

To: Unicode Technical Committee

From: Adam Yeo, Atelier National de Recherche Typographique; Debbie Anderson, Script Encoding Initiative, UC Berkeley; Jesus MacLean, Boston University; Neil Patel

Subject: Bété (Ivorian alphabet) working document

Date: November 2023

This is a report on current progress with an Ivorian alphabet, Bété script. This is an update of [L2/19-044](#)

Bété script was formulated in 1956 by Frédéric Bruly Bouabré as a way to teach people writing without having to depend on Latin script.¹ Bouabré's works were acknowledged in his lifetime, yet the most comprehensive display dedicated to this project within the context of postcolonial liberation was posthumous, with the Museum of Modern Art in New York's exhibition *Frederic Bruly Bouabre: World Unbound* which was installed alongside *The Project of Independence: Architectures of Decolonization in South Asia 1947-1985*.²

Cote d'Ivoire / Ivory Coast is a country in Africa literally defined by the colonial/imperial export of ivory.³ Though the script is postcolonial, a site where Bouabré initially found inspiration, Daloa, has prehistoric roots.⁴ That Bété is part of a larger language complex is a powerful argument made by Lynell Marchese in *Tense/Aspect and the Development of Auxiliaries in Kru Languages*:

[Maurice] Delafosse (1904) was the first to point out that the Sassandra River forms a natural boundary, dividing the family into two parts (see map 1). Exceptionally, Nyabwa, a Western language, is spoken in a region to the east of the Sassandra River. He labelled the Eastern group 'Bete' and the Western group 'Bakwe'. While this basic subdivision is certainly justified, it seems wiser to refer to Eastern Kru and Western Kru, since Bete and Bakwe are names of individual languages within each group.⁵

For an example illustrating how glyphs related to the human body regularly appear within this language complex, see Marchese:

In most Kru languages, directionals are expressed by means of body parts. Thus the word for 'back' may be used to express the notion 'behind'. (1986:108)

Utility of such an approach may also be seen when the language is explained by children:

<https://artsandculture.google.com/story/fr%C3%A9d%C3%A9ric-bruly-bouabr%C3%A9-he-who-does-not-forget-contemporary-african-art-collection-the-jean-pigozzi-collection/OgUhXvfDjWyBKg?hl=en>

¹ Nzewi, Ugochukwu-Smooth C.. *Frederic Bruly-Bouabre: World Unbound*, MoMA: NY. 2023, page 10; see also <https://www.unicode.org/L2/L2017/17323-bete-progress.pdf>.

² <https://www.moma.org/calendar/exhibitions/5348> and <https://www.moma.org/magazine/articles/698>.

³ An example of the use of ivory during the early Roman empire is in the collection of the National Museum of Slovenia, dated to the third century CE: <https://www.nms.si/en/collections/highlights/710-Ivory-dolls-use>. For Ivory Coast's maritime colonial history see e.g. Marchese 1986:2-3, 11.

⁴ "Daloa is one of the few sites in Ivory Coast where archaeologists have found evidence for prehistoric activity. Upper Palaeolithic implements have been retrieved from Issia village and the caves of Korah Zouzouza, both a few kilometres from the modern-day city." Tom Sykes, *Ivory Coast: the Bradt Travel Guide*, Globe Pequot Press: 2022, 176.

⁵ <https://www.sil.org/system/files/reapdata/15/77/51/157751593474230680207400134496804045425/20012.pdf>, page 3.

There are currently ~10 elders of the community who actively use the script. Encoding would allow for greater communication possibilities. 17 schoolchildren have also been taught the script. Estimated community size ranges from over a half a million to nearly two million people (*The Peoples of Africa: An Ethnohistorical Dictionary* by James Olsen, 1996, page 93). Languages bring communities together, yet also assist communities wishing to share their culture. A central feature of Ivorian culture being strength inherent in hybridity (*brasse* or “intermixed” locally) as an impetus for the creation of Bété script may be seen, for example in a work on display in the 2022 Museum of Modern Art, New York, exhibit *Frederic Bruly Bouabré: World Unbound*: Discours de Léopold Sédar Senghor à l'Université d'Abidjan

Bouabré wrote many publications, including
<https://tenthousandrooms.yale.edu/node/117433/mirador?canvas=194809>

An example of Bété script can be seen in the initial slide for Deborah Anderson’s presentation “Missing Scripts: Script Encoding Initiative” (<https://vimeo.com/379769338>).

