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Explaining Korandjé: Language contact, plantations, and the trans-Saharan trade

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Abstract: The intense Berber-Songhay language contact that produced Northern Songhay cannot be understood adequately without taking into account the existence of a Northern Songhay language outside the Azawagh valley – Korandjé, in Algeria – showing few, if any, signs of Tuareg contact. This article proposes a new explanation based on linguistic, epigraphic, and historical data: Western Berber-speaking Masūfa, present throughout northern Mali around 1200, founded Tabelbala to facilitate a new trade route; they chose Northern Songhay speakers, already a distinct group, for their experience in oasis farming and possibly copper mining. As Masūfa influence waned, the language was reoriented towards North Africa.

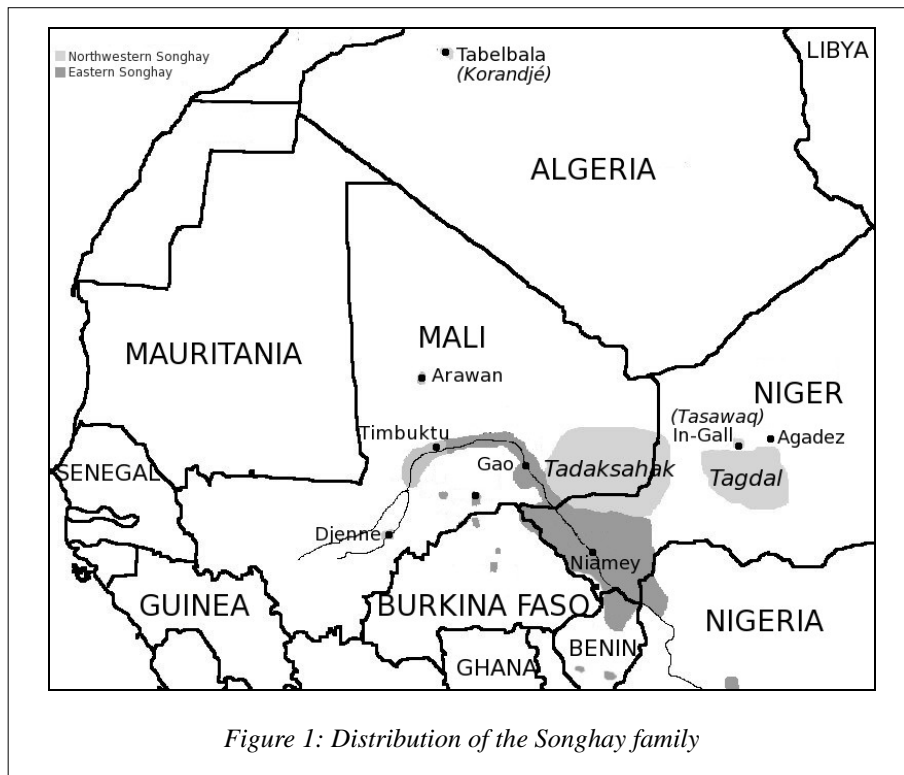
Keywords: language genesis, language contact, historical linguistics, mixed languages, Songhay, Berber, trans-Saharan trade, Tabelbala

1. Introduction.

The problem of the origin of Northern Songhay, a group of languages spoken in the Sahara showing heavy language admixture combining Songhay and Berber elements, has typically been framed in terms of a single encounter: Songhay with Tuareg (e.g. Wolff & Alidou 2001). While adequate to account for most of the data for the varieties of the Azawagh valley, this model can hardly begin to explain the outlier within this group: Korandjé (*kʷara n dzyəy*), a very distinctive Songhay language spoken in the oasis of Tabelbala in southwestern Algeria, a thousand kilometres from the nearest Songhay-speaking community. This language shows Berber influence almost as extensive as in its sisters, but little if any of it derives from Tuareg, and much of it derives from varieties spoken nowhere near it (Souag 2010b), as will be seen below. Nor is it mutually comprehensible with other Northern Songhay languages. Yet examination of the Songhay component demonstrates that it subgroups with the other Northern Songhay languages to the exclusion of the rest of Songhay (Souag 2012; see also footnote 2 here). This forces a re-examination of Northern Songhay's origins.

Equally problematic is this language's location. Korandjé is currently the northernmost language in Africa belonging to a sub-Saharan family, and the only one unique to the Maghreb. Champault's (1969:43) suggestion that it results from Songhay slaves stopping on their way to Morocco is difficult to reconcile with the very small population of Northern Songhay speakers, and the absence of any direct trade routes linking the Azawagh region to Tabelbala. Within the lexical heritage of slavery in the Maghreb, Songhay loans are non-Northern whenever their origin can be determined, and are usually outnumbered by Hausa loans (Souag forthcoming); one would expect any Northern Songhay speakers reaching the area through the general slave trade to have been far outnumbered by speakers of other languages. A more specific account is necessary.

No historical data before the 20th century bears directly on the question of Tabelbala's language, and no archeological survey of this oasis has yet been made. The linguistic data – in particular, the affiliation and lexical composition of Korandjé – is therefore key to the problem. Their analysis yields data that can be linked into the wider context of the history of the trans-Saharan trade, allowing us to propose a scenario for Korandjé's arrival and development.



Songhay is a family of uncertain affiliation – Nilo-Saharan according to Greenberg (1963), a non-genetic combination of Afro-Asiatic and Mande elements according to Nicolai (2003) – spoken around the Niger bend, mainly in northeastern Mali and western Niger (see map, Figure 1). Within Songhay, the Northwestern subfamily (Souag 2012) is spoken at scattered locations along the southern edge of the Sahara. It consists of Western Songhay, spoken at Timbuktu and to its west, and Northern Songhay. Northern Songhay has four members besides Korandjé, all spoken in the desert regions east of the Niger bend (Lacroix 1971; Rueck & Christiansen 1999): Tadaksahak, spoken by nomads in northeastern Mali (Christiansen-Bolli 2010); Tagdal, spoken by nomads in northern Niger; Tasawaq, spoken at the oasis of In-Gall (Alidou 1988; Kossmann 2007); and formerly Emghedesie (now extinct), at the oasis of Agadez (Barth 1851). All of these four languages are heavily influenced by Tuareg; however, there is no unambiguous evidence of Tuareg influence on Korandjé. There are also a few loans from a Western Berber language in Tadaksahak, such as *táašinda* ‘twenty’ (Souag 2010b; Christiansen-Bolli 2010:112, 133). Korandjé was first described by Cancel (1908), while Champault (1969) provides an extensive ethnography; Souag (2010a)

describes the grammar in detail and examines the effects of contact. All Korandjé data cited here was elicited by the author unless otherwise specified¹.

Songhay, and specifically Northern Songhay², is the source of the core grammar and vocabulary of Korandjé. However, most of Korandjé's vocabulary, and a substantial minority of its morphology and syntax, derive from other languages, mainly Berber and Arabic. Neither element is historically uniform. Excluding branches of no relevance to this article, Berber may be subclassified based on shared innovations as follows (cf. Kossmann 1999; Louali & Philippson 2004:122):

- Berber:
 - Western Berber (**w* > *b* / *_C*, **x* > *k* / *_C*, etc.): Zenaga (Mauritania), Tetserrét (Niger)
 - Northern Berber (**β* > *∅*)
 - Atlas Berber: Tashelhiyt, Tamazight (southern/central Morocco)
 - Zenati Berber (**ḳ*, *ǧ* > *š*, *ž*): Tarifit, Figuig, Taznatit... (northern Sahara and further north)
 - Southern Berber / Tuareg³ (**β* > *h*): Tamahaq, Tamasheq, Tamajeq (central Sahara)

As shown in Souag (2010b), the reflexes of **ɣ*, **wC*, **xC*, along with various idiosyncratic changes, demonstrate that loans entered from at least two distinct Berber varieties: one (with reflexes *∅*, *bC*, *kC*) belonging to Western Berber, and one (with reflexes *ɣ*, *wC*, *xC*) belonging to the rest of Berber. Contrast, for example, *tsaksi* 'goat' (Figuig *tixsi*, Zenaga *təkših*) with *tsaxsəyts* 'gourd' (Figuig *taxsayt*). The latter can in turn be subdivided, based on reflexes of **ḳ*, **ǧ*, into Zenati (e.g. *izri* 'to throw' < **ǧr*, *awəzza* 'large dish' < **awəǧra*) and a non-Zenati source (or sources), which includes words showing semantic shifts specific to the Atlas branch (e.g. *fərtəttu* 'swallow (bird sp.)' < 'butterfly / bat', *tsawala* 'collective herd' < 'turn'). A small number of words even show

¹ The author thanks the people of Tabelbala, in particular the Yahiaoui family and Mohamed Larbi Ayachi, and thanks the AHRC for funding part of the fieldwork, as well as the anonymous reviewers for useful suggestions.

² The Northern Songhay languages (including Korandjé) uniquely share a substantial number of grammatical forms not found elsewhere in Songhay, including the imperfective particle *-b-*, the 2nd person plural (*i*)*ndi*, the centrifugal marker **-nan*, the pre-nominal genitive marker *n*, the use of *wane* to form post-head genitives, the causative *-nda* (lost in Tadaqsahak), and the demonstrative and relative marker (*a*)*yo*. For shared innovations supporting this counterintuitive claim, and a list of some uniquely shared lexical items, see Souag (2012).

³ For the subgroup as a whole, the term 'Tuareg' is commonly used and is preferable to autonyms, since Tamahaq, Tamasheq, and Tamajeq all refer to specific Tuareg varieties.

possible signs of Tuareg origin; the best example is *hṛq* ‘flee’⁴ (cp. Tamasheq -*āhrahāy*- ‘to flee, be in a hurry’, Tamajeq *hārḥār* ‘to rush’), since it apparently retains Tuareg *h*, normally corresponding to \emptyset or β elsewhere in Berber, though non-Tuareg Berber cognates have not been found. (A few words have attested cognates only in Tuareg, as seen below, but this is weak evidence at best for a Tuareg source, since there is far more lexical data available for Tuareg than for any other Berber varieties, and since Tuareg preserves many words replaced by Arabic loans elsewhere.) Arabic loans can likewise be subdivided according to: the reflex of **q*, which yields sedentary *q* (probably mediated via Berber or via education) or Bedouin *g*; and the reflex of **j*, which normally yields $\check{z} > z$ but in a few older loans (*gumṣṣ^wq* ‘palm heart’ < *jummār*, *baṇḍainga* ‘eggplant’ < *bāḍinjān*) inexplicably yields *g*, presumably reflecting a dialect not currently attested in the region.

Apart from differences in sound reflexes based on source, Korandjé has undergone extensive sound changes, sometimes making it difficult to recognise regular reflexes. The most important changes to bear in mind are *ər/ar/ur > a*, *ir > ya*, *l > r*; affrication of non-emphatic coronal stops (*t, d > ts, dz*), raising of mid vowels (*e, o > i, u*), loss of vowel length and tone contrasts, and laxing of vowels in final closed syllables (*a / i / u > ə*, or rarely *u > ũ*); see Souag (2010b) for fuller details and examples. Loans that post-date a change are generally spared from it, making it possible in some cases to distinguish later loans from earlier ones. The transcription used for Korandjé follows the usual practices in studies of the region: an underdot indicates pharyngealisation (and *a* = [a̠], contrasting with *a* = [a]), *y* = IPA [j], *š* = [ʃ], *ž* = [ʒ] (the latter two, however, are phonemic only for some speakers, reflecting Arabic influence).

