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The subclassification of Songhay and its historical implications

Abstract: This paper seeks to establish the first cladistic subgrouping of Songhay explicitly based on shared arbitrary innovations, a prerequisite both for distinguishing recent loans from valid extra-Songhay comparanda and for determining how Songhay spread. The results indicate that the Northern Songhay languages of the Sahara form a valid subfamily, even though no known historical records link Tabelbala to the others, and that Northern Songhay and Western Songhay (spoken around Timbuktu and Djenné) together form a valid subfamily, Northwestern Songhay. The speakers of Proto-Northern Songhay practised cultivation and permanent architecture, but were unfamiliar with date palms. Proto-Northwestern Songhay was already in contact with Berber and probably (perhaps indirectly) with Arabic, and was spoken along the Niger River. Proto-Songhay itself appears likely to have been in contact with Gur languages, confirming its relatively southerly location. This result is compatible with two scenarios for the northerly spread of Songhay. On Hypothesis A, Northern Songhay spread out from an oasis north-east of Gao, probably Tadmakkat or Takedda, and Northwestern Songhay had been spoken in areas west of Gao which now speak Eastern Songhay. On Hypothesis B, Northern Songhay spread out from the Timbuktu region, and Western Songhay derives from heavy “de-creolising” influence by Eastern Songhay on an originally Northern Songhay language. To choose between these hypotheses, further fieldwork will be required.

Keywords: Songhay, historical linguistics, cladistics, language contact, Nilo-Saharan

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1 Introduction

The origins of Songhay have been a matter of debate for decades (notably, Greenberg 1963; Nicolai 1990; Dimmendaal 1992; Nicolai 2003; Kossmann 2005a).

Investigation, however, continues to be handicapped by ambiguity about the age and original form of items compared, and the directionality of the many contact effects observed. A cladistic subgrouping of Songhay, combined with an understanding of intra-Songhay contact, is a prerequisite for more precise historical work, facilitating reconstruction and making it much easier to identify the directionality and period of contact effects. This can be accomplished only by distinguishing shared innovations from shared retentions, a procedure not explicitly used to justify previous subgroupings. The results indicate that Northern and Western Songhay group together as against Eastern Songhay, and Dendi clearly belongs to the latter. The reinterpretation of some innovations that at first sight appear to contradict this conclusion is facilitated by recent data, notably the discovery of a new Eastern Songhay language, Tondi Songway Kiini, and by philological arguments. The new subgrouping in turn has implications for the history of the Sahel and Sahara.¹

Like Romance or Germanic, Songhay shows some characteristics of a dialect continuum: every Songhay variety has to some degree been in contact with other Songhay varieties, and this may be expected to have yielded intra-familial borrowing and hence sometimes different strata of correspondences. Nevertheless, two branches stand out for their differences from the rest, allowing an initial division of Songhay into three branches, set out here along with the abbreviations and sources to be used here.

- Northern (heavy Berber influence) – NS
 - Kwarandzeye, or Korandjé (Tabelbala, Algeria) – Kw.
Data from author's fieldwork.
 - Tasawaq (In-Gall, Niger) – Ts.
Data mainly from Kossmann (2003, n.p.). Material marked A comes from Alidou (1988); C is for Rueck and Christiansen (1999); and N is for Nicolai (1981a). Material marked B comes from Barth's (1851) record of the extinct dialect of Agades, Emghedesie.
 - Tadaksahak (nomadic, Mali + Niger) – Td.
Data mainly from Christiansen-Bolli (2010). Material marked H comes from Heath (n.p.); marked N, from Nicolai (1981b); marked RC, from Rueck and Christiansen (1999).
 - Tagdal (nomadic, Niger) – Tg.
Data mainly from Rueck and Christiansen (1999). Material marked N comes from Nicolai (1981a).

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- Western – WS
 - Koyra Chiini (Timbuktu region, Mali) – KC.
Data mainly from Heath (1999a; 1998). Material marked D-Y comes from Dupuis-Yakouba (1917).
 - Djenné Chiini (Djenné, Mali) – DC.
Data from Heath (1998).
- Eastern – ES
 - Koyraboro Senni (Gao region, Mali) – KS.
Data mainly from Heath (1999b; 1998). Material marked P comes from Prost (1977); P1, from Prost (1956).
 - Humburi Senni (Hombori, Mali) – HS.
Data from Heath (2007b, n.p.) by permission.
 - Tondi Songway Kiini (Kikara, Mali) – TSK.
Data from Heath (2005).
 - Kaado (Niger, very similar to Zarma) – K.
Data from Ducroz and Charles (1978).
 - Zarma (Niger) – Z.
Data from Bernard and White-Kaba (1994). I take this to include the extremely similar:
 - Riverine “Dendi” (Niger) – rD.
Cf. Tersis-Surugue (1968).
 - Dendi (Djougou and Kandi, Benin – heavy Bariba influence) – D.
Data mainly from Zima (1994), who uses **R** to indicate a trilled **r**. Material marked H is from Heath (n.p.2001)

Hausa forms are retranscribed from Bargery (1934), and Tamashek forms from Heath (2006). Mzab and Ouargla forms are from Delheure (1984; 1987) respectively.

The genetic validity of WS appears obvious, and will be assumed here without argument; it is questionable whether KC and DC are even to be considered different languages (Heath 1999a). The question of Northern and Eastern Songhay’s genetic status, and of relationships among these three branches, will be discussed below.

2 Subclassification

2.1 Previous work

Two major subgroupings have been proposed. Nicolai (1981a:24) divides Songhay into two mutually incomprehensible dialect groups, Northern and Southern;

the former he divides into nomadic (Tihishit + Tadaksahak) and sedentary (Tasawaq + Korandjé). The division is justified by appeal to the synchronic criterion of intelligibility rather than the diachronic one of shared innovations. The same work identifies a number of phonological innovations in various subsets of Songhay. Of these, only the replacement of . . . HL tone by penultimate stress supports the claimed division between “sedentary” and “nomadic” NS, and the only explicitly stated sound change I can find that appears to be a shared innovation of Southern Songhay distinguishing it from Northern is:

- Intervocalic ***-d-** > **r** throughout southern Songhay (p. 77)

However, according to the same work (p. 77–81), ***-d-** also goes to **-r-** in Ts + Tg + Kw after long vowels, and in Td (but not other Ns languages) after ***y_**. On Nicolaï’s own assumed tree, this forces us to the conclusion that changes of ***-d-** > **-r-** happened independently at several different locations, and hence that the odds of independent parallel change are high; therefore, this is not a strong argument for Southern Songhay as a valid branch. A similar change involving ***-g-** will be discussed below.

On the other hand, we are given a few shared innovations of Northern Songhay that distinguish it from Southern:

- ***CàgàCǂ > CaʻCV**; ***CàgáCǂ > Ca'yaCV** (p. 73)
- ***g > ɣ** between a vowel {**a, o**} and a consonant or an identical vowel (p. 143). Nearly the same innovation is found within KS in Bamba and Gourma Rharous (p. 139).
- ***k > q / _o** (p. 101)

The first of these is questionable, as discussed below, and the second is weakened by its attestation in some KS dialects; the third, however, appears to be a genuine shared innovation, confirmed by shared grammatical and semantic innovations as well as uniquely shared vocabulary, as shown below.

In later work, Nicolaï (1990; 1993; with reservations in 1987) proposes an alternative classification: most eastern Songhay languages descend from native speaker transmission, while northern, western, and Dendi all descend from an early “vehicular Songhay”, characterised by some grammatical simplifications, that was being used as a lingua franca alongside native speaker Songhay. The shared features given in support of this model in Nicolaï (1993) are the absence of the definite marking system **-oo/-ey** in Northern, Western, and Dendi (sometimes, as in Kwarandzyey, resulting in the definite-indefinite distinction being left to context as shown in Table 1):

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
DefSg	∅	∅	∅	di	di	-oo / -aa	-o: / -ɔ: / -a:	-o	∅
DefPl	yu	-en	-yo	di yo	di yoo	-ey	-ey / -ɛy	-ey	-yo

Table 1: Definite markers.

and the following lexical entries shared by those three to the exclusion of Eastern Songhay: **dafoori** ‘cushion’ (also in Tuareg), **futey** ‘kitchen’, **zaw** ‘bring’, **madada** ‘now’. (To these might be added Kw **sənnu**, KC/DC **san**, D **sáñ kpéy** ‘master’.) A rather greater number of uniquely shared lexical entries are noted between Northern and Western Songhay, excluding Dendi; he tentatively takes this to reflect Dendi’s continued contact with Zarma. He also alludes to simplification of the TMA system; specifically, Nicolai (1987) notes that both WS and Dendi show a tendency to drop the **g** of the imperfect (NS has a different form).