These are exhibits dedicated to Bété:

1986 "Magiciens de la Terre",

<https://museum.stanford.edu/exhibitions/alphabete-world-through-eyes-frederic-bruly-bouabre>

- "Universal Alphabet Art", Banca del Monte di Lucca Foundation. , 2021

- Bruly Bouabré 59th Venice Biennale Jul 6, 2022

- Frédéric Bruly Bouabré June 2 - July 30, 2022 - MAGNIN-A- PARIS

- “Frédéric Bruly Bouabré: World Unbound” MoMA New York, 2022

<https://www.moma.org/calendar/exhibitions/5348>

Scholarship on Kru languages (including an estimated 1.8 million people in the late 1970s), which Bété is among includes:

The syntax of verbs : from verb movement rules in the Kru languages to universal grammar

The Ministry of National Education and Literacy of Ivory Coast is prototyping bilingual education in 37 schools, including 22 for the Integrated School Project (PEI) and 15 for the ELAN-Afrique Côte d'Ivoire Initiative, with 10 languages representing the four large linguistic groups, as a teaching/learning medium: Agni, Abidji, Baoulé, Senoufo, Koulango, Yacouba, Toura, Dioula, **Bété**, Akyé

A Bété virtual keyboard was created

<https://languagetools-153419.appspot.com/bete/>

<https://languagetools-153419.appspot.com/bete/kbtransforms/>

<https://www.ruphus.com/bete/render-table.html>

More details on the script can be found in:

Yeo, A. and Cao, F. (2021) Study on the Application of the Bété Script in Modern Graphic Design. *Art and Design Review*, 9, pages 156-179. doi: 10.4236/adr.2021.92014.

<https://www.scirp.org/journal/paperinformation.aspx?paperid=109206>

The inclusion of a Bete translation of the Universal Declaration of Human Rights could be an initial digital project for an application of the script:

<https://www.ohchr.org/en/stories/2016/11/universal-declaration-human-rights-now-available-more-500-languages-and-dialects>

An unencoded version of this text is included as an appendix.

Ivorian Children's Language Assessment Toolkit for Abidji, Attié, Baoulé, and Bété

<https://www.oise.utoronto.ca/boldlab/ivorian-language-toolkit/> notes:

"Language assessments in a child's native language (rather than in French) are not available."

Script Name



















The name BETE is acceptable for the script. 1.8 million people are connected with Kru languages and the script can be seen as modeling Kru languages generally. In addition to linguistic and historical reasoning for considering this an "Ivorian alphabet", along with "Bété script", there are also practical considerations.⁶

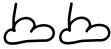













This is the most current version of the font, by Adam Yeo:



















Transcription	Unicode Name	Fontlab Name	Glyph
bhlo2	BHLOO2	bhloo2-bete	
sô	SO	so-bete	
ta	TA	ta-bete	
trê	TRE	tre-bete	≡

⁶ Bouabré dedicated the "Ivorian Alphabet" to Felix Houphouet-Boigny, Ivory Coast's late former president (Nzewi 2023). Boigny's interactions with Bété as a people were fraught. Tensions around protection of rainforests in "the western forested area of Gagnoa - also a historically Bété area" led to "brutal" action "including the assassination of the protest leader Nragbe Kragbe". Scott Straus, *Making and Unmaking Nations: War, Leadership, and Genocide in Modern Africa*, p.128; Sykes estimates death of around four thousand people (21); see also Jean-Pierre Dozon, "Les Bete: Une creation coloniale." in *Au cœur de l'ethnie: Ethnie, tribalisme, et etat en Afrique*, ed. Jean-Loup Amselle et Elikia M'Boloko, Paris: La Decouverte. 1985: 49-86. The next president of Cote d'Ivoire was born into a family of the Bété people: <https://www.britannica.com/biography/Laurent-Gbagbo> .




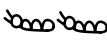














kroi	KRWA	krwa-bete	𐌵
go	GOO	goo-bete	𐌶
gou	GU	gu-bete	𐌷𐌷
tcho	COO	coo-bete	𐌸
tchui	CUI	cui-bete	𐌸𐌸
lou	LU	lu-bete	𐌹
lui2	LUI2	lui2-bete	𐌺
ti	TI	ti-bete	𐌻
bho	BHOO	bhoo-bete	𐌼
bhé	BHEE	bhee-bete	𐌽𐌽
bhi	BHI	bhi-bete	𐌽𐌽
pa	PA	pa-bete	𐌾
peu	PEU	peu-bete	𐌿𐌿
do2	DOO2	doo2-bete	𐍀
dui	DUI	dui-bete	𐍀𐍀
bree2	BREE2	bree2-bete	𐍁
bri2	BRI2	bri2-bete	𐍁𐍁
grou	GRU	gru-bete	𐍂















grui			
	GRUI	grui-bete	
gba			
	GBA	gba-bete	
di			
	DI	di-bete	
do			
	DOO	doo-bete	
gou2			
	GU2	gu2-bete	
djui			
	DJUI	djui-bete	
n'eu			
	NY	ny-bete	
brou			
	BRU	bru-bete	
bhô			
	BHO	bho-bete	
bheu			
	BHEU	bheu-bete	
bhyï			
	BHYI	bhyi-bete	
bhou			
	BHU	bhu-bete	
bro			
	BROO	broo-bete	
broè			
	BROE	broe-bete	
bou			
	BU	bu-bete	
ba			
	BA	ba-bete	
beu			
	BEU	beu-bete	
bé			
	BEE	bee-bete	

