al-Bukhārī, ʿAbū ʿAbd Allāh Muḥammad ibn ʾIsmāʿīl. 2001. *Al-Jāmiʿ al-Ṣaḥīḥ*. (Ed. Muḥammad Zuhayr ibn Nāṣir al-Nāṣir.) Beirut: Dār Ṭawq al-Najāt.

de Calassanti-Motylinski, A. 1898. *Le Djebel Nefousa : Transcriptions, traductions et notes, avec une étude grammaticale*. Paris: Ernest Leroux.

Creissels, Denis. 2011. *Lexique mandinka–français (état provisoire, mars 2011)*. http://deniscreissels.fr.

Dadson, Trevor J. 2012. "The Moriscos of Villarrubia de los Ojos", in Kevin Ingram (ed.), *The Conversos and Moriscos in Late Medieval Spain and Beyond. Volume Two: The Morisco Issue*. Leiden: Brill.

Daget, J., M. Konipo and M. Sanankoua. 1953. *La langue bozo*. Bamako: IFAN.

Delheure, Jean. 1987. *Agerraw n iwalen teggargrent-taṛumit = Dictionnaire ouargli–français*. (Études Ethno-linguistiques Maghreb-Sahara 5.) Paris: Société d'Etudes Linguistiques et Anthropologiques de France.

Delheure, Jean. 1988. *Vivre et mourir à Ouargla = Tameddurt t-tmettant Wargren*. (Etudes Ethno-linguistiques Maghreb-Sahara 7.) Paris: Société d'Etudes Linguistiques et Anthropologiques de France.

Destaing, Edmond. 1920. *Etude sur la Tachelḥît du Sous. Vol. I: Vocabulaire français–berbère*. Paris: Ernest Leroux.

Diagana, Ousmane Moussa. 2011. *Dictionnaire soninké–français (Mauritanie)*. Paris: Karthala.

Diouf, Jean Léopold. 2003. *Dictionnaire wolof–français et français–wolof*. (Dictionnaires et Langues.) Paris: Karthala.

Foucauld, Charles Eugène de. 1951. *Dictionnaire touareg–français: dialecte de l'Ahaggar*. Paris: Imprimerie nationale de France.

Gredilla, G.P. 1874. "Ceremonias de Moros que hacen los Moriscos", *Revista de archivos, bibliotecas y museos* IV, 165–9.

Harrell, Richard S. and Harvey Sobelman. 2004. *A Dictionary of Moroccan Arabic: Moroccan–English/English–Moroccan*. Georgetown: Georgetown University Press.

Heath, Jeffrey. 1998. *Dictionnaire songhay–anglais–français*. (Langues d'Afrique 4–6.) Paris: L'Harmattan.

Heath, Jeffrey. 2005. *A Grammar of Tamashek (Tuareg of Mali)*. (Mouton Grammar Library 35.) Berlin: Mouton de Gruyter.

Heath, Jeffrey. 2006. *Dictionnaire touareg du Mali: tamachek–anglais–français*. Paris: Karthala.

Ibn ʿAbī Shayba, Abū Bakr ʿAbd Allāh ibn Muḥammad. 2006. *Al-Muṣannaf*. (Ed. Muḥammad ʿAwwāma.) Vol. 19. Beirut: Dār Qurṭuba.

Ibn Ḥanbal, Aḥmad. 1995. *Musnad Al-ʿImām ʿAḥmad ibn Ḥanbal*. (Ed. Shuʿayb al-Arna'ūṭ and ʿĀdil Murshid.) Vol. 8. Beirut: Al-Resalah.

King, David A. 1990. "Mīḳāt: astronomical timekeeping", *Encyclopaedia of Islam*. Leiden: Brill.

Lanfry, Jacques. 1973. *Ghadamès II: Glossaire (parler des Ayt Waziten)*. Fort-National (Algeria): Le Fichier Périodique.

Mālik ibn ʿAnas. 1985. *Al-Muwaṭṭaʾ*. Beirut: Dār ʿIḥyāʾ al-Turāth al-ʿArabī.

Ben Mamou, Larbi. 2005. "Dialecte berbère de Tamezret (Tunisie)", *Atmazret*. http://atmazret.info/ (3 November 2006).