Of the lexical items given, none have been shown to be innovative, and their geographic distribution alone suggests that they are retentions; forms shared by widely separated points at the periphery but absent from the centre is precisely the profile expected when innovations are spreading outwards. Even the exclusivity claim is questionable for some of these words. While **zaw** ‘bring’ is shared by WS + NS, all varieties of Dendi have **zà** (according to Zima and Heath), an innovation shared with the rest of ES; and KS has **fuuta** ‘kitchen’. In any case, as he notes, the lexical isoglosses are too few to have much probative value. The lexical items uniquely shared between NS and WS to which he also draws attention can be explained more economically without reference to Dendi, as seen below. As for **g**-dropping, the work of Nicolai (1981a) shows that intervocalic **g** is very frequently dropped in both Western and Eastern Songhay; **g**-loss is unsurprising if the common sequences of pronoun + imperfect marker get reinterpreted as phonological words, a cross-linguistically common change. Moreover, TSK, which retains the definite marking system, turns out to have imperfect **wà** / **w** / ∅, showing the same tendency. A probable innovation in the prepositional system that might be added is the shift of ***kúná** from ‘interior’ to a locative postposition ‘in’ in NS, WS, and Dendi; but accidental parallel development can scarcely be ruled out there.

This classification therefore rests very heavily on the identification of the definite marking system as a feature of proto-Songhay. However, this argument is doubly questionable. On the one hand, definite markers cross-linguistically tend to come from demonstratives (Greenberg 1978), and the general ES + WS demonstrative **woo**, with the plural perhaps a shortening of **woo** + (Indef)Pl **yo**

(found without a final nasal in Kw, Ts, KC/DC, TSK, Dendi) is a plausible Songhay-internal source; thus a lack of definite marking could easily be a common retention. On the other hand, the dropping of definite marking is an obvious candidate for contact-induced simplification, especially when dealing with speakers of languages without a definite marker such as Berber; the odds of independent parallel innovation are thus high.

2.2 Justifying Northern Songhay

Nicolaï (1979) added Kw to the Songhay languages spoken in the deserts of northern Niger to form a Northern Songhay subgroup. Their phonological correspondences to other Songhay languages are outlined in Nicolaï (1981a), which gives three shared sound changes that can be taken to support the subgrouping, as seen above. However, one of these is questionable, and two may in some measure reflect the common Berber influence on these languages; further argumentation is therefore desirable. *A priori*, it is very surprising that NS should be a genetically valid subgroup; Tabelbala is geographically extremely distant from the other NS languages, and is known to have been a stop on the trade route between WS-speaking Timbuktu and Morocco (Barth 1851; Champault 1969), but not known to have had any significant contact with other NS languages. Nevertheless, although all NS languages have undergone substantial Berber influence, the validity of NS as a subgrouping may be shown without reference to Berber loans. For several basic grammatical points and a number of basic vocabulary items, NS shows probable or clear shared innovations in contrast to ES + WS, as shown in Table 2.

The relative forms in NS are originally demonstrative/definite markers, a common grammaticalisation path probably calqued in this instance on Berber (Souag 2010a); we may thus assume that the ES + WS forms are again original. The centrifugal markers, with no direct ES/WS equivalent, probably derive from ES + WS ‘release, let go’ (KC **nan**, KS **nan**), as suggested by Christiansen-Bolli (2010:72), with influence from Berber forms such as Zenaga **-nāh** (Taine-Cheikh 2008; Souag 2010a); on either count, they must represent a NS innovation rather than a retention. Genitive **n** most plausibly derives from the pan-Songhay absolute possessive marker **wane** (Kossmann 2009); as such, it too is a NS innovation. **kani** means ‘lie down’ throughout Songhay, and already means ‘go to sleep’ in ES + WS, while Ts preserves **gîrbi** in the meaning ‘jour’ (in general, in Songhay this refers to a 24hr unit, and can hence be derived from ‘sleep’); the loss of the verb ***gîrbi** and the extension of **kani** to ‘sleep’ is thus clearly a NS innovation. **kanjam** (‘breast’ in NS) means ‘suckle’ in WS + NS, and ‘squeeze’ in ES; this suggests a path of change ‘squeeze’ > ‘suckle’ > ‘breast’. ES + WS ***fàfà** closely

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
(Def.) relative marker	-y / -dz	ayo	yo	kaa	kaa, kama	kaŋ	kā	kāŋ	kā
Centrifugal	-nna	-an	-nàn	-	-	-	-	-	-
Genitive (pre-head)	n	n	n	∅, wane	∅, wane	∅, wane / wana	∅	∅	∅
sleep	kani	keeni	káání	jirbi	jirbi	jirbi	giríbi	jirbì	jirírí
breast	kankəm	(loan)	káŋkám	fafa	fafa	fafa	fəfə	fəfə	fəfə
*sád	-	šót 'to fly (bird); to jump over'	šát 'sauter, voler (oiseau)'	sar 'jump, hop, dance'	sar 'jump, hop, dance; jump over, assault'	sar 'jump, hop; skip ahead; be painful to'	sárú 'jump'	sár 'sauter, bondir; se retrécir; avoir mal (à la tête)'	-
fly (v.)	-	šót	šát	deesi, firri	deesi, firri	deesi	fírírí	déési	fátá ká / káRí (lit. wing come / hit)
dig	fəz (fəz-)	fás	fáš	faani	faani	fanši	fánsí	fánsí	fánsí

Table 2: Probable Northern Songhay innovations.

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
Impf	b	b	b	o, go	o, go	ga	wa	gà	:
2Pl	ndzyu	ándi	ńđi	wor, war	wor	war	wóř	(w)áráŋ	níyò
Caus	-ndza	-ənda (N)²	-ńdá	-ndi	-ndi	-andi	-ān	-āndi	-āni
give	na	ná	ná	noo	noo	noo	nó:	nó	nó
hair	habi	haab-én	haábù	hambir	hambir	himbiri	hámbírí	hámní	háminí
smoke (n.)	núnŋ	nuun-én	núnànyò	siisi	siisi	siisi, dullu	dùdùlú	dùllú	sísi
fire (n.)	uru	huurú	hùrú	nuune, tow	nuune	nuuna	nùà	nùùnè, dānji	nìnè
blind	fəŋɖu	(loan)	fəndó	dana	danam	dana	dānā	dānā	dānnā (y)
milk (n.)	huwwa	huwwá (H)	húwá	waa- (cpd.); kosom (< Ful.)	waa- (cpd.); kosom (< Ful.)	waa	wā:	wā	wā:
urine	həŋɖə-yu	hangai-én	həŋyàréyò (A=C)	toosu	toosu	toosi	tòysi	tóosi-cíllí	tóosù
show	tsbə (tsbəɣ-)	(loan)	sābár	čerbu	čerbu	čebe, čabu, čewru, čerbu	kərbá, kėwrú	cābé	cībā
meat	həmu	háamu	háámù	ham	ham 'fish'	ham	hām	hām	hām
cow	hawí	hawú	háawí	haw	haw	haw	hāv	hāv	hāv

Table 3: Characteristics unique to Northern Songhay.