Except where otherwise indicated, sources are as follows: Within Berber, for Ait Atta Tamazight, Amaniss (1980); for Ait Khebbach Tamazight, the author’s fieldnotes; for Figuig, Kossmann (1997); for Ouargli, Delheure (1987); for Tadghaq and Tamahaq, Ritter (2009); for Old Tashelhiyt, van den Boogert (1997); for Tashelhiyt, Destaing (1920); for Taznatit, Boudot-Lamotte (1964); for Tetserrét, Lux (2011); for Zenaga, Taine-Cheikh (2008); for Roman-era Berber, Múrcia (2010). Within Songhay: for Timbuktu and Gao, Heath (1998); for earlier Timbuktu, Hacquard and Dupuis (1897); for Niger Dendi, Tersis-Surugue (1968); for Tasawaq, Alidou (1988). For Hassaniyya Arabic, Taine-Cheikh (1988) is used; other Arabic forms are from the author’s notes.

⁴ A link with Arabic *hṛəb* ‘flee’ would be less regular, due to the absence of *b*. Note, however, that initial *h* may not always be etymological: Korandjé *harya* ‘shoo! (to locusts)’ corresponds to Tamasheq *ārya*, Gao *ariya* ‘shoo! (to sheep)’.

2. Natives or immigrants?

External linguistic evidence strongly indicates that Songhay originated in the Sahel. Excluding Tabelbala, all Songhay languages are spoken along the fringes of the Sahel; the next most northerly permanent Songhay-speaking settlement, Arawan, is over a thousand kilometres to the south, at 19° N, and almost all such settlements are south of 17° N. Proto-Songhay underwent substantial Mande influence (Creissels 1981), and some probable reflexes of these Mande loans are attested in Korandjé: most strikingly 3sg. *a-*, 3pl. *i-*, along with more doubtful comparisons such as existential *bə*, causative *-ndza* (insofar as it reflects reinterpretation of **-ndi*) and basic vocabulary like *kambi* ‘hand’, *bini* ‘heart’, *kuru* ‘skin’, *dzini* ‘tongue’.

Toponymy likewise suggests an external origin. The name of Tabelbala itself is obviously Berber. *awərbəl*, in Korandjé, is a quick-burning shrub < Berber *abəlbəl* (e.g. Bellil 2000b:217) = local Arabic *bəlbəl*. Within Berber and Arabic (but not Korandjé!), the names of tree species are productively placed in the feminine (by circumfixing *ta...-t*) to refer to particular trees; this accounts for the name of the town (Korandjé *tsawərbəts*, Tamazight *tabəlbəlt*, local Arabic *bəlbala*.) The most striking features of the surrounding landscape are also predominantly referred to using terms from Berber (*amrər* ‘erg (dune field)’, cp. Tashelhiyt *amlal* ‘sand’; *ədrə* ‘mountain’, cp. Tashelhiyt *adrar*) or Arabic (*ləħmad* ‘hamada (desert without sand)’); a pass to the southeast is termed *tizyu*, meaningless in modern Korandjé but meaningful in Berber (cp. Tashelhiyt *tizi* ‘pass’). However, since many names of permanent geographical features of the area are from Arabic, this argument is not on its own decisive.

Ethnobiology confirms the point more clearly. If Korandjé had originated in the northern Sahara, we would expect at least some local wild species to have retained Songhay names. The following list covers the commonest wild plants of Tabelbala and its surroundings, with identification based on photographs and translations via Arabic, supplemented by Champault’s work and by Trabut (1935), and updated using African Plants Database (2012).

Plant names of Berber origin:

- ▲ ‘acacia’ (*Acacia tortilis* var. *raddiana*): *əmədi*⁵ < Berber (Old Tashelhiyt *amrad*, Zenaga *əmārād*)

⁵ In Korandjé, final *-i/u* is deleted except prepausally, making it difficult for a learner to determine whether or not a consonant-final token is underlyingly consonant-final or high vowel-final. This is probably why a number of originally consonant-final words have gained a final *-i/u*; cp. ‘skink’, ‘lion’, ‘gundi’ below.

- △ ‘tamarisk’ (*Tamarix africana*, formerly *getula*): *tsamməyts* < Berber (Tashelhiyt *tammayt*, Ouargli *tammayt*; contrast W. Tawellemmet *taməyyāwt*)
- △ ‘retem’ (*Retama raetam*, formerly *Genista*): *tsaməṭəts* < Berber? (probably a Berber diminutive in *ta-...-t*, either of ‘acacia’ or, with metathesis, of Arabic *ṛṛṭəm*)
- △ ‘rue’ (*Ruta graveolens*): *iwaṃi* < Berber (Tashelhiyt *iwermi*, Ouargli *awṛəm*)
- △ ‘desert truffle’ (*Terfezia arenaria*, formerly *leonis*): *tsərṫs* < Berber (Ouargli *tarṫst*, Tamahaq *tarṫst*; pl. *tirṫas* > regional Arabic *tərṫas*)
- △ drinn grass (*Stipagrostis pungens*, formerly *Aristida*): *tsasiyya* < Berber (Tamasheq *təsuyya*, Tadghaq *təsuyye* / *tašūḡe*; contrast Taznatit *tizṣi*)
- △ drinn grass grain (eaten in case of famine): *alləl* < Berber (Tamahaq *ullul*; > regional Arabic *əl-lul*)
- △ thin-stalked reed-like plant (*Panicum turgidum*?)⁶: *tsidirəs* < Berber? (perhaps a doublet of *ddis* ‘*Ampelodesmos mauretanicus*’ < pan-Berber **dls*, although the latter plant does not look all that similar, and grows only in irrigated areas)
- △ *Tetraena alba* (formerly *Zygophyllum album*): *tsifərṫəz* < Berber (Touat *tabəlkozt*, perhaps hybridised with a cognate of Tamahaq *fāzzaman* ‘*Zygophyllum simplex*’)
- △ *Traganum nudatum*: *tsərəyts* (Tamahaq *terāhit*)⁷
- △ colocynth (*Citrullus colocynthis*): *tsagərrəts* / *tsagərrərts* < Berber (Ouargli *tažəllət*, Tahaggart *tagəllət*, Roman-era Berber *gelela*)
- △ Saharan camomile (*Brocchia cinerea*, formerly *Cotula*): *tsiməkkərts* < Berber (Tamahaq *takkilt*, Tashelhiyt *tiklilt*)

Plant names of Arabic origin:

- △ fagonbush (*Fagonia* sp.): *ṭṭlihiyya* < Arabic *aṭ-ṭulayḥah* ‘little acacia’
- △ henbane (*Hyoscyamus muticus* subsp. *falezlez*): *ləbtsəyṃa* < Arabic (regional *lə-btīma*, *lə-bṭəyṃa*)
- △ *Launaea arborescens*: *mm^wəlbəyṃa* < Arabic ‘*umm lubaynah*’ ‘mother of little milk’
- △ *Randonia africana*: *bu-xlal* < Arabic (regional *idem*)
- △ *Pergularia tomentosa*: *əḷəḷga* < Arabic *al-ḷalqah*
- △ *Otoglyphis pubescens* (formerly *Chlamydophora*): *əlwəzwəza* < Arabic (regional *idem*; cp. regional Arabic *wəzwəz* ‘to have a slightly sharp taste’)

⁶ While *Panicum turgidum* is not a reed, it resembles reeds in its woodiness and in the shape of its clusters.

⁷ Tuareg *h* is reflected as Ø in most of the rest of Berber.

- △ daisy (*Endopappus macrocarpus*, formerly *Chrysanthemum macrocarpum*): *əlgəhwan* < Arabic *al-’uqhuwān*
- △ *Ephedra alata*: *əlʕlanda* < Arabic *al-ʕulandāh*
- △ *Fredolia aretioides*: *ddgaʕ*, *ʕʕəlliʕ* < Arabic (regional *idem*; cp. *daqʕā* ‘earth’, *ʕalʕā* ‘barren sand’)

None of these terms derives from Songhay. Extending the list to rarer varieties reveals only one clear exception: *subu* ‘grass’ (not listed above; cp. Gao *subu*), whose primary referent grows only in irrigated land, but which is also extended to a wild species, *ləhmad n subu* ‘hamada-grass’. A couple of compound wild plant names are Songhay or partly Songhay in form, but obviously calqued on Arabic and/or Berber: *zəny n aḍir* ‘black nightshade’ (lit. ‘jackal’s grape’, like regional Arabic *ʕnəb-əddib*; cp. Tamahaq *tahart n-əbbaggi*, lit. ‘jackal’s fig’) and *ban n bənyu* ‘*Paronychia arabica*’ (lit. ‘slave’s head’, like regional Arabic *ras-əlʕabd*; cp. Tamahaq *ahəyyuf-n-əkli*, lit. ‘slave’s tangled hair’).

For land animals, the following list – based on repeated elicitation using Le Berre (1989; 1990) – may be taken as nearly exhaustive (although for reptiles some Arabic loans of doubtful status have been omitted):

Reptiles:

- △ dab-lizard (*Uromastix acanthinura*, formerly *acanthinurus*): *agərzəm* < Berber (Taznatit *agizam*, Tamahaq *agəzzāram*) with metathesis; also borrowed into some other Songhay varieties, e.g. Gao *agažirim*
- △ chameleon: *lbuya* < Arabic, *mm^wəlahbəb^{wəš}* < Arabic (regional *idem*)
- △ gecko: *aʕʕəd / aʕʕət* < Berber?
- △ lizard: *tazməm^{wits}* < Berber, cp. Tashelhiyt *tazəlmumm^{wit}*, Taznatit *tazləmmuyt*; Tamahaq *tahəlləmoyt* ‘skink’; borrowed into regional Arabic *zərmumiyya*
- △ skink: *aʕankri⁸* < Berber; cp. Old Tashelhiyt *asmrkal* < **a-srm-kal*
- △ monitor lizard (*Varanus griseus*): *aka*, *akka* < Berber, cp. Tashelhiyt *aka*, Figuig *ʕa*
- △ viper: *gunzi* < Songhay, cp. Gao *gondi*
- △ snake (non-venomous): *babainga⁹* < Berber, cp. Tashelhiyt *ablinka* ‘vieux serpent’

Mammals:

⁸ Recall that *ər* > *a* is regular; this reflects **asmrkal* > **aʕmkər* > **aʕankər* (place assimilation) > *aʕankri* (see discussion of *-i/u* gain above.)

⁹ This comparison is irregular – *ablinka* should have yielded **abrinka*. The form is perhaps influenced by *imga* ‘scythe’.

