### **Images of potential extended Arabic characters**

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These scans are intended to accompany document L2/03–044 "Encoding Arabic extensions", and provide illustrations of some (not all) of the potential new characters mentioned in that discussion.

The images here are taken from:

Chtatou, Mohamed: Using Arabic script in writing the languages of the peoples of Muslim Africa. Rabat: Institute of African Studies, 1992.

This monograph discussed a number of workshops held with the aim of establishing standardized Arabic-script orthographies for African languages. These workshops looked at existing, traditional practices as well as newly-suggested innovations.

The samples shown here include a variety of letters that are not represented in Unicode 4.0. Some of the more "interesting" letters are highlighted. Note that in many cases, several different writing conventions for the same language are mentioned. Even if some characters are eventually dropped during orthographic standardization/reform of these languages, the fact that they have been traditionally used by some writers means that they need to be taken into consideration, otherwise existing texts cannot be encoded.

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## COMPARATIVE TABLE OF ARABIC AND SONGHOY CHARACTERS

TABLE I

Similar characters in Arabic and Songhoy		Specific Arab	ic characters	'Specific Songhoy characters			
Latin Arabic characters		Latin characters	Arabic characters	Latin characters	Arabic characters		
а	a j θ		ٹ	р	ف		
b	Ļ	ħ	τ.	L			
t	ت	kh	ż	ny			

(19) cf. UNESCO/BREDA, Rapport général du séminaire atelier sur l'élaboration d'un système unifié de transcription du Songhoy en caractères arabes, du 14 au 19 mars 1987, Bamako, p.6.

Page 28: BEH skeleton with two dots vertically above right end; NOON or BEH skeleton (ambiguous, because chart shows linked initial form) with dot above and two dots below. Songhoy language.

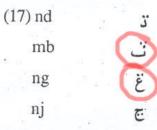
j	τ	Ż	ذ	ŋ	Ë
d	د	ş	ص	g	Ë
r	ر	ģ	مں من ط		
z	i	ţ	ط		
S	س	Ę	ظ		
š	ش	2	٤		
f	ف	Я	ė		1 A 4 4 4 4 4
k	ك	q	غ ق		
1	J				1. 
m	P				
n	i				
h .	ھ				
w	و				a a s a a
у	ي				

Page 29: HAH with two dots above; AIN with two dots above. Songhoy language.

. . 1

	1				**
a	. ط	Ż	S	ŋ	τ̈́
f	ف	2	3	р	
k	ك	Я	ė	У	
1	J	q	ق		
m	r .				
n	i				
W	. و				
У	ي				

Fulfulde has adopted the same transcription rules as Songhoy (cf. Table I) except for the prenasalized consonants for which it devised new graphemes :



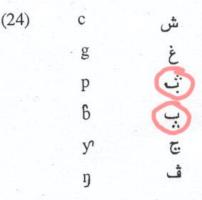
As for the sound /y' which does not exist in Songhoy, it was transcribed as  $/\frac{1}{2}$  and the implosive /b / as /i Also the Arabic "tanwīn" or nunation " $\frac{99}{=}$  has been replaced in this transcription by the nasal /i / at the end of the word.<sup>(21)</sup>

(21) "When the three vowel marks are written double at the end of a word, e.g.  $\frac{99}{2}$ ,  $\frac{1}{2}$  and  $\frac{1}{2}$  they represent the three case endings, nominative, accusative and genitive of a fully declined, indefinite noun or adjective. The second vowel is pronounced "n"! Thus we have  $\frac{2}{2}$  kalbun, a dog (nom.),  $\frac{1}{2}$  kalban, a dog (acc.) and  $\frac{1}{2}$  kalbin a dog (gen.). This process of doubling the final vowel is called  $\frac{1}{2}$  tanwin, or, by orientalists, nunation, or "n'ing", from the Arabic name for the letter *n*. (cf. Cowan, (1958 : 6)).