2 While this data seems to be contradicted by C, it is supported by Tagdal *kanda* "cause to fall" (Benítez-Torres 2009:76).

resembles pan-Berber **ifəf**; however, it would be very odd for a Berber loan to occur in ES + WS but not NS, and forms with a reduplicated CV syllable with a bilabial onset appear common for ‘breast’ worldwide, suggesting that ***fàfà** is not a loanword, in which case the claimed direction of change is supported by the existence of a plausible proto-Songhay form for ‘breast’. Similarly, for ***sád** the original meaning of ‘jump’ has been extended to ‘fly’ only in NS; other Songhay languages maintain distinct words for the two concepts. For ‘dig’, both the NS and WS forms can most easily be explained as independent simplifications of the consonant cluster preserved in ES. As innovations unique to NS, all of these support the claim that NS is a genetically valid subgroup of Songhay.

There are even more characteristics common across NS and not found elsewhere in Songhay for which the direction of innovation is not clear, as shown in Table 3.

Nicolai (1983:2.2.5) suggests a connection between NS imperfective **b** and the existential/locative copula **bara**; the same connection can readily be drawn between WS/ES imperfective **go/ga** and the existential/locative copula **goo**, following the familiar grammaticalisation path from locative to progressive to imperfective. For 2Pl, the ES + WS forms (apart from innovative Dendi **ní-yò** < 2Sg + Pl) correspond to the pan-Songhay imperative plural marker **wa**, also found throughout NS (Kw **wə**-, Td **wa**, Ts **wà**); so if the NS form is cognate to the ES + WS forms, the absence of *w* in NS is likely to be innovative. For the causative, the NS forms may represent contamination from the instrumental preposition **nda** – compare the Hausa causative/efferential in **dà**, homophonous with the instrumental and treated as an independent particle in standard varieties but as a verbal suffix in western ones (Jaggar 2001:251) – while the ES forms look suspiciously similar to Soninke and Mandinka **-ndi**, as noted by Creissels (1981). For ‘show’, the NS forms reflect final **r**, whereas the ES + WS forms all show final vowels; the exact original form is unclear. For ‘meat’ and ‘cow’, NS forms consistently have a final high vowel, while ES and WS lack it.

Only one case examined under this rubric could reasonably be argued to be a common innovation of ES + WS. For NS ‘hair’, although cognates throughout WS/ES mean ‘cotton’, the meaning ‘hair’ is preserved there in some compounds, eg KC **gaa-haabu** (body cotton) ‘body hair’, **feeji-haabu** (sheep cotton) ‘wool’, and Zarma **fééji hààbù** ‘laine de mouton’. If **haabu** ‘hair’ was originally pan-Songhay, then **hambiri** looks like a shared innovation of ES + WS, perhaps irregularly derived from the former. However, perhaps more plausibly, **haabu** may originally have meant ‘wool’ or ‘body hair’, shifting to ‘cotton’ in ES + WS as cotton fabrics replaced woolen ones, and being generalised to ‘hair’ in NS; in this case, the only shared ES + WS innovation would be the choice of what to call this product. In any case, one shared innovation is not enough to justify postulating a

“southern Songhay” subgroup consisting of WS + ES. Most of the many words shared by WS + ES to the exclusion of NS are not found in NS simply due to the dominance of Berber loanwords in NS vocabulary; for most of the rest, there is no reason to believe that ES + WS is the innovator, rather than NS. As such, these items provide no evidence for a “southern Songhay” subgroup consisting of ES + WS.

In brief: Northern Songhay is a clear subgroup, supported here by nine innovations (including two of Nicolai’s mentioned above). Another twelve characteristics appear unique to NS within Songhay, and are likely to include NS innovations.

2.3 NS + WS as a subgroup

In contrast to the paucity of evidence for “southern Songhay”, there is a fair amount of evidence for subgrouping NS with WS, as suggested by the uniquely shared lexical items noted by Nicolai (1993). This idea was foreshadowed by Lacroix (1981:19), who noted “[le] songhay de Tombouctou, dont les affinités, déjà décelables avec le *tasawaq*, se marquent un peu plus avec l’*emghedesie*” [the Songhay of Timbuktu, whose affinities, already detectable with *Tasawaq*, are a little more marked with *Emghedesie*]; but the better data now available makes it possible to extend this observation to the whole of NS and found it on shared innovations.

Apparent shared innovations are given in Table 4.

The correspondence N/W *-**Vn** = E *-**V**: is to be reconstructed as *-**V:n** (Heath 1999a:52), although the apparently irregular addition of -**i** in ‘catch’ looks like an NS-specific innovation. As such, each is a shared innovation of NS + WS as well as an innovation of ES. For ‘see’, NS + WS retains evidence for ***dí** in the word Ts **déégí**, KC **digi** ‘mirror’ < ***dí** plus the widespread instrumental suffix *-**i(r)gi**, and **guna** means ‘look’ throughout ES; it thus appears likely that ‘look’ > ‘see’ is another shared innovation of NS + WS. As for ‘stomach’, **gungu** is present in much of ES (and in WS) with the meaning ‘island’ or ‘mound’, suggesting a semantic shift; but **gunde** ‘belly’ is attested in KC only for Goundam and Niafunké in the west, where ES influence would be expected to be least (although, as Heath (pc) points out, their proximity to the river may allow for greater ES influence.) This suggests that **gunde** ‘belly’ is original, in which case avoidance of synonymy would imply that NS + WS share a semantic shift to ‘stomach’ from ‘mound’. For ***dàm**, the original meaning ‘put’ has been extended to ‘do, make’ in NS and WS, but never in ES, where ***té** is retained³. ***fartu** shows an apparent shared

³ Lacroix (1981:18) suggests that *Emghedesie* retained ***té** ‘do’; in fact, **te** in the example cited, **atte dumni** ‘I conduct you’, is better interpreted as a future tense marker, corresponding to modern *Tasawaq tí*.

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
*V:n > *Vn									
die	b*ən (bun-)	bún	bún	bun	bun	buu	bú:	bú	bú
catch	dzini (imperative); dzən (dzin-) 'affect'	díní	zíní	dín	dín	dii	dì:	dì	dì
fill	ʔən (ʔun-)	ʔón	ʔán	ton	t(ə)n	too	tó:	tó	tó
Lexical:									
see	gwa	guná	guná	guna	guna	dii	dí:	dí	dí
stomach	gungu	gungú	gungú	gungu, gunde	gungu	gunde	gùndê	gùndè	gùndé
*dám	dza (dzam-) 'do, make'	dá 'be done, make, put'	dán 'faire'	dam 'put, put on, spend (time), make / do'	dam 'put, put on, spend (time), make / do'	dan 'put, put on, lay (eggs)'	dám 'put'	dàn 'mettre'	dám 'placer, mettre qqch sur qqch'
do	dza	dá (H)	dán	dam	dam	tee	té:	té	té
*fartu	fəʔtu 'defecate'	-	-	farru 'clearing, cleared area; defecate [baby-talk register]'	farru 'clearing, cleared area, empty lot'	farru G 'clearing, cleared area, empty lot'	-		

Table 4: Probable innovations shared by Northern and Western Songhay.

innovation between Kw and KC that only makes sense in one direction (compare KC **tarey** ‘outside’ > ‘(euphemistic) defecate’), although the etymon ‘to be smelly’ (KC **ferre**, Z **fárré**, etc.) may have affected the meaning.

To these we may add the correspondence N/W ***-aw** = E **-a(:)** (with secondary **ǃ** > **m** for KC/DC), which represents a neutralisation of previous contrasts in both branches, and as such must involve an innovation, as shown below:

	Kw	Td	Ts	KC	HS	KS	TSK	Z	D
*-a(:)wa									
help (v.)	gəw (gaw-)	–	gàw	–	–	gaa	–	gà	gà
hear	məw	mó	máw	mom	má:	maa	má:	má	má
take	zu (zaw-)	záw	záw	jow	zà	zaa	zà:	zà	zà
take out	kəw (kaw-)	káw	káw	kow	kà:	kaa	kā:	kā:	káá
*-aw									
tie (v.)	həw	háw	háw	haw	háw	haw	háw	háw	háw
earth	dzuw	–	–	dow	–	dow	dāw	–	
*-a:									
name (n.)	ma	mān	màn	maa	mā:	maa	mā :	mā	máà
eat	nya	ňá	wá	ɲaa	ňà:	ɲaa	wā:	ɲwā	ɲwáà (H: ɲwā:, ɲmā:)
*-a									
mother	–	naaná	náanà	ñaa	ñā	ñaa	ýā:	nyā	nyáà
come	ka	–	–	kaa	kā	kaa	kā:	kā	kā

Table 5: Correspondences relevant to the reconstruction of N/W ***-aw** = E **-a(:)**.