- △ hedgehog: *anatsim* < Berber? (no fully adequate comparison; perhaps cp. Tashelhiyt *inikf*)
- △ bat: *ṣəḥḥat-əllil* < Arabic (local Arabic *idem*)
- △ jackal: *zənyu* < Songhay, cp. Gao *nzoŋo*
- △ fox: *tsaʕləb* < Arabic *θaʕlab*
- △ fennec: *əkʷasi* < Berber, cp. Ait Atta *aqʷəršan*, Taznatit *ayəršiw*, Tamahaq *ǎxorhi*, Tensart *ǎkorsi*, Zenaga *äyəršäy*
- △ polecat: *tsafəšfəš* < Berber, cp. Tashelhiyt (?) *asəfš*; borrowed into regional Arabic *šəfšiyya*
- △ cat: *mʷəš*, shared between all three families but probably of Berber origin; cp. Tamahaq *mošš*, Tashelhiyt *amušš*, Tetserrét *məšš*, regional Arabic *mʷəšš*, Gao *muusu*
- △ hyena: *kwəra* < Songhay, cp. Gao *kooro*
- △ lion: *izəmmi* < Berber, cp. Tashelhiyt *izəm*
- △ leopard: *nəmər* < Arabic *an-namir*
- △ oryx: *ləmha* < Arabic *al-mahāh*
- △ gazelle: *azənkʷəd* < Berber, cp. Tashelhiyt *azənkʷəd*, Tamahaq *ahənkād*, Zenaga *ǎžānkuḏ*, Tetserrét *qžonkəd*
- △ Barbary sheep: *lərwi* < Arabic *al-ʿurwiyy*
- △ mouse, rat, gerbil, jerboa: *ayərza* < Berber, cp. Tashelhiyt *ayərda*
- △ porcupine: *ḏərban* < Arabic *aḏ-ḏaribān* (local Arabic *ḏərban*)
- △ gundi: *igiri* < Berber? (cp. Tamahaq *éǎǎǎ* ‘gros rat foncé’)
- △ hare: *tsyarzəz* / *tsyarzüz* < Berber, cp. Zenaga *täyərzaZ*, Figuig *tayərzišš*

Birds will not be considered in detail here, due to difficulties in species identification, but no simplex Songhay retentions have been observed in that domain either, except for generic *tsiruw* ‘bird’. The only flightless bird in the region – *asiyəd* ‘ostrich’, now locally extinct but formerly culturally important – is a Berber loan (Tashelhiyt *asid*).

Thus the only wild species with simplex Songhay names are generic *tsiruw* ‘bird’; *kwəra* ‘hyena’, *zənyu* ‘jackal’ (both predators attacking herds); *gunzi* ‘viper’. The only so far inexplicable terms examined are *tsidirəs* ‘reed sp.’, *aššəd* ‘gecko’ and *anatsim* ‘hedgehog’. However, none of these terms find any plausible comparison in Songhay; and, within Korandjé, initial *V-* and *tsV-* are common in Berber loans but very rare in inherited Songhay terms, so these are not good candidates for retentions.

A particularly important use of the natural environment is hunting and gathering; even in the 20th century, the supplementary nourishment this provided could be crucial in times of famine, and any non-agriculturalist population inhabiting the oasis would have found it vital. Champault

(1969:16–18, 162–163) lists animals hunted for food, mainly by trapping: gazelles (< Berber – B, for short) and formerly ostriches (B) by men; lizards (B), skinks (B), dab-lizards (B), jerboas (B), fennecs (B), and gundis (B) by boys; sporadically, locusts (B¹⁰) by the whole family. Birds are hunted primarily in the gardens, by boys, in order to reduce their inroads upon the crops; so their hunting as practiced rather constitutes a marginal aspect of agriculture. Among wild plants, the desert truffle (B) was gathered for food (it remains an important source of cash), along with drinn (B), *Randonia africana* (A), *Traganum nudatum* (B), and *Panicum turgidum* (B?); other gathering, for firewood or herbal use, falls beyond our current scope. The species involved have already been listed above; associated verbs and instruments include: *hədz* ‘to trap’ < Songhay (cp. Gao *hiri*); *ibbi* ‘gather (e.g. truffles)’ < Berber, cp. Tashelhiyt *bbi* ‘to cut’; *šəyyəd* ‘hunt’ < Arabic (regional *idem*); *ləqšəyba* / *tsaqšəybəts* ‘trap (n.)’ < Arabic *qušaybah* ‘little cane’; *kə* ‘to hit, to shoot’ < Songhay (cp. Gao *kar*); *irəd* ‘slingshot’ < Berber (cp. Tashelhiyt *ildi*). (Guns and metal traps are excluded from the list, for obvious reasons.) This vocabulary consists almost entirely of Berber loans, with only a couple of Arabic loans (‘*Randonia africana*’, ‘trap’, ‘hunt’), and only two very general Songhay verbs (‘to trap’, ‘to shoot / hit’).

In short, Korandjé has often retained early Berber loans for wild species, despite the regional shift to Arabic as the language of wider communication, but has retained no Songhay terms, except for highly generic terms or common carnivores which attack people and herds. This does not support the hypothesis of *in situ* origin, but corresponds to what we would expect if they reached the area from the Sahel. Berber loans are particularly dominant in hunting and gathering vocabulary, suggesting that hunting and gathering knowledge specific to the northern Sahara was learned from indigenous Berber-speakers in the new environment, and henceforth retained.

3. Nomads or farmers?

We have shown that Korandjé was probably brought to Tabelbala from the Sahel at a period when Tabelbala was already familiar to Berber speakers. We therefore expect any vocabulary retained from Songhay to refer to practices continuously familiar in Tabelbala since this time. The use of a loanword does not constitute evidence in itself for the contrary, of course – no doubt Korandjé speakers have always had teeth, even though they refer to them by a word of Berber origin (*tsiymasən*; cp. Ait Atta *tuymas*). However, the systematic use of Berber or Arabic vocabulary throughout a semantic field, to the exclusion of

¹⁰ *tsuṃa* < Western Berber, cp. Tetserrét *təmqri*, Zenaga *toṣṣmuriṣd*; contrast Tashelhiyt *tamuryit*.

Songhay vocabulary, strongly suggests that it has not been continuously familiar to the speakers.

As shown in Souag (2012), the speakers who arrived in Tabelbala were already familiar with sedentary architecture; indeed, the name of the language itself (*kʷara n dzyəy*), along with that of one of the villages (called Zaouia in Arabic), derives from inherited *kʷara* ‘town, village’. At present, aside from the cash economy, Korandjé speakers live primarily by farming, supplemented by a little herding (very limited in scale and in range); their practices were described in detail for the 1950s, before government jobs become available, by Champault (1969). The lexicon, however, suggests that when they arrived the balance was tilted in the opposite direction.

In sharp contrast with hunting and gathering, the lexical domain of herding has preserved a goodly number of Songhay terms. All generic terms for stock animals are of Songhay origin, even though cows and horses are no longer found in the oasis: *išni* ‘goat/sheep’ (cp. Gao *hančín, hinčín*), *yu* ‘camel’ (cp. Gao *yoo*), *hawí* ‘cow’ (cp. Gao *haw*), and (for transport) *fərka* ‘donkey’ (cp. Gao *farkey*), *bəyri* ‘horse’ (cp. Gao *bari*). ‘To herd’ is now *isrəh* < Arabic *ya-sraḥ*, but the proto-Songhay verb **kud* ‘to herd’ (Gao *kur*) has been retained with a semantic shift, yielding *kʷədz* ‘to stare, look closely’¹¹. A couple of milk products have retained Songhay names: *huwwa* ‘milk’ (cp. Gao *waa*), *gi* ‘ghee’ (cp. Gao *jii* ‘butter, cream’), along with *şa* ‘to milk’ (cp. Gao *sarow*). The principal predators on herds are (or were) jackals and hyenas, both Songhay as seen above. Clearly the people who brought Songhay to Tabelbala practised herding, and used stock animals for meat, milk, and transport.

Farming too has preserved enough Songhay terms to confirm speakers’ familiarity with the practice, although the proportion of retentions is a good deal lower – all but the two most vital crops are loanwords, along with most of the instruments and actions. *lambu* ‘garden’ (cp. Hombori *lamb-ò* ‘enclosed vegetable garden’, Niger Dendi *lambù* ‘garden’, Gao *lombu-lombu* ‘to be soaked with water’¹²) and *kumu* ‘hoe’ (cp. Gao *kuumu*) indicate some familiarity with basic agricultural techniques, while *həyni* ‘grain’ (cp. Gao *hayni* ‘millet’), *akama* ‘wheat’ (cp. Gao *alkama*, ultimately from Arabic *al-*

¹¹ As an anonymous reviewer notes, the bridging sense was presumably ‘to tend, watch over’. A similar semantic shift has occurred in local Arabic: *rafi* ‘to look’ corresponds to classical Arabic *rāfi* ‘to regard’, the main sense of whose root *rʕy* is ‘to pasture, to tend (animals)’.

¹² This form is from Prost (1956). Skinner (1968) takes it to be the source of Hausa *lambū* ‘an irrigated farm or garden’; the latter is in turn probably the source of Tetserrét *ilambu*. Despite the rhyme, there is no regular way to connect this to Timbuktu *jombu* ‘garden (with melons, etc.)’.

*qamh*¹³), *fʷəf* ‘to grind’ (cp. Gao *fufu*) more specifically suggest previous involvement with grain processing. *kungu* ‘date palm’ derives from Songhay ‘dour palm’ (Souag 2012), cp. Gao *kangow*; this indicates that the speakers were not familiar with date palms, unsurprising in an early Sahelian setting, but were familiar enough with dour palms to draw the parallel. Dour palms grow both in North Africa and in the Sahel, but are not found in Tabelbala, much less in the even more arid lands to its south. *gungʷa* ‘chicken’ (cp. Gao *gorgo*, Timbuktu *gorongo*), reared only in hutches by the gardens and incapable of surviving alone in such a climate, also suggests settled farming rather than herding. We may conclude that the people who brought Songhay to Tabelbala had some experience of agriculture, but were not familiar with most of the plants used in this rather different climate.

The people who brought Songhay to Tabelbala, like their descendants today, thus had a mixed economy combining farming and herding, but with a rather greater emphasis on herding and without the date palm orchards which form the centrepiece of modern regional agriculture. Given that the area stretching between Tabelbala and Timbuktu is almost entirely devoid of locations where agriculture is practicable (or where dour palms grow), this makes it quite unlikely that these people reached Tabelbala gradually in the course of nomadism and then settled down. Rather, we have to assume that they went directly from a location in the Sahel, or at least along its fringes, to Tabelbala. Considering how much more fertile the Sahel is, and the difficulty of traversing a thousand kilometres or more of barren desert, it is difficult to imagine that any population would make such a move voluntarily.

4. Peeling back layers. The names of New World crops provide a crude *terminus ante quem*. Like almost all other crops except grain, these are consistently borrowed from regional Arabic or Berber, rather than reflecting Songhay forms: *lakʷbʷal* ‘maize’ < Arabic, *lmaṭiṣa* ‘tomato’ < Arabic, *ifərfər* ‘pepper’ < Berber (cp. Tashelhiyt *ifəlfəl*), *bsəybəs* ‘squash’ < Arabic, *lbaṭaṭa* ‘potato’ < Arabic, *lkawkəw* ‘peanut’ < Arabic < French *cacahuette* (the latter two were hardly known in the oasis before independence); this suggests that Korandjé reached the oasis before these became widespread. However, it is possible to improve upon this by considering the driving forces behind lexical stratification in more detail.

As discussed in the introduction, the Berber element of Korandjé is not historically uniform: at least three different sources can be distinguished.

¹³ As a loan from Arabic which must have come in before proto-Northern Songhay acquired the phoneme *q*, this word provides a *terminus post quem* for Korandjé’s split from the rest of Songhay. For details, see discussion in Souag (2012).