Marty, Paul. 1920. *Etudes sur l'Islam et les tribus du Soudan. Tome II : La région de Tombouctou (Islam songaï) ; Djenné, le Macina et dépendances (Islam peul)*. Paris: Ernest Leroux.

Masqueray, Emile. 1893. *Dictionnaire français–touareg (dialecte des Taïtoq)*. Paris: Ernest Leroux.

Mauri, Simone. 2011. "A few notes on the moribund Berber dialect of Awjilah (eastern Libya)". Unpublished manuscript.

Mitchell, Terence F. 2009. *Zuaran Berber (Libya) : Grammar and Texts*. (Ed. Harry Stroomer and Stanly Oomen.) (Berber Studies 26.) Cologne: Rüdiger Köppe.

Monnot, G. 1995. "Ṣalāt", *Encyclopédie de l'Islam*. Leiden: Brill.

Al-Mubarrad, Abū al-ʿAbbās Muḥammad. 1864. *The Kāmil of El-Mubarrad*. (Ed. William Wright.) Leipzig: Kreysing.

Muslim ibn Ḥajjāj. 2006. *Ṣaḥīḥ Muslim*. (Ed. Abū Qutayba Naḍar Muḥammad al-Fāryābī.) Riyadh: Dār Ṭība.

Naït-Zerrad, Kamal. 1998. *Lexique religieux berbère et néologie : un essai de traduction partielle du coran*. Milan: Centro Studi Camito-Semitici.

Nehlil. 1909. *Étude sur le dialecte de Ghat*. Paris: Ernest Leroux.

Paradisi, Umberto. 1960. "Il berbero di Augila, Materiale lessicale", *Rivista degli Studi Orientali* XXXV.

Paradisi, Umberto. 1961. "Testi berberi di Augila (Cirenaica)", *Annali Istit. Univers. Orient. Napoli* X, 79–91.

Paradisi, Umberto. 1963. "Il linguaggio berbero di El-Fóǵaha (Fezzân)", *Istituto Orientale di Napoli* XIII, 93–126.

Prost, A. 1977. "Supplement au dictionnaire Soṅay–Francais (parler de Gao, Mali)", *Bulletin de l'Institut Fondamental d'Afrique Noire. Série B: Sciences Humaines. Dakar* 34, 584–657.

Qurṭubī, ʿAbū ʿAbd Allāh Muḥammad ibn ʿAḥmad ibn ʿAbī Bakr. 2006. *Al-Jāmiʿ li-ʿAḥkām al-Qurʾān*. (Ed. ʿAbd Allāh ibn ʿAbd al-Muḥsin al-Turkī.) Vol. 11. Beirut: Al-Resalah.

Sahli, Ali. 2008. *Muʿjam Amāzīghī-ʿArabī (khāṣṣ bi-lahjat ʿahālī Fijīj) yaḍummu qawāʿid hādhihi l-lahja wa-jāniban min turāthihā l-ʿadabī*. Oujda: El Anouar El Maghribia.

Ṣanʿānī, Abū Bakr ʿAbd al-Razzāq ibn Hammām. 1970. *Al-Muṣannaf*. (Ed. Ḥabīb al-Raḥmān ʿAʿḍamī.) Beirut: Al-Majlis al-ʿIlmī.

Sarnelli, Tommaso. 1924. "Il dialetto berbero di Sokna: Materiali lessicali, testi manoscritti in caratteri arabi, con trascrizione e traduzione", *Supplemento all'Africa Italiana*.

Souag, Lameen. 2013. *Berber and Arabic in Siwa (Egypt): A Study in Linguistic Contact*. (Berber Studies 37.) Cologne: Rüdiger Köppe.

Taine-Cheikh, Catherine. 2008. *Dictionnaire zenaga–francais : le berbere de Mauritanie présenté par racines dans une perspective comparative*. (Berber Studies 20.) Cologne: Rüdiger Köppe.

Wensinck, A.J. 1987. "Mīḵāt", *First Encyclopædia of Islam*. Leiden: Brill.

Wilson, Andrew. 2005. "Foggara irrigation, early state formation and Saharan trade: the Garamantes of Fazzan", *Schriftenreihe der Frontinus-Gesellschaft* 26, 223–34.

Woidich, Manfred and Peter Behnstedt. 1982. "Die ägyptische Oasen – ein dialektologischer Vorbericht", *Zeitschrift für arabische Linguistik* 8, 39–71.