It is clear that the sets listed as ***-a(:)** above are to be reconstructed with ***-a(:)**, and hence that the correspondence N/W ***-aw** = E **-aa** is not to be reconstructed with ***-a(:)**. There appear to be no clearly inherited monomorphemic forms with **-awa** in Songhay languages, unlike **-aya**; this suggests that the latter forms are to be reconstructed as ***-awa**. The length difference in HS between short ‘take’ vs. long ‘hear’ and ‘take out’ may reflect ***-awa** vs. ***-a:wa**.

These shared innovations together provide better evidence for the genetic validity of a branch consisting of NS + WS than anything seen for ES + WS. Hacquard and Dupuis-Yakouba (1897) also reported for KC a phenomenon not attested in more recent sources: the use of NP + **wane** genitive phrases after the head. They state (Hacquard and Dupuis-Yakouba 1897:18) that “Le mot **wane** s’emploie aussi avec un substantif qui lui sert de régime” [The word **wane** is also used with a substantive which serves as its complement], eg **hantchi di ay harme di wane** (dog DEF 1Sg brother DEF **wane**) ‘le chien de mon frère’ [my brother’s dog]. Nicolai (1983) notes that this is attested for Ts, Tg, and Td; it is also found in Kw, where it is preferentially used to indicate content or purpose. If Hacquard and Dupuis’s testimony is accepted, then this may constitute another shared innovation of NS + WS; if rejected, this would still constitute a shared innovation of NS.

There are other cases where NS and WS share the same value as opposed to ES, but where the directionality is unclear. Several are noted in Nicolai (1993), but these are not always confirmed by further data. In particular, several are also attested in KS, which has eg **yon** ‘grease (v.)’, **sarow** ‘milk (v.)’, **kuumu** ‘hoe (n.)’; these might reflect KC influence on KS, but in any case weaken the probative value of these isoglosses. The following are some cases that appear probable:

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
Normal object position	VO	VO	VO	VO	VO	OV	OV	OV	OV
drink (v.)	nən (nin-)	nín	nín	ñin	ñin	haŋ	hãŋ	hãŋ	hãñ
laugh (v.)	gugʷa	górgor	gʷárgʷár	gogor	gogor	haaru	há:rú	háárú	hááRú
navel	(loan)	(loan)	zùùtú	juutum, hime	juutum	hume	hùmè	fùùmè	fúmbè
water-bag for well (<i>puisette</i>)	bazu	baaší	bààsú	baasu-ije	?	aja (P) (from Tuareg)	yá:bá (from Dogon)	lògò	gù:gá (H) (from Hausa)
key	kəkkabu	?	kerkábu (B)	kalkow (D-Y: karkab)	kalkaw 'old-style lock'	kufalize (P1, from Arabic)	?	sááffíizè	sááfinzè; Kandi kókóró (H)

Table 6: Characteristics shared only by Northern and Western Songhay.

NS + WS basic order is similar to Berber, while ES order is strikingly similar to Mande; either or both could in principle be the result of external influence. (Most ES languages in fact allow or require VO order for certain verbs, further complicating the situation. However, all ES languages show a marker **nà** used in the positive perfective only when a preverbal direct object as well as a subject is present (Heath 2007a) – a typologically unusual fact that suggests some antiquity for the OV order, although it might be linked to Mande contact.) If the Kandi form for ‘key’ is cognate, then the feature uniquely shared between NS + WS is the presence of **b**; but more data for this feature is desirable.

A Northwest Songhay branch (NWS) is thus supported by six shared innovations. Another six characteristics are unique to NWS, and likely to include some shared innovations.

2.4 Is Eastern Songhay a group?

The innovations ***-awa > -a:** and ***-V:n > -V:**, discussed above, suggest that ES is a branch; the latter in particular appears arbitrary enough to make independent parallel development implausible. Other evidence for this, however, is limited. A noteworthy possibility is the definite marking system:

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
DefSg	∅	∅	∅	di	di	-oo / -aa	-o: / -ɔ: / -a:	-o	∅
DefPl	yu (= IndefPl)	-en (= IndefPl)	-yo (= IndefPl)	di yo	di yoo	-ey	-ey / -ɛy	-ey	-yo (= IndefPl)

Table 7 (= Table 1): Definite markers.

Definite markers cross-linguistically tend to come from demonstratives (Greenberg 1978), and the general ES + WS demonstrative **woo**, with the plural perhaps a shortening of **woo** + (Indef)Pl **yo** (found without a final nasal in Kw, Ts, KC/DC, TSK, Dendi), is a plausible Songhay-internal source. However, the not always predictable allomorphy found in this system (related to vowel harmony) suggests that it is not very recent. Even if it is accepted, only four clear shared innovations of ES will have been noted; some of the forms unique to NWS noted above might reflect ES shared innovations, but this cannot be shown.

The paucity of clear shared ES innovations might be explained by supposing that ES is not a valid group, but simply Songhay minus NWS. For the reconstruc-

tion of proto-Songhay, this would make little difference in practice; the ease of contact among ES + WS languages makes it very difficult to be confident that any form without a NS reflex truly dates back to proto-Songhay, rather than having spread more recently. (This applies all the more if the forms are to be used for external comparisons.) Historically, however, taking ES to be invalid would paint a slightly different picture. For this to be true, we would have to assume that the shifts **-awa > -a:* and **-V:n > -V:* spread within the ES region by contact between already differentiated dialects, most likely at a point before the geographically isolated varieties (TSK, HS, Dendi) had left the river; and, in particular, we would expect that NWS shares, or shared, innovations with one subset of these dialects, most likely a northerly one. I have not observed any clear examples of such cases, but if found, they will support this hypothesis. In their absence, however, an alternative explanation appears preferable: that, while NWS was the first split off mainstream Songhay, other splits followed it quite rapidly, allowing only a short time for ES-specific innovations to form before varieties like TSK, HS, or Dendi were isolated from the mainstream.

2.5 Why “southern Songhay” is not a genetic subgrouping

2.5.1 Dorsal obstruent-initial clusters

Few shared innovations are attributable to “southern Songhay” (WS + ES), although the plethora of Berber loans in NS make ES and WS seem superficially more similar to one another than to NS. The case of **d > r* has already been dismissed. The regular correspondence of NS pre-consonantal dorsal obstruents to ES + WS vowel length merits more discussion. In Nicolai’s extensive dialectological data, only one exception to this presents itself: in a couple of words, the Kks dialect of KS (presumably Kel Alkaseybaten, though missing from the key) has pre-consonantal *ɣ* for expected vowel length, thus ‘axe’ Kks **dayši** (= Tsw **dīksi** (N), other KS **daaši**), ‘ladle’ Kks **zoyto** (other KS **zooto**, not attested in NS). This is not enough data to rule out the claimed common ES + WS innovation; since the Kel Alkaseybaten are ethnically Tuareg, one of these could be explained as influence from Tuareg (cp. Tamashek **zāyto** ‘ladle’), while the other might similarly be an unattested old loanword. It is even conceivable that they spoke a NS language prior to adopting KS. The data since gathered by Heath (2005:23), however, makes it possible to show that the loss of *ɣ* must postdate the split of ES, if ES is a valid subgroup.