Among these, loans from Northern Berber are relatively easy to explain. Permanent settlements speaking Southern Moroccan varieties begin only about 200 km to the northwest, and before the decline of nomadism in the late 20th century Tabelbala was regularly visited by Ait Atta nomads speaking such varieties, to whom the oasis sometimes paid tribute, and from whom some local families claim descent. The Zenati-speaking oases of Gourara and (formerly) Touat lie a little further away, but in recent centuries were linked to Tabelbala along the pilgrimage route from Tafilalt (Abitbol 1980:10); to this day, the town of Mlouka in Touat is dominated by a family which fled Tabelbala around 1600 (Champault 1969:31), and Belbali families are also found in Gourara¹⁴ (Bellil 2000a:202). However, at present the regional language of communication between people not sharing a common native language is Arabic; Korandjé speakers do not learn Berber, and Berber speakers learn Korandjé only if permanently settled in Tabelbala. These loans must have taken place at a period when Berber was still reasonably common as a second language, and hence at least predate the 20th century. More obviously, they must postdate the arrival of Songhay speakers in Tabelbala.

Loans from Western Berber, on the other hand, necessarily reflect an earlier period. The last remaining Western Berber languages are spoken in southwestern Mauritania and central Niger, some 1800 km away from Tabelbala, in regions with no known historical commercial ties to Tabelbala. Moreover, those languages are strictly community-internal, spoken by small groups with little power – a situation unlikely to make them sources of loans. Yet within the oasis itself, one of the three pre-colonial villages retains a Western Berber name, meaningless in modern Korandjé: *yami*¹⁵, cp. Zenaga *i?rmi* ‘sedentary village (particularly of Black Africans)’, cognate with Tetserrét *aɾəm*, Ait Khebbach Tamazight *iɣrəm*. An undated but clearly premodern tombstone in the neighbouring village of K^wara / Zaouia (Figure 2) gives a Berber woman’s name, <tājḍ>, that seems to exemplify the Western Berber change *z* > *ž*; perhaps cp. Zenaga *tāwāžud* ‘hen’ (for the semantics, cp. the Kabyle woman’s name Farroudja, lit. ‘chicken’ in Arabic). The Idaw ṢAlī tribe of Mauritania, whose location and name suggests that they would once have spoken a Western Berber language, claim to have first reached Mauritania from Tabelbala (Ould Khelifa 1998:70); at Tabelbala itself, oral

¹⁴ At least three Songhay loans are used in Taznatit (Gourara Berber), as shown in Souag (2012). One possibility is that these loans reflect early contact with Northern Songhay there, a possibility tentatively suggested by Kossmann (2004). However, these loans do not include any features that would allow us to distinguish whether their source is Northern or Southern Songhay, and in the latter case they would merely reflect contact at a later period via trade with Timbuktu. Further data is needed.

¹⁵ Recall that *ir* > *ya* regularly. The reflex of proto-Berber **y* as Ø indicates a Western Berber source, and the specific vocalisation required is unique to Zenaga.

traditions recorded by Champault link its founding with the Almoravids and the Lamtūna, also from Mauritania (Champault 1969:23, 27). The semantic distribution of Western Berber loans confirms the impression that they date back at least to the community's founding, rather than to later periods.

As we have seen, herding vocabulary in Korandjé is unusually conservative, retaining a substantial proportion of Songhay terms. This stability implies that any loanword stratum well-represented in this domain is likely to reflect an especially

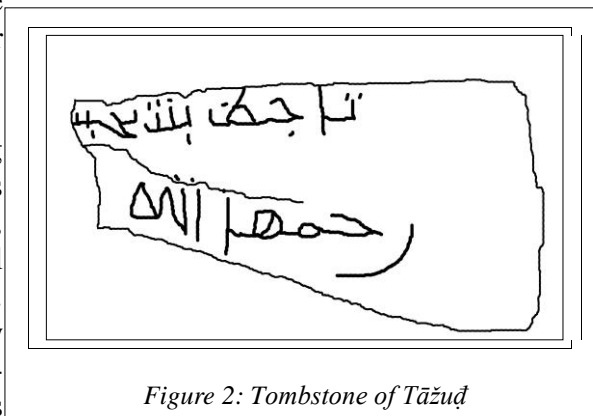


Figure 2: Tombstone of Tāzuḍ

close, and disruptive, contact situation – a category in which the speakers' probably involuntary crossing of the desert and its aftermath, discussed above, surely has the highest ranking. Camels were placed in the care of Arab Bedouins, rather than being kept in the oasis, so one would expect their terminology to be less conservative. The most important items were donkeys, for transport, and goats, for food: Champault (1969:156) lists the village's stock as 120 donkeys, less than a thousand goats, a few sheep, 20-30 camels. Goat and donkey terminology should therefore be the best conserved. The results are as follows:

– *išni* 'goat/sheep' < Songhay:

- ▲ *tsəkši* 'she-goat' < Western Berber, cp. Zenaga *təkših*, Tetserrét pl. *takšin*; contrast Figuig *tixsi* 'small livestock'
- ▲ *amkkən* 'he-goat' < Berber, cp. Zenaga *ämkän* 'young herd animal'
- ▲ *tsarug^{wəḍ}* 'young she-goat' < Berber, cp. Zenaga *täygäḌ* < **talgaḍt*; contrast Tetserrét *ligoḍ* 'calf', Tamasheq *talājott* 'young female camel'
- ▲ *ḥaydug^{wa}* 'young she-goat' < Arabic?
- ▲ *tsazəmmənts* 'ewe' < Berber
- ▲ *izumə* 'ram' < Berber, cp. Zenaga *ižiḥmär* 'he-lamb', Tashelhiyt *izimər*, Figuig *izmər*
- ▲ *tsizuməts* 'lamb' < Berber, cp. Zenaga *tžiḥmärt* 'she-lamb'

– *fərka* 'donkey' < Songhay

- ▲ *ayyər* 'he-donkey' < Western Berber, cp. Zenaga *aḥžiy* < **aḥyil*; contrast Tashelhiyt *ayyul*, Figuig *ayyul*
- ▲ *tsayyarts* 'she-donkey' < Western Berber, cp. Zenaga *taḥžəL* < **taḥyilt*; contrast Tashelhiyt *tayyult*

Goats and donkeys, the commonest stock of the oasis, both include unambiguous Western Berber loans, and do not include unambiguous Northern Berber loans. For sheep, the origin of the loans is ambiguous. Goats, sheep, and camels are slaughtered ($q^wəs$ < Songhay, cp. Timbuktu *koosu*) for meat (*həmu* < Songhay, cp. Gao *ham*), but they also provide dairy products, notably:

- △ *huwwa* ‘milk’ < Songhay
- △ *ak^{wff}wəy* ‘fresh milk’ < Berber, cp. Tashelhiyt *ak^{wf}fay*; Zenaga *ä?kuffih* ‘be diluted (of milk)’
- △ *adəs* ‘colostrum’ < Western Berber, cp. Zenaga *ädi?š*; contrast Tashelhiyt *adəxs*, Figuig *adxəs*, Kabyle *adyəs*, Tamasheq *edäyäs*
- △ *gi* ‘ghee’ < Songhay
- △ *tsirssi* ‘butter/cream’ < Berber, cp. Tashelhiyt *talussi* ‘scum from melted butter’, Zenaga *ta?rS* ‘solidified camel fat’; contrast Figuig *tlussi* ‘butter’, Taznatit *tlussi* ‘fromage frais’

Here, too, the only Berber loan whose source is unambiguous derives from Western Berber.

An apparent exception actually proves the rule. The livestock of the village was pastured in a common herd (*tsawala* < Berber), as in southern Morocco (Tashelhiyt *tawala*). The retention of the *l* suggests that this is a more recent loan, and comparative data confirms this: as noted previously, the word reflects a specifically southern Moroccan semantic extension of the more widely distributed Berber word *tawala* ‘turn’, since in this institution the owners’ families take turns to do the herding. As such, it is a doublet of Korandjé *tsara* ‘time (instance)’, in which the *l* has been regularly changed to *r*. Sound changes and semantic changes both point to the conclusion that the institution of communal village herding was borrowed from southern Morocco at a more recent stage than the Western Berber loans discussed.

A priori, one would expect body parts to be even more conservative, since the reality they reflect is not subject to significant change. In fact, while substantial borrowing has occurred in this domain, Songhay terms have been maintained for the head and limbs (*bənyu* ‘head’, cp. Gao *boŋ*; *gəndzi* ‘neck’, cp. Gao *jinde*; *kambi* ‘hand’, cp. Gao *ka(m)be*; *tsi* ‘foot, leg’, cp. Gao *čee*), the sense organs (*mu* ‘eye, face’, cp. Gao *moo*; *mi* ‘mouth’, cp. Gao *mee*; *nini* ‘nose’, cp. Gao *niine*; *hənga* ‘ear’, cp. Gao *haŋa*; *dzini* ‘tongue’, cp. Gao *deene*), some primary divisions of the trunk (*gungu* ‘belly’, cp. Timbuktu¹⁶ *gunḡu*; *kankəm* ‘breast’, cp. Timbuktu *kaŋkam* ‘suckle’), major tissue types

¹⁶ Heath (1998).

(*kuru* ‘skin’, cp. Gao *kuuru*; *habi* ‘wool, hair’, cp. Gao *haabu* ‘cotton’; *hamu* ‘flesh, meat’, cp. Gao *ham*; *bidzi* ‘bone’, cp. Gao *biri*; *kudzi* ‘blood’, cp. Gao *kuri*), one or two internal organs (*bini* ‘heart’, cp. Gao *bine*, and arguably *tsassa* ‘liver’, cp. Gao *tasa* < Berber), one joint (*kənga* ‘knee’, cp. Gao *kanje*), and one sex organ (*qululu* ‘penis’, cp. Tasawaq *qòlòlìyò*, with various loanword synonyms). The best conserved body part terms thus seem to be unique or paired, externally visible features clearly separable from the trunk and not subject to euphemism, along with tissue types. The known loanwords that satisfy these criteria are:

- ▲ *ninya* ‘forehead’ < Berber, cp. Figuiq *tanyərt*, Taznatit *tannaht*, Zenaga *ənäyr*
- ▲ *aštəq^w* ‘cheek’ < Arabic *šudūq* ‘sides of the mouth’, perhaps via Berber
- ▲ *tsimən* ‘eyelash / eyebrow’ (speakers disagree on the meaning) < Berber, cp. Tashelhiyt *timiwin* ‘eyebrows’, Figuiq *tammi* ‘eyelash’, Zenaga *təmaʔn* ‘eyebrows’
- ▲ *izbaḏən* ‘eyebrow / eyelash’ (speakers disagree on the meaning) < Berber, cp. Tamajeq *azəbəḏbəḏ* ‘eyelash’
- ▲ *aḏrəs* ‘lip’ < Berber, cp. Taznatit *adliṣ*; contrast Tamasheq *aḏəloy*
- ▲ *tsaməts* ‘beard’ < Berber, cp. Tashelhiyt *tamart*, Zenaga *təʔMərt*; contrast Figuiq *tmart*
- ▲ *ššwarəb*, *ššwabiq* ‘moustache’ < Arabic *šawārib*
- ▲ *tsaskəwts* ‘horn’ < Western Berber, cp. Zenaga *təskəh*; contrast Tetserrét *əsk*, Tashelhiyt *isk*
- ▲ *ddrəf* ‘arm’ < Arabic *ad-ḏirāf*
- ▲ *aḏərrɪ* ‘wing’ < Berber, cp. Tashelhiyt *ifər* ‘big wing’, Figuiq *afriw*, Zenaga pl. *əfrūn*
- ▲ *tsaskməts* ‘elbow’ < Western Berber? cp. Tashelhiyt *tiymərt*, Zenaga *iʔmmär*, Tetserrét *timirt*
- ▲ *tsaskkərts* / *tsikkərts* ‘palm’ < Berber, cp. Tashelhiyt *tidikəlt*, Zenaga *əḏiḡiy*
- ▲ *tizza* ‘udder’ < Berber, cp. Tashelhiyt *tizi* ‘inner breast’, Zenaga *tūziḥ*, Tamasheq *tizzi*
- ▲ *əbəḏ* ‘navel’ < Berber, cp. Tashelhiyt *abuḏ*, Zenaga *būt*
- ▲ *tsama* ‘thigh’ < Western Berber, cp. Zenaga *tämäh*, Tetserrét pl. *təməwin*; contrast Tashelhiyt *tayma*, Tamasheq *tayma*
- ▲ *lʃanqub* ‘ankle’ < Arabic *lʃurqūb* ‘Achilles’ tendon’
- ▲ *awrəz* ‘heel’ < Berber, cp. Tashelhiyt *awərz*, Zenaga *əwrəz*
- ▲ *lmuxx* ‘brain, marrow’ < Arabic *al-muxx*