Page 34: HAH with two dots above; FEH with two dots below; BEH with three dots in a horizontal line below; BEH with three dots pointing downward above right end; AIN with two dots above; MEEM with dot above. Fulfulde language.

#### 3.2.2.2. Consonants

The 7 simple consonants that are proper to Pulaar have been transcribed in the following manner taking into consideration traditional transcriptions used for centuries by local scribes and religious scholars :

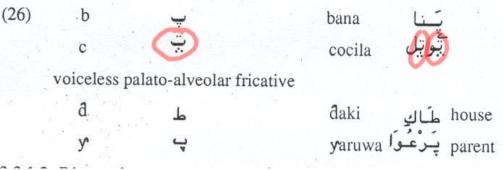


Page 39: BEH with three dots above and one below right end; BEH with three dots pointing upwards below (right end?). Pulaar language.

3.3.1. Hausa

The consonants that do not exist in the Arabic language have been transcribed in Hausa as follows :

3.3.1.1. Simple consonants



Page 42: BEH with three dots pointing upwards below and two horizontally above. Hausa language.

As for the labialized velar g<sup>w</sup>, it is transcribed by adding two dots to a normal ghayn /¿/: (28) g<sup>w</sup> ; g<sup>w</sup>aba

Page 43: AIN with three dots pointing downwards above. Hausa language.

### TABLE IV

# COMPARISON OF LETTERS PROPOSED BY MALI AND SENEGAL FOR PULAAR / FULFULDE

	Proposed to	ranscription			
Latin characters	Mali	Senegal	Examples		Gloss
c	÷	ش	cakka	نَّكٌ ۔ شَكٌ	necklace
g	Ë	È	gerte	غرت غرت	ground-ni peanut
p		ر بن	paaka	یاكَ بَّاكَ	knife
ny	(j)	(j)	nyiiwa	نِيوَ	elephant
y•	E	ē	yiyal	يبيبُلْ جيبَلْ	bone
ŋ	Ë	ق	ŋenyema	خَيْمَ قيْمَ	earring
6	<u>م</u>	ريت م	boolde	مَّولُد بِئولُد	club
nd	3	ند	ndaayri	ڌ ايٽر نداير	ñenupha/

Page 45: AIN with two dots above; FEH with two dots below; BEH with dot above and two dots below; BEH with three dots in horizontal line below; HAH with two dots above; MEEM with dot above; BEH with three dots above and one below; BEH with three dots pointing upwards below. Pulaar and Fulfulde, Mali/Senegal.

#### TABLE V

# COMPARISON OF LETTERS PROPOSED BY MALI AND NIGER FOR THE TRANSCRIPTION OF ZARMA / SONGHOY

	Proposed tra	inscription						
Latin characters	Mali	Niger	Examples	Gloss				
с	÷	3	ciiri	ٽِيرُ چير	salt			
g	(inc	į	gaara	غُّار ُ غَار َ	to sollicit			
ny	(j)	ػ	nyaamoy	نِيَامَى نَـَامَى				
p		, r	paate	یکات پکات				
ŋ	Ë	(ié)	naari	َّضَار غَار	rice			
0	4	-	koyra	کیر	village			

Page 47: AIN with two dots vertically above; BEH with dot above and two below; FEH with two dots below; HAH with two dots above; HAH with three dots pointing upwards below; BEH with three dots pointing upwards below; AIN with three dots pointing downwards above. Zarma and Songhoy, Mali/Niger.

### TABLE VII

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	ALPHA				
Similar characters	Specific characters	Pulaar/Fulfulde	Pulaar/Fulfulde		
in Arabic and Pulaar/Fulfulde	to Pulaar/Fulfulde	prenasalized sounds	vowels		
î	÷	مب	(1)		
ų		ند	<u> </u>		
ت		جن	0 < >		
5	Ë	نج نع			
د	G		01: 8		
د					
س		a			
ط					
_ ت		. *			
J					
Ċ					
ھ					
و					
ي					
ق					

### PULAAR / FULFULDE STANDARDIZED ARABIC ALPHABET

Page 50: BEH with three dots in horizontal line below; BEH with three dots above and one below; AIN with two dots above; BEH with dot above and two below right end; FEH with two dots below. Pulaar and Fulfulde.