As seen above, TSK does not share the defining innovations of NS and WS, and does share in the probable ES innovations discussed. However, it does

not treat this correspondence set like other ES languages; instead, NS/Kks pre-consonantal velars/uvulars corresponds to TSK **w**:

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
money	(loan)	(loan)	nāyrú	noor	noor / nɔr	nooru / nuuru	lòwrú	nòorú	nòòrú
day	zəydi	zayrí	záyzí	jaari	jaari	zaari	záwrì	záárì	záárì
axe	(loan)	(loan)	díski; díksí (N)	daasi	daasi	daaši (Kks dayši)	déwsí	déésí	dé:sí (H: Kandi)
ladle	–	(loan)	?	jooto	jɔtɔ	zoota / zooto (Kks zoyto)	zòwtó	–	–
rain (n.)	bəyni	–	–	baana	baana	baana	bàwná	bááná 'nom d'un divinité'	bà:ná (H: Kandi) 'lightning'
time (< Ar.)	əlwəqt	–	əlwáq	waati	waati	waati	wáwtù	wááti	wááti / wákàti

Table 8: Correspondence of NS pre-consonantal velars/uvulars to TSK **w**.

For another word, ‘gums / palate’ – not attested in NS – ES-internal evidence, including a metathesis, suggests a former velar (although the KS and Zarma data suggest that there has been confusion of two similar words in this cognate set):

	Tinié (HS)	KC	DC	KS	TSK	Z	D
palate / gums	dāgānā 'gums' (Nicolai 1981:71)	daŋka 'palate'	dindira 'gums'	daana 'palate' (P1) diini 'gums'	dāwnā 'gums'	dāánā 'palais de la bouche' dīinā 'gencive'	–

Table 9: ‘Gums’ and ‘palate’.

The existence of a velar/uvular-initial consonant cluster in words like these is further supported by external comparisons: cp. Hassaniya Arabic (Heath 2004) **(aa)zuqtu** ‘ladle’, **duqnu** ‘millet porridge’, **waqt** ‘time’; Tamasheq (Heath 2006)

zǎyto ‘ladle’, **ta-dəyṅnu-t-t** ‘millet porridge’, **boḽo** ‘catfish sp.’ (cp. KC **boloola** / **boboola** / **boolo-boolo** / etc.), and (Sudlow 2009) **fǎylo** ‘tube (for potash)’ (cp. KC **foolo**, TSK **fǒwlǒ** ‘bag’); and, to the south, Koromfe (Rennison 1997:384, 386) [**zeyre**] ‘rag’ (cp. TSK **zēwrè**, KC **jaara**), [**zoyto**] ‘scoop’.

For ‘millet porridge’, with no attested TSK reflex, see:

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
millet porridge	dzoyṅnu ‘dough’	daynú (H)	dāyńí (N)	doon, doonu	ɗɔɔn	doonu	–	dòònú	dǒ:nú

Table 10: ‘Millet porridge’.

This correspondence allows us to reconstruct velar-initial clusters for words not attested in NS where TSK **w** corresponds to other ES vowel length before a consonant, including **fǒwnò** ‘monkey’, **lǒwtí** ‘extract’, **kǒwrí** ‘stalk’, **kǒwsí** ‘leaf’. In a doublet noted by Heath, **mǎwrí** ‘preparation made from fermented roselle (used in sauce)’ and **mǎ:ri** ‘black spice made from Parkia tree (used in hard cakes)’, the former is presumably original while the latter likely reflects intra-Songhay borrowing.

Two irregular cases need brief discussion:

	Kw	Td	Ts	KC	DC	KS	TSK	Z	D
shoe / sandal	tsaymmu	taymú	ṭaymú	taam, taamu	taam	taami	tǎ:m	tǎàmú	tǎákǎm, tǎàmú
acacia pod	(loan)	baaní	?	baani	baani	baani	bāwní	bāanì	bā:ní (H: Kandi)

Table 11: Two apparent exceptions to the proposed correspondence.

For ‘shoe’, the existence of a former velar in the appropriate position is attested not only by Songhay-internal evidence but also by Hausa **tǎakǎlmi**. The Hausa and Dendi forms may suggest that there was variation between forms with a cluster and ones where the cluster was broken up by a vowel; the latter would be expected to yield a long vowel in TSK. (There may also have been phonological motivation to avoid a cluster ***wm**.) For ‘acacia pod’, the Tadaksahak form is not supported by other NS evidence, and could plausibly be a loan, since acacia pods are a trade product sold in markets and used in tanning (Heath, p.c.)

Nicolai (1981a:73) reconstructed this correspondence set as $*\text{-g}\hat{\text{V}}\text{-} / \hat{\text{V}}\text{-}\text{C}$. However, as seen above, loans into Tuareg and Hassaniya show γ with no intervening vowel, while cases of metathesis – unexpected if there was an intervening vowel – are attested, and, as with KC ‘gums’ above and HS **ḏūṅk-à**: ‘millet porridge’, these show **k**. Moreover, a 14th century attestation again indicates a consonant cluster. The traveller Ibn Baṭṭūṭah records that, travelling along the Niger River downstream from Timbuktu, he was served a dish which he describes as follows:

يسمى الدقنو، بفتح الدال المهمل وسكون القاف وضم النون والواو، وهو ماء فيه جريش الذرة مخلوط بتيسير عسل أو لبن. (Ibn Baṭṭūṭah 1997:270; 434/4)

[(It is) called **daqnū**, with **a** on the **d** and no vowel on the **q** and **u** on the **n** and **w**, and it is water with coarse millet/sorghum flour mixed with a little honey or buttermilk.]

Clearly, this is the pan-Songhay etymon for ‘millet porridge’ discussed above. This word probably spread to other regional languages from Songhay, rather than being a recent loan: its Hassaniya form cannot be derived directly from any Classical Arabic word, and in its Tuareg form it has no reported Berber cognates outside Tuareg (Naït-Zerrad 1998:s.v. DyN 4). It might be an early loan from Arabic **duxn** ‘pearl millet’; cp. Ibn al-Faqīh’s (c. 905) remark to the effect that in West Africa they call their staple food **duxn**, explained as Arabic **ḏurrah** ‘sorghum/millet’ (Hopkins and Levtzion 1981:28). If so, however, the distribution indicates that this loan would have been into proto-Songhay. The choice of **q** suggests an unvoiced consonant. This cannot be certain, since in Bedouin dialects of Arabic, then and now, original **q** usually shifts to **g**; but in other proper names Ibn Baṭṭūṭa tends to transcribe **g** as **k**, eg تكدا Teguidda.

2.5.2 Other obstruent-initial clusters

If velar stops could occur in coda position in proto-Songhay, and have disappeared due to lenition word-internally or vowel epenthesis word-finally, then we expect other stops to do the same. For **b**, this seems to be borne out: when metatheses place it in coda position it becomes **w** in ES, as in the KS and TSK examples already discussed, repeated below.

The obvious candidate for the result of lenition in clusters starting with $*\text{d}$ is **r**. The widespread change of medial $*\text{d} > \text{r}$ in most contexts would make this difficult to spot; however, alternations like ‘broom’ (Ts **hàb-díḡi**, KS **haab-irji**) suggest that this is correct.

	Kw	Ts	KC	DC	KS	TSK	HS	Z	D
show	tsbą (tsbąř-)	sàbár	čerbu	čerbu	čebe, čabu, čewru, čerbu	kèrbá, kèwrú	čèwrù / čòwrù	càbé	cìbà
*gàrbây / *gàbrây 'Balanites aegyptiaca'	–	garuai (B) 'date'	gorboy, garboy 'date (esp. the native date, Balanites aegyptiaca)'	garboy 'date [imported from North Africa]'	garbey, gowley 'Balanites aegyptiaca'	gàwrêy 'Balanites aegyptiaca'	gàwl-ò 'Balanites aegyptiaca'	gàrbây 'Balanites aegyptiana.'	gòrbê (Kandi, H) 'Balanites aegyptiaca'

Table 12: -rb-/-wr- alternations.