As expected on the assumption of conservatism, these are mainly Berber, although Arabic has made a few inroads. Before the borrowing of *ddrəf* ‘arm’, *kambi* ‘hand’ was probably polysemous with ‘arm’, like cognates in other Songhay languages. Of the Berber loans, ‘thigh’ is unambiguously

Western Berber for phonetic reasons; ‘horn’ (again connected to pastoralism) is most likely Western Berber, since no Berber language other than Zenaga is reported to use the feminine form as a default (see data in Souag 2010b); and the problematic form of ‘elbow’ can best be explained in terms of a hypothetical form **tasəymərt* > **tasxmərt*, combining the Berber feminine instrumental noun form *ta-səCCəC-t* with the pan-Berber root **ymr* ‘elbow’, in which case it displays the Western Berber sound shift **xC* > *kC*. In contrast there are no cases of a Berber loan in this class displaying sound shifts that rule out a Western Berber origin, and only two words without Zenaga counterparts. Body part terminology too, therefore, supports the hypothesis that Western Berber influence preceded that of other varieties.

Insofar as borrowing is used to fill gaps in the vocabulary, the borrowing of colour terms is expected to conform approximately to Berlin and Kay’s (1969) hierarchy. Listing the colours in that order, we find:

- ▲ I: black: *bibəy* < Songhay, cp. Gao *bibi*
- ▲ I: white: *kwəɾəy* < Songhay, cp. Gao *kaarey*
- ▲ II: red: *tsirəy* < Songhay, cp. Gao *čirey*
- ▲ IV: yellow: *yəɾa* < Western Berber, cp. Zenaga *yärä*, Tetserrét *ər-ən*; contrast Tashelhiyt *awray*
- ▲ IV: green/blue: *zəgzəg* < Berber, cp. Tashelhiyt *azəgzaw*; contrast Zenaga *zəgzug* ‘grey, yellow, bright orange’
- ▲ V: green: *(lə)xɔɔɾ* < Arabic *al-’axɔɔɾ*
- ▲ V: blue: *zəɾɾig* < Arabic *’azraq*
- ▲ VI: brown (henna-coloured): *hənnawi* < Arabic *hinnā-w-iyy*
- ▲ VII: grey: *gʷəɔɔɾ* < Korandjé *agʷəɔɔɾ* ‘dust’ < Berber, cp. Tashelhiyt *agəɔɔɾ* ‘dust’, Tetserrét *agəɔɔ* ‘dust’

The first loanword on this hierarchy is demonstrably from Western Berber, once again conforming to the hypothesis that Western Berber influence preceded that of other varieties.

5. Nature of the interaction. Given that Western Berber loans seem to represent the earliest major loan stratum in Korandjé, the nature of the interaction between Western Berber speakers and pre-Korandjé speakers is of particular interest. Four vocabularies are particularly suggestive in this regard: agriculture, religious terminology, family, and clothing.

While the domain of agriculture is difficult to compare in detail, since modern Zenaga speakers are not themselves agriculturalists, it nevertheless provides one clear-cut example of a Western Berber loan: *azrəg* ‘cowpeas’ (cp. Zenaga *ədyägi*, Hassaniyya *ədlägän*; contrast local Arabic *tadəllaxt* < Berber,

Tamasheq *tadällaqq*). Cowpeas are one of the few local crops that are equally common in the Sahel.

In religion, excluding some calques, only the basic verbs *gənga* ‘to pray’ (cp. Gao *jin̄gar*), *həymu* ‘to fast’ (cp. Gao *mee-haw*), *tsyu* ‘to read’ (cp. Gao *čew*), *q^wəs* ‘to slaughter, to sacrifice’ (cp. Timbuktu *koosu*), *fəg* ‘to bury’ (cp. Gao *fiji*) are retained from Songhay, along with *guzu* ‘ditch, grave’ (cp. Gao *guusu*). Etymologically, one might add *həllu^w* ‘to be recklessly jubilant’, from a term significant in traditional Songhay possession dances, cp. Gao *hollo* ‘be crazy, go into a trance’, *holley-hoorey* ‘spirit possession, trance’. While most religious terms besides those above are Arabic, however, a significant number of Berber loans have survived. Among Arabic loans in this domain transmitted via Berber, only one appears specific to Western Berber: *tsagərɔdəs* ‘paper’ < *qirtās*, cp. Zenaga *taɔgərɔdaS*. Other varieties use forms with *k* rather than *g*, and with no final *s* (see Souag 2010b). Purely Berber religious terms – including at least four of the five daily prayers – are more informative:

- △ *g^wəm* ‘swear’, cp. Old Moroccan Berber *igammən* ‘oaths’ (Boogert 1997:113)
- △ *aɾaɾa* ‘divine reward’, cp. Zenaga *tāraZ*, Ouargli pl. *arrazən*
- △ *ag^wəd* ‘genie’, cp. Zenaga pl. *ugruɖan* ‘demons’, Tetserrét *ogrəd*
- △ *(l)məndər* ‘dawn prayer’; ? cp. Zenaga *tum̄mundaɾah* ‘to come in the evening’, Tamasheq *aməndər* ‘to return to camp before nightfall’
- △ *təzbərrən* ‘noon prayer’ < Western Berber, cp. Zenaga *təzbarən*; contrast Tashelhiyt *tizwarən*
- △ *tsak^wzzən* ‘afternoon prayer’, cp. Tashelhiyt *tak^wzin*, Zenaga *takkužən*
- △ *tsyunəs* ‘sunset prayer’, cp. Tashelhiyt *tiwut̄si*, Zenaga *tnut^yšaʔn*
- △ *tsyadəs* ‘night prayer’, cp. Tashelhiyt *tiyiɖəs*, Zenaga *təN^yudaššən*

Of these items, ‘noon prayer’ is unambiguously Western Berber, and none is unambiguously Northern Berber; every form attested in modern Berber at all is attested in Zenaga.

The domain of clothing, which ties into religion via modesty codes, is not very conservative either; the only clear Songhay retentions are *dəb* ‘to wear, to cover’ (cp. Gao *daabu*), *tsəngu* ‘farmer’s smock’ (cp. Gao *tun̄gu* ‘women’s body covering’), and *fug^wra* ‘hat’ (cp. Gao *fuula*). The etymologies of a couple of Berber loans suggest an initially fairly casual attitude to clothing. *zga-yu* ‘clothing (pl.), cloths’ derives from older *dzgayu* (Cancel 1908), which is best compared to Zenaga *ədgər* ‘to be decorated’, *ədəggər* ‘decoration’. *(a)kaba* ‘shorts, loincloth’ derives from a widespread Berber form usually referring to a rather larger garment, cp. Tamahaq *ekebər* ‘broad tunic’, Siwi *akbər* ‘robe’. Modern Belbalis dress like other northern Saharans; the terminology of traditional clothes is predominantly Berber, and either

specifically Northern (e.g. *tsəxsəbts* ‘robe’) or too widely shared to be helpful here (e.g. *ikaži* ‘turban’). However, one word is striking for its resonances: *sməḍ* ‘to cover one’s face’, cp. Zenaga *yä-šmaḥḍa*, with no known cognates elsewhere in Berber. The medieval Ṣanhāja were, notoriously, the *mulaḥḥamūn* – the veiled men – like today’s Tuareg. Along similar lines, though outside of Western Berber proper, *ayarər* ‘melhafa (woman’s cover garment)’ is comparable to Tamasheq *iḃlalān* ‘women’s garment including a veil’ – a word reported only in the Tuareg varieties of the Timbuktu and Gourma Rharous area, unless Tamajeq *əḍalil* is taken as irregularly cognate.

Family and household relationships present a very mixed picture, in which only two domains continue to be dominated by Songhay. Somewhat shockingly, by far the most conservative subdomain is ownership relations, all of which are Songhay:

- △ *šannu* ‘master, white¹⁷ man’ < Songhay, cp. Timbuktu *san*
- △ *nana* ‘mistress, white woman’ < Songhay; cp. earlier Timbuktu *nana*
- △ *bannu* ‘male slave, black man’ < Songhay, cp. Gao *bañña* (probably diminutive < **ban-iya*)
- △ *kʷəy* ‘female slave, black woman’ < Songhay, cp. Gao *koŋŋo*

Clearly the people who brought Songhay to Tabelbala were very familiar with slavery.

Basic blood relationships with equals or juniors are all Songhay, although somewhat restructured; non-basic ones are Berber loans:

- △ *izi* ‘boy, son’ < Songhay, cp. Gao *ize*
- △ *izwəy* ‘girl, daughter’ (< ‘boy’ + ‘woman’), cp. Gao *iza-woy*
- △ *tsə* ‘brother’ (< Songhay ‘friend, agemate’, cp. Gao *čere*)
- △ *tsəwəy* ‘sister’ (< ‘brother’ + ‘woman’)
- △ *iknawən* ‘twin’ < Berber, cp. Tashelhiyt pl. *iknwan*; contrast Zenaga *āžžäh*
- △ *afrəx* ‘illegitimate son, chick’ < Berber < Arabic *farx* ‘chick’, cp. Taznatit *afax* ‘14-22 year old boy’
- △ *tsafrəxt* ‘illegitimate daughter’ < Berber, cp. Tashelhiyt *tafruxt* ‘girl’, Taznatit *tafaxt* ‘girl’ < Arabic *farx-ah* ‘chick’

Blood relationships with seniors are never Songhay; these are dominated by terms shared with Northern Berber (many of them Arabic in origin), and show no conspicuous similarities to Western Berber:

¹⁷ While Belbalis are very conscious of colour as a social category, their understanding of it is rather different from that prevalent in the Anglo-Saxon world; a stranger may be classified simply on skin colour, but a known person is considered ‘white’ if their patrilineal ancestors were, no matter how dark their skin may be.