## (34)

1 without hamza for a, e, i, o, u

1 without fatha for aa

Pesian and Urdu symbol for  $\mathbf{p}$  (instead of

for **b** (instead of )

ی for c (instead of )

c for y (no change)

for **d** (no change) م

(غ Persian and Urdu symbol for g (instead of

ن for ŋ (instead of غ

 $\frac{1}{4}$  for the vowel e

Page 54: BEH with three dots pointing upwards below; BEH with inverted V below; BEH with V above; AIN with two dots above. Zarma, Songhoy, Pulaar, Fulfulde.

### TABLE XI

### Consonants and semi-vowels

Latin symbol	Arabic symbol					Comoro	Wolof	Songhoy	Kanuri	Soussou	Mandinka	Soninke	Hausa	Pular	Tamasheq	Arabic
a	1					1	1	1	1	1	1	1	1	1	1	1
b	<u>ب</u>					Ļ	ب	<u>ب</u>	Ļ	Ļ	ب	Ļ	Ļ	ب	ب	Ļ
р Б						ب پ	پ		ب	Ų	پ	ب		ų		
	U P					]÷ -]							Ļ	ت ×ر		
ľ					_	Ľ	ت	Ē	Ľ	Ē	-	-	Ē		Ē	-
_	<u>ت</u>				_		ت	ت	ت		<u>ت</u>	ت	ت	2	<del>ت</del>	-
l j	<u>ث</u>										-			-		2
J	5					5	5	5	5	-	5	5	5	5	5	5
y č	<u>ت</u>									-			<u>c</u>	5		
<u></u>	<u>ت</u> ۲					5		4.			-				-	-
kh	ċ		+-+			ż	ż			ż	ż				ż	2.2
	3					5	5	L	L	L	2	5	L	L	2	0
d d	2					r K		1			-	-	-		-	-
ġ	i							-		-						i
r	J					J	5	J	J	J	ر	J	5	J	J	5
ŗ	3				-	-			2		-	-	-	-	-	-
Z	j					i		i					i	i	3	i
z ž	ژ:															-
s vs	س					س ش	س	س		س	س	س	س	س	.س	0
	ش					ش		ش					ش	ش	ش	ں ش
S	من				4									- to	ص	0
d	ض				_	-		1							<u>ض</u> ط	ين ع ب
1	4		+	-	_	-						-	ط	ط	ط	مل
d .	<u>ظ</u>														ظ	ظ
	e è										-					3.
gh	È					ė	-		-	-					ė	Ê
ŋ f	2					فد	je j	تى غ	L.	<u>ن</u> د	L	ie i	ن.	غ ف		
B														<u> </u>	ف	ف
V	ب					۲ ۲										-
q k	ق ک ک						En La Ge					-			ق	ق
	2	-				Z Z	Z	La L	کر لگ			2	ک	ک	2	ق
g K						3	3	3	گ	Z	3	ک گ	1 1 M	ک گ	E P C	
1	4		1										÷			
m	IJ					J	J	J	J	J	J	J	J	J	J	J
	<u> </u>					5	1	٢	1	٢	1	1	٢	٢	1	1
n	ن				_	Ċ	i	Ċ	ċ	Ċ	i	i	i	i	i	i
h h			+			ي ا	į.	ڹ			i	ÿ		į.		
w					_			_	_	ھ_	_	_	A	_	_	_
y y	3					و	و	و	و	و	J	و	و	e	و	J
1	ي ا					ي	ي	ي	ي	ي	ي	ي	ي	ي	ي	ي

Page 58: Chart comparing characters used in several African languages.