2.6 Branching summary

The family tree suggested by this investigation is:

Songhay:

- Northwest Songhay (strongly indicated)
 - Northern Songhay (strongly indicated)
 - Kwarandzyey
 - Tadaksahak
 - Tagdal
 - Tasawaq + †Emghedesie
 - Western Songhay (strongly indicated)
 - Koyra Chiini
 - Djenne Chiini
- Eastern Songhay (few shared innovations)
 - Tondi Songway Kiini
 - Humburi Senni
 - Koyraboro Senni
 - Kaado
 - Zarma
 - Dendi

There remain important gaps in documentation, notably regarding Tagdal, the HS-like varieties of Burkina Faso, and the grammar of Dendi. However, the clear

evidence for an early split of NWS, and then between WS and NS, has implications for the history of the region. Where and when could these have taken place?

3 Locating proto-Northern and Northwestern Songhay

3.1 Worten und Sachen

A relatively rich agricultural and architectural vocabulary survived into PNS, ruling out the possibility that its speakers (or *a fortiori* those of PNWS) were exclusively pastoralist nomads like the Idaksahak and Igdalen. The agricultural words supported only by WS and Kw cannot easily be dismissed as later borrowings into Kw reflecting trade with (and perhaps importation of slaves from) Timbuktu; agriculture has been a key *raison d'être* for Tabelbala throughout its history, and one would expect that Songhay was already the language of the workers when Tabelbala first adopted Kw. A few examples follow in Table 3⁴.

PNS speakers (and *a fortiori* PNWS speakers) also appear not to have had date palms, judging by the following set of glosses, indicating a fairly southerly location.

Apart from the shift of ***gàrbèy** in DC, all ES/WS words for 'date (*Phoenix dactylifera*)' are clear loans, ultimately from the North: **tamoro** from Arabic via Manding, **dàbíinà** from archaic Berber via Hausa (Kossmann 2005b:68), **teeney** directly from Berber. But there are signs that NS speakers were not familiar with dates either. In Ts of Agades, the term for 'date', **garuai** (B), etymologically refers to *Balanites aegyptiaca*, which grows wild in West Africa. But the Kwarandzyey term for 'date palm' (*Phoenix dactylifera*) comes from a word for a quite different species, the doum palm (*Hyphaene thebaica*); and, since the original meaning was retained in Agades, where dates were familiar, it must have still meant 'doum palm' in proto-NS. If proto-NS speakers had been familiar with date palms, then the first speakers of Kwarandzyey would have had no need to extend a term for 'doum palm' to refer to them. In historic times northerly oases like Touat or Tabelbala have relied crucially on date production, making them an unlikely starting

⁴ One reviewer suggested that Kw **gà** 'house' was unlikely to be cognate to the 'room' forms. However, it corresponds regularly phonetically, since the vowel **à** in Kw normally results from ***ar(V)**, and the semantic shift involved appears trivial.

	KC	DC	Kw	Ts	Comments
hoe (n.)	kuumu	kumbu	kumu	–	Also in KS, Dendi.
sow (seeds)	duma	duma	dzum	–	Widespread in ES.
garden	–	–	lambu 'garden irrigated by well'	–	Cp. HS lamb-ò 'enclosed vegetable garden'; Hausa lambu 'an irrigated farm or garden.'
village / town / city	koyra	koyra	k^wāra	kóra (B)	Widespread in ES. Source of the Songhay endonym koyraboro and the names of Kw, KC, KS.
house	huu	huu	–	húgù	Widespread in ES.
room	gar	gar-bundu (gar-stick) 'beam of roof'	gā 'house'	gààrú 'pièce aux reserves, toit'	Widespread in ES; but cp. Hausa <i>gàarú</i> 'wall [of] town, compound, or house', Fulani <i>garuwal</i> .
kitchen	fuutey	fu(u)tey	–	fúútáy	= KS fuuta ; also in Kandi Dendi, according to Nicolai (1993).
key	kalkow (D-Y: karkab)	kalkaw 'old-style lock'	kəkkabu	kerkábu (B)	Possibly cp. Kandi D kókró (H), Hausa kuubāa 'lock'; also Mzab and Ouargla kərkabu 'corde très solide qui sert à se maintenir sur un palmier.'

Table 13: Agricultural and architectural terminology reconstructible for PNWS.

point; a source from about 1000 AD already mentions date palms at Sijilmasa (Hopkins and Levtzion 1981:36), and 'date' appears reconstructible for proto-Berber (Kossmann 1999:no. 196). But the oldest dates uncovered by excavations in West Africa, at Tadmekka, date to the 14th century (Nixon 2009); the natural

	Kw	Ts	KC	DC	KS	TSK	Z	D
*kòŋgù: <i>Hyphaene</i> <i>thebaica</i> (doug palm)	kungu: (female) date palm	kóngo (B): rope made of the leaves of the doug- tree	kongom: (fruit of) doug palm	kaŋgo: (fruit of) doug palm	kongu: palm frond kaŋgow: (entire fruit of) doug palm	kòŋgù: fibrous frond of doug palm	kòŋgù: feuille de doug	–
*gàrbêy / *gàbrêy: <i>Balanites</i> <i>aegyptiaca</i>	–	garuai (B): date	gorboy, garboy: date ([esp.] <i>Balanites</i> <i>aegyptiaca</i>)	garboy: date [imported from North Africa]	garbey, gowley: <i>Balanites</i> <i>aegyptiaca</i>	gàwrêy: <i>Balanites</i> <i>aegyptiaca</i>	gàrbây: <i>Balanites</i> <i>aegyptiaca</i>	gǝrbê (Kandi, H): <i>Balanites</i> <i>aegyptiaca</i>
date (<i>Phoenix</i> <i>dactylifera</i> fruit)	tsini	táynì	tomoro, tamoro	garboy, temɔɔ / tomɔɔ / tamɔɔ	teeney	tám(b)órò	dàbíinà	dèbí:nà (H)

Table 14: Terms for the date palm and their cognates.

limits of date cultivation are close to the southern edge of the Sahara (Barreveld 1993), and dates are still not regularly cultivated along most Songhay-speaking areas of the Niger River.

WS preserves a fairly extensive pan-Songhay vocabulary relating to fishing and river life; Table 15 is just an illustrative sample.

Unless all such terms are loans from ES, PNWS speakers must have been located along the river.

3.2 Loanwords

3.2.1 Loanwords into proto-Northwestern Songhay

Both NS and WS have continued to be influenced by Berber long after splitting, and most NS languages remain under heavy Berber influence; so the chance of shared Berber loans having been borrowed independently is relatively high. It can be lowered – although not to zero – by excluding cultural loans,

	KC	DC	KS	TSK (far from river)	K	Z
manatee (cp. Hausa àyū)	ayuu	ayuuma	ayuu	–	–	àyū
aquatic grass sp (<i>Vetiveria nigritana</i>)	diiri	diiri	diiri	–	dííri-nā	dìiri
catfish (<i>Clarias</i> sp.)	deesi	deesi	deeši	dè:si '(any fish'	dèèsi	dèèsi
fish (<i>Labeo</i> sp.)	duu	–	duu	–	dwà (<i>Distichodus</i> spp.)	dū
electric fish	hani	–	hani	–	hání bôr	hání
tigerfish (cp. Hausa zāwài)	jawey	jawey	nzawey	–	–	zāwáy

Table 15: A selection of riverine species.

ones with irregular correspondences, ones for which any NWS language uses a Songhay equivalent, and ones shared with ES. Applying these criteria fairly strictly excludes almost all the shared loans, including promising cases like WS **maasu** ‘middle’ (whose **m** is geminated throughout NS, as in Berber **am-mas**), but leaves at least one Berber loan that looks like a good candidate for proto-NWS:

	KC	DC	Kw	Td	Tg	Ts	Tamashek	Kabye
thirst	faar, faaru	faar	fəd (v) afəd (n)	fāad (H)	fad (Benitez-Torres p.c.)	fāt	fad	fad

Table 16: NWS ‘thirst’, a Berber loan.

The WS forms display the shift of postvocalic ***d** > **r**, regular in ES and WS for inherited vocabulary as seen above. The devoicing of final dental stops is likewise regular in Ts for inherited vocabulary but not for loans; contrast **àlxád** ‘Sunday’ (< Arabic), **àmásándàd** ‘lazy’ (< Tuareg). Thus PNWS was probably in contact with Berber, as might be expected.