- △ *abba* ‘father’ < Berber; cp. Tetserrét *abba*, Tamasheq *abba*, Fighig *ppa*; contrast Tashelhiyt *baba*, Zenaga *bābāh*. (Similar forms in Mālian Songhay, e.g. Gao vocative *abba!*, are probably themselves Berber loans, since native Songhay terms do not contain geminate *bb* and are only rarely vowel-initial.)
- △ *yimma* ‘mother’ < Berber, cp. Tashelhiyt *yəmmi*, Zenaga *yum̄mih*
- △ *bba-ħnini* ‘grandfather’ < Arabic (Heath 2002:78–81)
- △ *yimma-ħənna* ‘grandmother’ < Arabic (*ibid*)
- △ *ħammi* ‘paternal uncle’ < Arabic *ħammī* (via Berber? cp. Tashelhiyt *ħammi*)
- △ *xari* ‘maternal uncle’ < Arabic *xālī* (via Berber? cp. Tashelhiyt *xali*; contrast Zenaga *āžžuh*)
- △ *dadda* ‘eldest brother’ < Berber, cp. Kabyle *dadda* ‘elder brother, paternal uncle’
- △ *lalla* ‘aunt, eldest sister’ < Berber, cp. Tashelhiyt *lall* ‘mistress’, Ait Atta *lalla* ‘elder sister’

This is most easily explained as the result of a desire to indicate respect to seniors, particularly male ones, combined with a society in which Arabic and Northern Berber terms are more prestigious than Songhay or Western Berber ones.

In relationships by marriage, apart from a few highly polysemous basic terms and a rather unflattering term for ‘stepfather’, Berber vocabulary is dominant. In contrast to the previous domains, however, much of it is specifically Western Berber:

- △ *aru* ‘man, husband’ < Songhay, cp. Gao *aru*
- △ *wəy* ‘woman, wife’ < Songhay, cp. Gao *wəy*
- △ *zəw* ‘to take, to marry’ < Songhay ‘to take’, cp. Gao *zaa*, Timbuktu *jow*
- △ *fya* ‘to open, to untie, to divorce’ < Songhay ‘to open, untie’, cp. Gao *feeri*; perhaps contaminated by ‘to divorce’, Gao *fey*
- △ *afəg^wrəš* ‘young (unmarried) man’; cp. Taznatit *afəgruš*, Hassaniyya Arabic *avəgrāš* (presumably a Berber loan)
- △ *tsang^wəd* ‘young unmarried woman’; cp. Ait Atta *taməgudt*, Tetserrét *təmogəd*, ? Zenaga *tnəgmiʔd* ‘young woman (14-17 years old)’
- △ *išri* ‘groom’ < Berber, cp. Tashelhiyt *asli*, Taznatit *asli*
- △ *tsəməməš* ‘bride’ < Western Berber, cp. Zenaga *tämärwuS*
- △ *tsakna* ‘co-wife’ < Berber, cp. Tashelhiyt *takna*; contrast Zenaga *tədrəgt*
- △ *aḏəḏḏəḏ* ‘male in-law (through wife)’ < Western Berber; cp. Zenaga *aḏabbäy*, Tetserrét *ḏabbəl*; contrast Tashelhiyt *aḏəgg^wal*
- △ *tsaḏəḏḏəḏts* ‘female in-law (through wife)’ < Western Berber; cp. Zenaga *taḏabbäl*, Tetserrét *təḏabbəlt*; contrast Tashelhiyt *taḏəgg^walt*

- △ <hama> ‘brother-in-law (through husband)’ (Champault 1969:276) < Arabic *ḥam*
- △ <tafelet> ‘sister-in-law (through husband)’ (*ibid*) < Berber?
- △ *bba-fumbu* ‘stepfather’ (lit. stinky father), where *fumbu* and its polysemy ‘stinky = step-’ derive from Songhay (cp. Gao *baaba-fumb-a* ‘stepfather’, *fumbu* ‘to get rotten, spoil, stink’)
- △ *aḥəzzi* ‘widower’ < Berber < Arabic, cp. regional *ḥəzri* ‘bachelor’
- △ *tsaḥəzzits* ‘widow’ < Berber, cp. Tachelhiyt *taḥəzrit* ‘spinster’ < Arabic, cp. previous

Apart from these, the verb *həg*, whose cognates elsewhere in Songhay mean ‘to marry’ (cp. Gao *hiiji*), has become an obscene term for ‘to have sex’, suggesting that previous Songhay marriage norms came into disrepute¹⁸. All of this suggests that marriage customs were considerably affected by contact (and intermarriage?) with Western Berber speakers.

The conclusion indicated is that speakers of a Western Berber language lived side-by-side with the Songhay speakers who came to Tabelbala, in a social position such that their language was initially quite prestigious, at a period when slavery was conspicuous. They had a strong influence on the practice of Islam, extending to modesty codes and marriage norms. They were also closely involved in herding, and were familiar with at least one common West African food crop. They gave one of Tabelbala’s villages its name. To explain all this, we need to examine regional history to find a time when – unlike the present – Western Berber-speaking groups were in a position to impose their language in interactions with non-speakers.

At present, the two barely surviving Western Berber languages are spoken at opposite ends of a vast desert / semidesert expanse; between them, a few Western Berber loans survive in Tadaksahak (another Northern Songhay language) including *táašinda* ‘twenty’ (see discussion in Souag 2010b). Otherwise, this expanse is dominated by Hassaniyya Arabic in the west and Tuareg in the east. Hunwick (1999:xxvi) dates this situation back to 1600 for the Middle Niger region, where the two languages meet; before this transformation, ‘around the year 1000, the pastoral nomads ... were mainly Ṣanhāja and other Berber groups’, while even in the 16th century, the Masūfa Ṣanhāja retained a presence in the towns, prominent among the scholarly elite.

¹⁸ An anonymous reviewer suggests that this could have taken place the other way around: *həg* first became a euphemism for sex, and this sense then ended up ousting the original one. This is possible, but seems less probable; the extremely public nature of weddings in Tabelbala makes ‘marry’ seem like a rather indiscreet choice of euphemism. The semantic shift may also have been facilitated by the words’ phonological neighbours, however: cp. Korandjé *həygi* ‘pestle’ (Gao *hinji*), as well as Gao *heeji* ‘bull’.

The obvious assumption would be that Western Berber was the language of at least some of these pre-Tuareg Berber groups, notably those known to have emigrated eastwards. Applying this assumption suggests some possibilities.

5. Western Berber in Tabelbala's history.

The history of Tabelbala is far from being adequately documented. The best and nearly the only survey is given in Champault (1969:21–33). By the time the French occupied Tabelbala in 1910, Western Berber speakers were long gone, or at least were not observed by the French. The Ait Atta, who dominated the region during the 19th century and to whom the largest non-maraboutic family of Tabelbala claim to belong, speak a Northern Berber language, a variety of Atlas Tamazight. The 18th century, according to Champault, saw the arrival of Sīdī l-ʿArabi, the ancestor of Tabelbala's main maraboutic family, first alluded to by Barth (1851:213). About 1600, the fortified town of Sīdī ʿAlī ʿUṭmān in Tabelbala was sacked by the Arabic-speaking Ghenanma¹⁹ tribe (still present in the middle Saoura), who dominated the region north of Tabelbala before the arrival of the Doui-Menia; Mlouka, near Adrar in Algeria, was founded by refugees from this event in 1603. Up to this period, there seems to be little reason to suspect Western Berber influence, as Hunwick's chronology would lead us to expect.

For the 16th century, one individual emerges from the fog of oral tradition, independently confirmed by several unrelated documents: Sīdī Makhlūf. His biography, as given in Al-Saʿdī (1981[1655]:39), is worth repeating in full, for the network of contacts it indicates (see also Hunwick et al. (1995:25)):

Makhlūf ibn ʿAlī ibn Ṣāliḥ al-Balbālī: a jurist and constant traveller, who is said to have started studying in adulthood. His first shaykh was the righteous man Sīdī ʿAbd Allāh ibn ʿUmar ibn Muḥammad Aqīt, my [Aḥmad Bābā's] grandfather's brother, in Walata, from whom he studied the *Risālah*. He saw excellence in him, and encouraged him to study; so he became desirous of this and travelled to the West [Morocco], and studied with Ibn Ghāzī [of Fez, d. 1513] and others. He became famous for his powers of memorisation, about which astonishing things are said. He went into the towns of the Blacks, such as Kano and Katsina and others, and taught there. He got involved in legal polemics with the jurist al-ʿĀqīb al-ʿAnuṣammanī. Then he entered Timbuktu and taught there; then he returned to the West and taught at Marrakech. He

¹⁹ Champault vacillates between identifying them as Ghenanma and Rehamna; the former is geographically more probable.

was poisoned there and grew ill, so he went back to his town and died there after 940 AH [1533 AD].

At Marrakech, he wrote a historically important fatwa addressing the question of which West African groups could legitimately be enslaved, *Fatwā fī 'l-ṣabīd al-majlūbīn*, translated in Hunwick and HARRAK (2000); in it, he cites a previous fatwa on this question by Maḥmūd ibn ʿUmar ibn Muḥammad Aqīt, the qāḍī of Timbuktu and brother of his teacher at Walata. Sīdī Makhlūf's tomb [*Erratum: memorial*] stands at the centre of the Western Berber-named hamlet of Yamī, to which he gives its Arabic name, Makhlouf (*māxluḥ*). The claim that he was poisoned in Marrakech suggests that people there were jealous of his situation, and manuscript letters quoted in Champault (1969:29), now lost, explain this, suggesting that he established ties between his lineage and the Saadian dynasty that ruled Morocco at the time. In 1538, a court official sent a letter to his son confirming his authority, and when Moulay Al-Manṣūr began to expand his influence in the Sahara in preparation for the invasion of Songhay, his court in turn addressed a similar letter to Sīdī Makhlūf's descendants in 1583. While no known descendants survive today, the lineage and its reputation lasted long enough for Moulay Ismāʿīl, of the following Alaouite dynasty, to address a similar letter to the family as late as 1721.

Both the Aqīt family (Hunwick 2003:13) and Al-ʿAnuṣammanī (Hunwick et al. 1995:27) belonged to the Ṣanhāja, and more specifically to the Masūfa tribe, which became prominent in West African religious scholarship during this period as their political power waned. The Aqīt family is associated with Timbuktu and Walata; Al-ʿAnuṣammanī, with the town of Anu Ṣamman near Azelik. On the hypothesis above, they would very likely have spoken Western Berber, although the language would already have been falling out of use outside. It is tempting to suppose that Sīdī Makhlūf's ties with them, and his choice of faraway Walata as a place to study, were motivated partly by kinship. We may also note that Sīdī Makhlūf was not the first Belbali to find a place in Timbuktu's scholarly community; Al-Saʿdī (1981:57) describes Sīdī ʿAbd Allāh al-Balbālī as the first white man to be imam of Timbuktu's Sankoré Mosque during the reign of the Songhay king Sonni Ali (1464-1492).

However, at this very period, the few available sources, gathered together by Champault (1969:25), are unambiguous: Tabelbala was dominated by Arab tribes, not by the Masūfa. Leo Africanus (ca. 1491) notes that the tribute Arabs exact from Tabelbala had reduced its inhabitants to great poverty; Marmol (1536) specifies the tribe in question as the Awlad Hamroun, who spent their summers in the kingdom of Fez. If these scholars were taking

advantage of a Masūfa connection, this connection can only have been the declining remnants of a link established earlier.

The written history of Tabelbala begins in 1283, when the Majorcan scholar of Arabic, Ramon Llull (2009:395, sec. IV, 88), mentions ‘Tibalbert’ as a starting point for large caravans carrying salt to the Niger River area. The earliest dated inscription at Tabelbala itself, a terse Judeo-Arabic tombstone bearing the date of 1322 AD = 5082 AM (Figure 3), comes from less than half a century later²⁰.

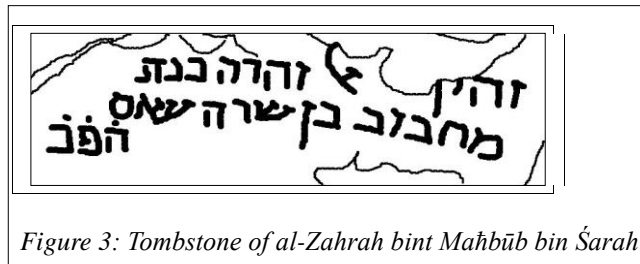


Figure 3: Tombstone of al-Zahrah bint Maḥbūb bin Śarah

For the period 1283-1447, all sources agree on one point: Tabelbala was a stop on the trade routes between Sijilmasa and the Sudan, whether via Walata in Mauritania as indicated by al-ŷUmarī (Hopkins & Levtzion 1981:276), or via Tamentit in the Touat region in Algeria (Mecia de Villadestes, quoted in Champault), or even via the salt mine of Taghaza in northern Mali, as suggested by its location on Cresques’ map (Buchon 1838; Cresques 1375). Dulcert’s 1339 map places it on the route between the Sous valley and Guinea, but again mentions Sijilmasa (Hamy 1886). Other details are scarce: Malfante (1447, quoted in Champault) adds that its inhabitants were poor, living mainly off dates. All these sources imply that the trans-Saharan trade must have played an important role in Tabelbala’s economy at this period.

A few primarily epigraphic clues are also available about religion and language in this period. One undated Arabic tombstone in the main graveyard (Figure 4) is matronymic: it bears the name of Mūsā ibn Tlāytmās, the latter being a widespread Berber name, literally ‘she has brothers’. Since matrilineality was traditional

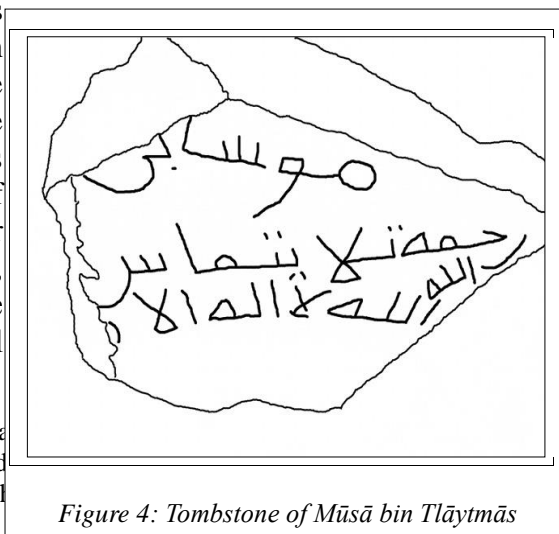


Figure 4: Tombstone of Mūsā bin Tlāytmās

²⁰ The links suggested by this stone may compare the Hebrew tombstone dated Touat (Berger 1903), which opens with

among the Ṣanhāja, but disappeared under the influence of Islam, this seems likely to precede the other Arabic inscribed tombstones, which are uniformly patronymic insofar as the parent's name can be identified.

Two other tombstones, one dated to 1422 = 825 AH (Figure 5), are dedicated to the 'sons of Muḥammad ibn al-Faqī [the jurist]', presumably a lineage of religious specialists. The undated one bears an undotted name probably to be read as the common Berber name Yəddər ('he lives') ibn Muḥammad, suggesting that this lineage was Berber. The dated one bears the woman's name 'Umm ('mother of') <'Indādm> bint ṢUtmān, in which the otherwise unprecedented <'Indādm> can again be interpreted as a Berber form, ənda-Adəm. In Berber, this prefix normally appears with tribal names, but its use with bare personal names is attested in Timbuktu, cp. Anda ṢAbd Allāh ibn 'Aḥmad, d. 1767 (Hunwick 2003:51). The name ṢUtmān (*sic*) indicates that the community was Sunni, as might be expected for the period in question, rather than Ibadi or Shia. The unusual slogan at the top of the tombstone, 'God is our lord, Muhammad is our intercessor, the Qur'ān is our guide, the Kaaba is our direction of prayer', partly repeated on other tombstones at Tabelbala, suggests a particular concern to display orthodox Sunni belief, in opposition to Almohad ideas then still circulating in southern Morocco (cp. similar slogans in Hazard 1952). In short, Tabelbala in this period was a town with a Sunni Muslim, Berber literate community, moving away from Saharan Berber matrilineal traditions and anxious to affirm its orthodoxy – a situation rather reminiscent of the trajectory of the Masūfa further south in Timbuktu.

The fact that Tabelbala was not mentioned in sources prior to 1283 is significant, since earlier geographers such as al-Bakrī and al-ʿIdrīsī had discussed the trans-Saharan trade in detail, including Sijilmasa. It indicates that Tabelbala's importance to that trade must have increased substantially between about 1154 and 1283, presumably due to a shift in the routes used. As will be seen below, this fits with what is known of the trans-Saharan trade routes during this time – and the identity of those managing this shift slots nicely into the linguistic puzzle.

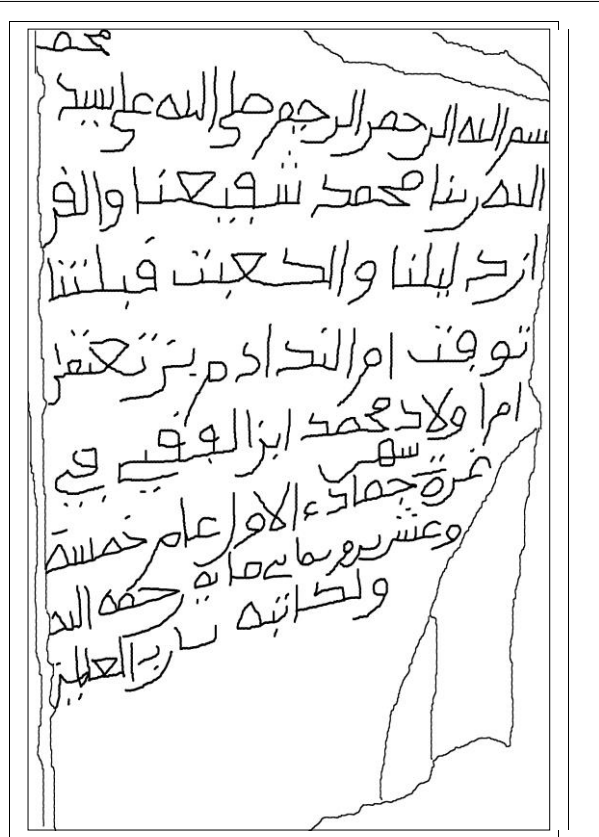
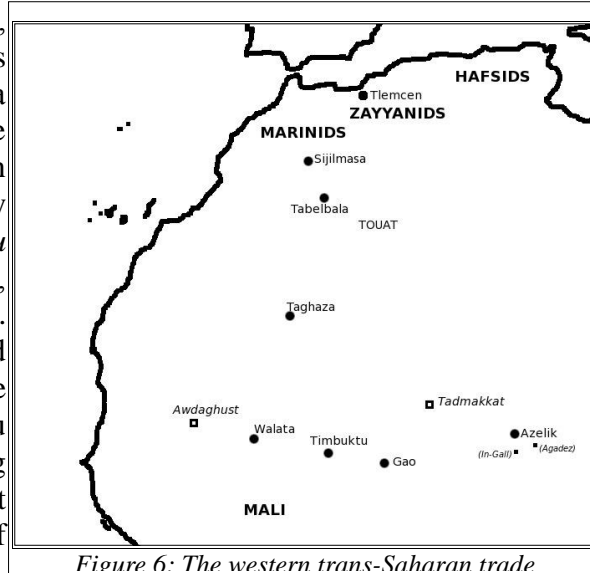


Figure 5: Tombstone of 'Umm ʿanda-Adām bint ʿUtmān

6. Cui bono? In the 11th and 12th centuries, trans-Saharan trade in the western

Maghreb passed between Sijilmasa in modern Morocco and Awdaghust and Kumbi in modern Mauritania, taking a westerly route. Around the 13th century, however, the security situation at both ends of this route deteriorated, and the southern terminus of the trade shifted east to Walata (Levtzion 1977:352, 370). The preferred trade routes shifted accordingly. To the mid-13th century date the first accounts of trans-Saharan trade between Walata and Sijilmasa (and Tlemcen) and investment in the maintenance of that route, reported in a later source (*ibid*:369), and the first allusion to Touat, as a nisba (name indicating origin) in a Cairo Geniza letter of 1235 (Oliel 2004). In the late 13th and early 14th century, a number of towns associated with the regional trans-Saharan trade are mentioned in writing for the first time (see Figure 6), indicating the new commercial importance bestowed upon them by this shift: Taghaza ca. 1275, by Al-Qazwīnī (Hopkins & Levtzion 1981); Tabelbala in 1283, as seen; Walata in 1320, by the cartographer da Carignano (Fischer 1886:122); Timbuktu and Azelik (Takaddā / Teguidda) in 1352, by Ibn Baṭṭūṭa. The 'triangular' set of trade routes linking these towns is nicely exemplified by Ibn Baṭṭūṭa's own trajectory: he went from Sijilmasa via the salt mines of

Taghaza to Walata, thence south to the towns of the upper Niger, down the river to Timbuktu and Gao, east from Gao to Azelik, from Azelik to Touat via the Aïr and Hoggar mountains, and from Touat back to Sijilmasa. This period saw the peak of the Marīnids' power in Morocco and of Mali's power in the Sahel. Songhay was already spoken along the Niger river upstream from Gao: somewhere between Timbuktu and Gao ('one of the finest, biggest, and most fertile cities of the Sūdān'), he was given a millet drink with the name *daqnū* (Hopkins & Levtzion 1981:300), which is Songhay (Souag 2012; cp. Gao *doonu* 'millet flour mixed in water', Korandjé *dzūynu* 'dough'). Walata was in turn supplanted soon afterwards, towards the late 14th century, by Timbuktu (Levtzion 1977:373), shortening the routes and making it possible to take advantage of river transport.



The Ṣanhāja tribe of the Masūfa play a prominent role in these accounts. Al-Qazwīnī describes Taghaza as a salt mine inhabited by the slaves of Masūfa. From Ibn Baṭṭūṭa's account, it is clear that the Masūfa dominated the route he took south. His caravan was led by a Masūfī; he implies that only Masūfīs were hired (at, in his case, a price of 100 mithqals!) to alert the people of Walata to incoming caravans; Taghaza was again inhabited only by 'the slaves of the Masūfa who dig for the salt' (Hopkins & Levtzion 1981:282); a Masūfī guided him from Walata to Mali; and Walata and Timbuktu, though both governed by Mali, were inhabited mainly by veiled Masūfa. Ibn Baṭṭūṭa was surprised to find that these Masūfa were matrilineal, inheriting from and identifying with their mother's family rather than their father's. For the copper mine of Azelik, he records a different Berber tribe with similar mores, the rich Burudāma [*Erratum: Bardāma*] (Bambara *bùrùdame* 'Tuareg', Dumestre 2011), who lived off trade with Egypt and competed with one another in the number of their slaves. However, oral tradition at In-Gall and throughout the region (Bernus 1972; Hamani 2006:99) identifies the first inhabitants of Azelik as including the Inusufan (i.e. Masūfa), suggesting that this town too was integrated into the Masūfa network. Earlier accounts of the Masūfa prior to the shift of the trade routes placed them further west, in modern-day Mauritania along the route to Awdaghust.