One agricultural loan from Arabic predates PNS, giving an upper limit for its age:

	KC	DC	Kw	Ts	Comments
wheat	alkama	–	akama	ǎlkámà	Also ES.

Table 17: ‘Wheat’, an Arabic loan.

‘Wheat’ is ultimately a loan from Arabic **qamḥ**; but, since Kw has a phoneme **ḥ** and PNS already had *q*, it cannot have entered PNS or any later NS language directly from Arabic. The form may be compared to Tuareg (eg Tamashek **ǎlkāma**); but this must itself be a borrowing either from Songhay or from Hausa, rather than directly from Arabic, since in direct loans from Arabic **q** and **ḥ** normally become **q/y** and **x/h**. (There are sporadic cases of **q > k** in Tuareg loans from Arabic, notably **ǎssuk** ‘market’, but I am aware of no other instances of **ḥ > Ø**.) Kwarandzey has had no significant contact with Tuareg or Hausa since splitting from the other NS languages. Therefore either this word entered PNS from Hausa/Tuareg – in which case the split of PNS must postdate the 7th century – or it had already entered PNWS / PS from Arabic, in which case the split of PNWS must postdate the 7th century. Archeological negative evidence on the date when wheat was introduced could not push this limit much more than a couple of centuries later: wheat reached nearby Tadmakkat between 750 and 950 AD (Nixon 2009).

3.2.2 Loanwords into proto-Northern Songhay

In proto-NS, one would expect substantially more Berber loans; in fact, the influence of Berber on all NS languages, continuing long after their breakup, should lead us to expect some words to be wrongly reconstructible simply by virtue of being shared later loans. But, even allowing for that factor, much of the Berber vocabulary in Kw differs from the other three, showing signs of a Moroccan or Zenaga source in contrast to their typical Tuareg source (Souag 2010b); and many loans potentially shared between Kw, Tg, Td and modern Ts seem to have had etymologically Songhay equivalents in the extinct dialect of Agades (eg ‘star’, ‘sky’, ‘wait’.) A few shared loans can be found, such as the following, but the factors discussed mean that little confidence can be placed in them:

	KC	DC	Kw	Td	Tg	Ts	Tamashek	Kabyle
fingernail	boy	boy	iška	ǎškar (RC)	ǎškar	ǎškār	eskār	iššār

Table 18: A Berber loan shared across Northern Songhay.

The best candidates for loans into proto-NS would be unmistakably Tuareg loans with reflexes in Kw, or unmistakably Zenaga/Tetserrét loans with reflexes in both Kw and Ts; only such forms give us some security against the possibility of independent loans. However, no such forms have been encountered so far; I have not so far encountered any clear-cut Tuareg loan in Kw, nor any clear Zenaga/Tetserrét loan in Ts. Undoubtedly later contact with Tuareg (in the Azawagh) or Moroccan Berber and Arabic (in Tabelbala) has led to the replacement of some older loans; but their relative paucity suggests that proto-NS had a much larger Songhay vocabulary than any of its descendants. The continued relevance of Berber influence, however, seems to be confirmed by grammatical influence on PNS; in addition to the centrifugal suffix discussed earlier, all NS languages allow the Tuareg-like construction Num **n** NP for numbers greater than 10 (eg Kw **aləf n bə** ‘1000 GEN person’, Td **táafinda n zayrí** ‘20 GEN day’, Tg **akos-temerwin n kilo** ‘40 GEN kilometre’, Ts **xàmsín in bàⁿgù** ‘50 GEN well’), even when the numbers themselves derive from Arabic rather than Berber (while consistently retaining the pan-Songhay order N Num for 1–10.)

New Arabic loans might also be expected in proto-NS; but similar difficulties apply, since the trans-Sahara trade and religious training make independent influence possible. In Ts (including Emghedesie) most numbers above 4 are Arabic loans; for Kw, the same is true above 3. But Td and Tg use Berber loans, while the Kw forms are identical to regional Maghrebi Arabic rather than showing any peculiarities suggestive of a longer history; while the Ts forms must be relatively old, since In-Gall is no longer under Arabic influence, there is no proof that they date back to proto-NS. The best support for such loans would be for them to be found throughout NS; but in Rueck and Christiansen’s 381-word list, the few Arabic loans to be found in Tadaksahak are shared with WS/ES languages (‘all’, ‘morning (prayer)’) or with Tamashek (‘pig’, ‘answer’, ‘rifle’, ‘strong’, ‘break’, ‘calabash’), or show clearcut Berber morphology (‘ring’).

The ecological data and the loans are compatible with two principal hypotheses.

3.3.1 Hypothesis A: Eastern Songhay influence on Western Songhay has been mild

The many shared innovations unique to NS force us to postulate that it spread out, not directly from Gao or the ES area, but from some other centre sufficiently separate, and with a sufficiently large Songhay-speaking population, to develop its own linguistic norms. Since PNS included many innovations not found in WS, we would be forced to look for a centre separated from WS as well as ES, and

hence presumably not on the Niger River. The place would have to be one that, given geography and known trade routes, can reasonably be the source for the language's transmission in two very different directions: Tabelbala and Takedda/Azelik (where the ancestors of the people of In-Gall came from, cf. Bernus (1972).) If a map of medieval trans-Saharan trade centres is examined (for example, the one in Moraes Farias (2001)), only two possibilities appear at once compatible with agriculture, far enough south, and not on the river: Takedda/Azelik itself, or Tadmakkat in eastern Mali. (If either is valid, we may assume that NS split up before the 14th century, as indicated by the absence of date palm terminology.) Early descriptions of Tadmakkat evoke a mixed population such as might be expected given the level of Berber influence in NS; according to Ibn Ḥawqal, their rulers, the Banū Tānmāk, were said to be “originally Sūdān [black people] whose skin and complexion became white because they live close to the North and far from from the land of Kawkaw, and that they descend on their mother's side from the progeny of Ham” (Hopkins and Levtzion 1981:50), which Moraes Farias (2001:cxl) takes as a reference to the Berberisation of originally Black African groups.

The most direct migration routes to Tabelbala from either oasis would take the NS speakers through Touat. It is therefore encouraging to note the existence of Songhay loans in this region. Kossmann (2004) discusses some possible but doubtful influence from Songhay on Gourara Berber (Taznatit); to these I would add two loans that appear secure:

Taznatit (author's fieldwork with speakers from Timimoun and Ouled Aissa): **kambi** 'hand' or 'illness of the hand' (used only in insults and curses)

Songhay: Kw. **kambi**, Td/Tg **kambá**, Ts **kâmbà**, KC **kamba**, KS **kabe / kaba / kambe / kamba**, K **kâbè**, TSK **kâmbè** 'hand'

Taznatit (Boudot-Lamotte 1964): **dəmsi** 'peas', sg. **tadəmsiit**

Songhay: DC **dəmsu**, KC **damsu**, Z **dámsi kúkúrkú** 'Bambara groundnut (*Vigna subterranea*'); K **dəmsi**, Z **dámsi**, D **dénsi** 'peanut'; TSK **dámsi** 'peanuts (extends to groundnuts)'.

The latter word has no reported Berber cognates (Naït-Zerrad 1998:s.v. DMC 3), and the semantic shift required is very plausible (mirroring English 'peanut' < 'pea' + 'nut'); the Bambara groundnut's seeds “are shaped more like peas than peanuts” (BSTID 2006:53), and it has “pealike yellow blooms” (BSTID 2006:62). Since peanuts are originally a New World plant (SHEL UGA), the original Songhay referent can be assumed to be the Bambara groundnut. Further south in the region, the Arabic dialect of Tidikelt uses a Songhay loanword **agašu** 'calabash' (Anonymous 2008), cp. Ts/TSK/Z **gáású**, KC/DC/KS **gaasu**; but this was probably borrowed via Tuareg, eg Tamashek **ájášu** (Heath 2006). More

data on Songhay loans in this region is highly desirable in order to determine whether any can be specifically identified with Northern Songhay, which would allow us to rule out the null hypothesis that all such loans were brought by ES/WS-speaking slaves or traders in more recent times.

On this hypothesis, while PNS must have been geographically separate, it is less certain whether PNWS had a homeland separate from ES. A glance at a map suggest that the easiest point of origin for both to have spread out from, given the ease of travel through valleys, is Gao; failing that, a location a little further up the river, eg Bourem, would be fairly accessible, but in any case the relevant area would currently be KS-speaking. This would fit part of Nicolai's "vehicular Songhay" hypothesis, which suggests that PNWS was simply a foreigner-talk used with non-native speakers wherever Songhay was spoken; "one must certainly have heard vehicular Songhay on the streets of Gao!" (Nicolai 1993:63). However, one could equally suppose that the expansion of the Songhay Empire spread ES at the expense of NWS varieties that were once present just north of Gao.

3.3.2 Hypothesis B: Eastern Songhay influence on Western Songhay has been profound

A disadvantage of Hypothesis A is that it goes considerably beyond the available historical evidence. We have no independent reason to believe that Songhay was spoken in Tadmakkat, and no evidence that the Songhay influence in Touat came from an extinct NS language rather than from ES/WS; nor has evidence for a distinct PNWS at Gao or Bamba been observed. An alternative hypothesis would dispense with all this, yielding a model easier to reconcile with the historical data but linguistically more adventurous: that PNS was spoken in Timbuktu.

On this model, Western Songhay used to share all the innovations listed for PNS until the expansion of the Songhay Empire. The prestige of Gao Songhay, and the ease of communication along the river, led to widespread diglossia, and ultimately to the replacement of "basilectal" WS with a "mesolectal" form much closer to ES. The evidence for links between Timbuktu and Tabelbala need not be belaboured; the caravan route between them remained active into the early twentieth century (Barth 1851; Champault 1969). Links with Takedda/Azelik are less firmly attested, but it is clear that regularly traveled routes linked the two; Ibn Baṭṭūṭah went from Timbuktu to Takedda via Gao, and families from Timbuktu are known to have fled to Takedda in the 15th century to avoid persecution by Sonni Ali (Levtzion 1973:205).

However, it is difficult to believe that such conspicuous innovations as the 2nd person plural and the genitive in **n** would simply have vanished without trace in

WS. A test might be provided by the dialect of Araouane north of Timbuktu, which is reported to preserve the **z/j** distinction lost elsewhere in WS (Nicolai 1980); if this entirely undocumented dialect shares notable innovations with NS, then this hypothesis would be strengthened. If any of Timbuktu's Songhay language manuscripts in Arabic script is more than a couple of centuries old, it too might provide a test for this hypothesis, although due allowance must be made for the preference for prestige dialects in written works.

4 Locating proto-Songhay

On Hypothesis A, PNS was located somewhere northeast of Gao. If the rather uncertain Nilo-Saharan hypothesis (Greenberg 1963) is accepted, Songhay must originally have come from the east; could PNS derive from Songhay speakers who remained in the desert, rather than from later migrations away from the river? The probable Mande influence on proto-Songhay (Creissels 1981) does not adequately distinguish these two possibilities, since Mande languages, notably Soninke, appear to have been spoken well into the southern Sahara. Gur loanwords into Proto-Songhay, however, would provide evidence against this remote possibility, since there is no evidence that Gur languages were ever spoken in the Sahara.

To the south Eastern Songhay adjoins the Gur family, and Zarma oral tradition suggests that much of the Zarma-speaking area was formerly inhabited by Gurma and Kurumba groups (Alpha Gado 1980). The Central Gur subfamily of Niger-Congo is considerably more diverse than Songhay, and must presumably have a correspondingly greater time depth; several of its members are spoken in areas where Songhay influence has been fairly minor. Any Songhay word similar to a form in some branch of Gur that is reconstructible for proto-Central Gur, with non-trivial regular correspondences, must therefore be a loan or a coincidence; even if the direction of the loan is taken to be pre-Songhay > proto-Central Gur, this would still indicate that the two were in contact. The state of Gur reconstruction limits the search, but a couple appear even in the 96 cognate sets of Manessy (1979); selected forms for these appear in Table 19.

As a technological word, 'cultivate' has a problematic tendency to spread; not only is it found in Gur and Songhay, it can also be compared to Soninké **fara** 'terrain irrigué', **faara** 'jardin potager' (Nicolai 1984:77). 'Horn', however, is attested in NS as well as WS (KC **hilli**) and is presumably not a cultural loanword; while Songhay-speaking merchants may well have reached all parts of the Gur world, it is unlikely that such relatively low-level contact would suffice to bring a word for 'horn' from Songhay into languages of Ghana or central Togo. Moreover, the same form appears to have plausible cognates within Gur outside of Central Gur, eg

	NS	Z	Koromfe/ Kurumba (isolate within Central Gur) – N Burkina Faso)	Dagara (Oti- Volta, Western) – Burkina Faso / Ghana	Gurmance (Oti-Volta, Gurma) – NW Togo	Naudem (Oti- Volta, Yom- Naudem) – central Togo	Isala (Gurunsi, Central) – N Ghana	Kabre (Gurunsi, Eastern) – central Togo	Proto- Central Gur
horn (65)	Td hillí	hillí	yille, yila	ʔil, ʔilɛ	yinti, yina	ʔilu, ʔili		yilo, yin	*ɲid
cultivate (16)	Ts fari 'field' (B)	fâr	fēr				parɛ	xayɪ	*vad

Table 19: Gur-Songhay comparanda.

Tyurama **nyeni**, Senar **nyene**, etc. (Prost 1956). Vowel-initial words are conspicuously rare throughout Songhay, a phenomenon most easily explained by a past insertion of initial **h**, as in nearby Hausa (Newman 2002). Nor does 'horn' have any counterpart in Saharan, Mande, or Berber, even by the very inclusive standards of Nicolai (1984; 2003). Greenberg (1963:140) links it to some Nilo-Saharan examples half a continent away (Kunama **gi:la**, Barea **kelli**, Afitti **gwur(tu)**); but it seems more reasonable to assume that it is a loan into Songhay from one of the immediately adjacent Gur languages, such as Gurmance, than to seek comparisons so far afield. Gur languages are currently found only south of the Niger River, and there is no evidence that they were ever present in the Sahara; so this would imply that proto-Songhay was spoken not far from its heartland in historic times. A possible weakness of this argument is that Emghedesie had an apparently unrelated form of unknown origin, **tanó** (B); this might be taken as the original NS form, and the Tadaksahak one as a loan from ES.

5 Conclusion

The languages of In-Gall and (formerly) Agades in Niger, the nomadic Idaksahak and Igdalen, and Tabelbala in Algeria, form a coherent genetic subgroup of Songhay, Northern Songhay, even though no other known historical evidence links Tabelbala to the others. Equally geographically surprisingly, Northern and Western Songhay (the language of Djenné and the region around Timbuktu) derive from a common source, Northwestern Songhay, separated by a significant

number of shared innovations from the Eastern Songhay dialects spoken in Gao and further south, although continued contact between Western and Eastern Songhay has blurred some of the differences between them. Ultimately, Songhay probably spread northwards out from a region in contact with Gur languages; early Songhay centres like Gao and Bentyia would fit the bill.

There are two major possible accounts for this expansion. If Northwestern Songhay originated in or near Gao, then Northern Songhay is likely to have been present in oases such as Touat and Tadmakkat for which it is not recorded in historic times, and Western Songhay is likely to have formerly been spoken rather further east than at present. If it originated in Timbuktu, then Western Songhay was once substantially more different from Eastern Songhay than it is today, and intra-Songhay language mixture has played a large part in its history. Either case would call into question the otherwise natural assumption that Western and Northern Songhay result from the expansion of the Songhay Empire; it appears more probable that the expansion of the Songhay Empire spread Eastern Songhay, partly at the expense of an already existing Western Songhay. The choice between these theories would be facilitated by data from the dialect of Araouane, a study of older Western Songhay manuscripts, and a thorough investigation of Songhay loans in the Touat region.

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