The trade that flowed through this network was made possible by settling slaves in far-flung Saharan towns to provide the otherwise lacking labour force. Even for Timbuktu, Al-Saḍī's account indicates that its foundation involved settling a slave there to look after the property, a motif repeated in the oral history of Teguidda-n-Tésem̄ near Azelik (Bernus 1972). In other cases, the use of slaves was more specifically targeted towards a global economy. The salt and copper that Ibn Baṭṭūṭa observed being produced by slave labour in the Berber-dominated towns of Taghaza and Azelik were the foundations of their prosperity; they could be sold southwards for food, for slaves to expand the labour, or, most importantly, for gold worth many times more in North Africa, enabling them to import cloth and manufactured goods.

In this context, the motive for settling farmers in Tabelbala becomes clear. Excluding the marginal case of Arawan in the south on the Timbuktu route, Tabelbala is the only place where agriculture is feasible along the most direct routes between Sijilmasa and Taghaza, Timbuktu, and Walata. For Timbuktu alone, travelling via the better-watered valleys of the Saoura and Touat is longer but considerably easier, and this route in fact became more popular in later centuries with the decline of Walata; but no similarly preferable alternative presents itself for Taghaza or Walata. Given their role in guiding the caravans and their history as wide-ranging pastoralists, we can assume that the Masūfa were well aware of the region's geography. Creating an agricultural colony in Tabelbala would have seemed a natural way to promote trade along the route they controlled, reducing the maximum distance between sources of supplies. The availability of a copper mine along with wood supplies in Djebel Ben Tadjine, only 50 km southeast of Tabelbala, would have provided another motivation for settlement, given the great contemporary demand for copper in West Africa²¹; visible remains indicate that this mine was exploited in the Islamic medieval period (Champault 1963:15).

This scenario explains why the language of Tabelbala might be expected to contain Western Berber loanwords, and even why this language should have its roots in the Sahel. However, it does not yet explain why this language should belong specifically to the Northern Songhay subgroup, currently spoken by far fewer speakers than Eastern Songhay and much further away from Tabelbala than Western Songhay.

6. Job opening, experience required.

²¹ While the crucial role of salt in the trans-Saharan trade is a commonplace, the importance of copper perhaps deserves further emphasis; its price in West Africa was such that, towards the end of this period (ca. 1400), copper was being exported there all the way from Venice, via Majorca, Honein (the port of Tlemcen) and the Touat (Elbl 2007).

At this point the sources leave us at an impasse: while Ibn Baṭṭūṭa is of necessity familiar with the Masūfa, who seem to provide him with his interface to the region, and devotes some attention to the inhabitants of Mali proper, neither he nor any other contemporary witness has much to say about the peoples who would eventually be called Songhay. While historical linguistics shows that there is a Northern Songhay subfamily including Korandjé, and that it groups together with Western Songhay, its genesis has not yet been mapped to any particular known historical event. However, cultural comparison among Northern Songhay-speaking groups suggests some answers.

The one non-genetic universal that distinguishes all Northern Songhay groups from all other Songhay-speaking groups is their close symbiosis with Berber-speaking groups, visible in language and culture alike. All Northern Songhay languages are very heavily influenced by Berber, to a degree explicable only as a result of long-term, widespread fluent bilingualism; only a basic Songhay vocabulary of a few hundred words survives, the rest consisting mainly of Berber loans. Northern Songhay displays specific innovations unrelated to Berber, as seen in footnote 2, so its separation from the rest of Songhay cannot be explained simply by Berber influence. However, the non-existence of any Songhay language sharing these innovations but lacking this plethora of Berber loans suggests that its spread was triggered by intensive contact with Berber.

Except at Tabelbala, Northern Songhay speakers are all integrated into the Tuareg tribal system. While the Masūfa network previously discussed is gone, one northern Songhay group, the Inusufan of In-Gall, continue to claim membership of the Masūfa. More generally, the oral histories of several groups tie them to the earliest Berber towns of the region and to the traders that passed through them. Most of the Tasawaq-speaking people of In-Gall belong to four different tribes, the Inusufan, the Imesdghaghan, the Isawaghan, and the Isherifen; their oral traditions claim that the former two arrived as refugees from Azelik, via the salt mines of Teguidda-n-Tesemt, while the Isherifen supposedly immigrated from Morocco (Bernus 1972). The Inusufan are also specifically mentioned in a mid-17th century text, along with the Ilasawan, Ibalkorayan, and Imaskikiyan, as people of Agadez at the time when the Sultanate was moved there (Norris 1990:xxx). The Igdalen (speakers of Tagdal) are among the earliest Berber²² groups to reach the Air area

²² The reference to these Songhay-speaking groups as Berber may puzzle some readers. In fact, the Igdalen and Idaksahak are conspicuously lighter-skinned than other groups of the region (Bernus 2001), sometimes even having blue or green eyes (Chaventré 1983:29), making a North African origin much more probable than a purely Sahelian one. Their

(Nicolaisen 1963:412), and would already have been located around Azelik. The origin of the Idaksahak (speakers of Tadaksahak) is obscure, but they too appear to be Berber, and the most plausible of a number of conflicting oral traditions links them to the Kel Essouk, the people of the even older town of Tadmakkat (Chaventré 1983:27–29). This suggests that early stages of Northern Songhay-Berber contact took place here in the Azawagh basin, around the cities and mines of Azelik and Tadmakkat. While the semi-nomadic owners of the land would have spoken a Berber variety, the sedentary farmers and miners who worked there would have spoken Northern Songhay.

Not all farmers are equally adapted to different areas. Tabelbala has no open-air water; a few areas near the dunes have a high enough water table to grow some plants without irrigation, but most areas need to be watered by wells or by underground canals (*foggaras*). Rice growing is out of the question, and most crops are grown in the shade of date palms. Fish are, of course, absent. Given that rice and fish are and were important staples of the Niger valley (MacLean & Insoll 1999), and that date palms are at the southern limit of their range there (Barreveld 1993), moving to Tabelbala would have posed most Songhay farmers with serious challenges. While the Malian Empire's conquests might have made slaves from other ethnic groups available, most would be expected to come from regions further south, making their previous agricultural experience even less useful.

However, of necessity, the people of In-Gall and Agadez practice oasis agriculture. At In-Gall, this consists mainly of date palm groves, fertilised by hand and irrigated by wells (Bernus 1972); in the shade of these palm trees, vegetables and fruit trees can be grown in limited quantities (S. Bernus 1981:29). At Agadez, the situation is much the same, supplemented by wheat, barley, maize, and millet (Adamou 1979:245). In both oases, herds of livestock play an important supplemental role. We cannot project this situation directly into the past: as seen already, it is unlikely that date palm agriculture dates back to the relevant period. However, sedentary occupation was more extensive in the Azawagh region in the past than today (Bernus 1981), and the archeological evidence from Azelik more specifically confirms that irrigation agriculture, using arroyo water, was practiced there (S. Bernus & Cressier 1990:1216). Together with the oral history, this implies that, at the period of interest, Northern Songhay farmers were already practising a form of agriculture tailored to the limited resources of an oasis. Even without date palms, that would make them much more likely to succeed in a place like Tabelbala than riverine Songhay farmers, or than most other labour sources

languages also show much greater Berber influence even than the rest of Northern Songhay, suggesting that they spoke a Berber language before shifting to Songhay.

familiar to, and available to, the Masūfa. Just as South Carolina rice planters preferred slaves from the ‘Rice Coast’ to ones unfamiliar with rice planting (Carney 2001), the Masūfa would have preferred oasis farmers to other available ones²³.

The most obvious question in this case would be why they chose Northern Songhay farmers rather than the Soninke ones living around Walata. The answer may simply relate to power and politics – the relations between Masūfa and Soninke in Walata, not long after the ascendancy of the Soninke-ruled state of Ghana, must have been constrained by some degree of reciprocity. However, another answer suggests itself: if they were simultaneously exploiting the Ben Tadjine mines, then there would be an incentive to find skilled copper miners and smiths, presumably available at Azelik but rare elsewhere in the region familiar to them. This hypothesis, however, can only be tested archeologically; the mines in question stopped being worked centuries ago, so any related technical vocabulary would have disappeared long since. The only metal names preserved from Songhay in Korandjé are *guru* ‘iron’, *zangi* ‘gold’; cp. Gao *guuru* ‘metal’, *-žeñi* ‘bracelet’. ‘Copper’ in Korandjé is an Arabic loanword, *nnhas*, and Songhay normally uses a compound term for ‘copper’ in any case; cp. Emghedesie *gurú kiddé* (‘iron red’), Gao²⁴ *guuru kara* (‘iron yellow’), Zarma *gúúru sáy / círà* (‘iron yellow / red’). A Songhay word for ‘blacksmith’ was retained into proto-Northern Songhay: cp. Tadahsahak *žeemi*, Tagdal *žaamú*, Tasawaq *žeemú* (Rueck & Christiansen 1999). However, the tradition’s continuity in Tabelbala over the past century or two has been limited – Champault (1969:223) notes that in many years only one blacksmith was resident – and in modern Korandjé it has been replaced by the Arabic loan *ləmʕalləm*, while Champault (*ibid*) records only periphrastic forms, *ur n kʷəy* ‘fire GEN owner’ or *gur n ba* ‘iron GEN man’.

7. Conclusion. The differentiation of Northern Songhay from other branches was most likely the result of its speakers moving away from the Niger river into Berber-dominated areas to its north in order to practise dryland agriculture. Korandjé seems to be the result of a movement of such farmers to Tabelbala, ca. 1200 AD, planned by the commercial élites of Walata and

²³ As an anonymous reviewer notes, farmers from the northern edge of the Sahara would of course have been considerably better prepared for farming in Tabelbala, being already familiar with date agriculture and foggara irrigation. The oral tradition that the first inhabitants ‘did not even fertilise the date palms’ (Champault 1969:32) is suggestive of the problems they would have faced. The choice of people from the Sahel for this job only makes sense if the power base of the planners lay in the Sahel rather than in the north – as indeed seems to be indicated for the Masūfa.

²⁴ Prost (1956), corrected for vowel length.

Timbuktu (notably the Masūfa) in order to facilitate travel from Sijilmasa to their towns along a route that they controlled, and probably also in order to open up a new copper mine. At Tabelbala, this Western Berber-speaking élite set the religious tone for the society, while continuing to practice herding, and left a number of loanwords behind as testimony to their presence. Nevertheless, the first language of the town remained that of its permanent residents, rather than that of its mobile landlords.

After the Masūfa ceased to be a significant force in Saharan trade and politics, ca. 1600 AD, the oasis was forced to integrate itself more closely with its immediate surroundings. A visitor to Tabelbala's main cemetery, *imamaḍān* in K^wara (Zaouia), will find few people able to locate the 15th-century tombstones of the house of Muḥammad ibn al-Faqī, and none who can identify him; even the 16th-century native son Sīdī Makhluḥ, buried some distance away at tiny Yami, has been reduced to a relatively minor figure. The centrepieces of the cemetery are now the imposing mausoleums of saints said to have come from the North – Sīdī Zākri, Sīdī l-Ḥarbī and his sons, and the *səbḥatu rijāl* ('seven men', in Arabic). The oasis' language underwent a similar reorientation: Northern Berber loans into Korandjé arguably outnumber Western Berber ones, and borrowing from Arabic can almost be described as open-ended. Only a tenacious core vocabulary continues to hark back to the days when Tabelbala was an important link in a trans-Saharan trade network. Even this, unfortunately, is likely to disappear soon; with the introduction of schooling and roads, most Belbali parents now speak Arabic rather than Korandjé to their children.

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