bê	BE	be-bete	
beu2	BEU2	beu2-bete	
b'yi	BYI	byi-bete	
bré	BREE	bree-bete	
bri	BRI	bri-bete	
bui	BUI	bui-bete	
brou2	BRU2	bru2-bete	
brui	BRUI	brui-bete	
brui2	BRUI2	brui2-bete	
dé	DEE	dee-bete	
bi	BI	bi-bete	
bô	BO	bo-bete	
bra	BRA-BLA	bra-bla-bete	
bra2	BRA2-BLA	bra2-bla-bete	
brê	BRE	bre-bete	
brô	BRO	bro-bete	
bha	BHA	bha-bete	
bhê	BHE	bhe-bete	












bhoui	BHUI	bhui-bete	
bhla	BHLA-BHRA	bhla-bhra-bete	
bhlé	BHLEE	bhlee-bete	
bhlê	BHLE-BHRE	bhle-bhre-bete	
bhli	BHLI	bhli-bete	
bhlo	BHLOO-BHROO	bhloo-bhroo-bete	
bhlô	BHLO	bhlo-bete	
bhlou	BHLU	bhlu-bete	
da	DA	da-bete	
tchê2	CE2	ce2-bete	
tché	CEE	cee-bete	
tchê	CE	ce-bete	
dê	DE	de-bete	
dê2	DE2	de2-bete	
dô	DO	do-bete	
dô2	DO2	do2-bete	
dô3	DO3	do3-bete	
dou	DU	du-bete	

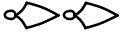












dui2			卅卅
	DUI2	dui2-bete	
doi			𠂔
	DWA	dwa-bete	
dra			𠂔
	DRA	dra-bete	
dré			𠂔
	DREE	dree-bete	
drê			𠂔
	DRE	dre-bete	
dri			𠂔
	DRI	dri-bete	
dro			𠂔
	DROO	droo-bete	
dru			𠂔
	DRUI	dru-bete	
drô			𠂔
	DRO	dro-bete	
drou			𠂔
	DRU	dru-bete	
drui2			𠂔
	DRUI2	drui2-bete	
dja			𠂔
	DJA	dja-bete	
djé			𠂔
	DJEE	djee-bete	
djê			𠂔
	DJE	dje-bete	
dji			𠂔
	DJI	dji-bete	
djo			𠂔
	DJOO	djoo-bete	
djô			𠂔
	DJO	djo-bete	
djou			𠂔
	DJU	dju-bete	

fa	FA	fa-bete	
fé	FEE	fee-bete	
fê	FE	fe-bete	
feu	FEU	feu-bete	
fi	FI	fi-bete	
fo	FOO	foo-bete	
fô	FO	fo-bete	
fou	FU	fu-bete	
fui	FUI	fui-bete	
fu	FUE	fue-bete	
fra	FRA	fra-bete	
fré	FREE	free-bete	
fra2	FRA2-FLA	fra2-fla-bete	
fré2	FREE2-FLEE	free2-flee-bete	
fré3	FREE3	free3-bete	
fri	FRI	fri-bete	
frê	FRE	fre-bete	
frou	FRU	fru-bete	















fro			
	FROO	froo-bete	
fro2			
	FROO2-FLOO	froo2-floo-bete	
frô			
	FRO	fro-bete	
frui			
	FRUI	frui-bete	
ga			
	GA	ga-bete	
gue			
	GE	ge-bete	
güe			
	GE	ge-alt-bete	
güi			
	GI	gi-bete	
gô3			
	GO3	go3-bete	
gûhĩ			
	GYI	gyi-bete	
gô			
	GO	go-bete	
go2			
	GOO2	goo2-bete	
gûhĩ2			
	GYI2	gyi2-bete	
gô2			
	GO2	go2-bete	
















gûh3			𐌵𐌵
	GYI3	gyi3-bete	
gra			𐌺𐌺
	GRA	gra-bete	
grê			𐌶
	GRE	gre-bete	
gra2			𐌶𐌶
	GRA2- GLA	gra2-gla-bete	
gré			𐌶𐌺
	GREE	gree-bete	
gré2			𐌶𐌶
	GREE2	gree2-bete	
gri			𐌶
	GRI	gri-bete	
gri2			𐌶𐌶
	GRI2	gri2-bete	
gro			𐌶𐌺
	GROO	groo-bete	
groé			𐌶𐌶𐌶
	GROE	groe-bete	
grô			𐌶𐌶
	GRO	gro-bete	
Gro3-bete			𐌶
	GRO3	gro3-bete	
groé2			𐌶𐌶𐌶
	GROE2	groe2-bete	
grou2			𐌶𐌶
	GRU2	gru2-bete	
grui2			𐌶𐌶𐌶
	GRUI2	grui2-bete	











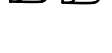



gbeu	GBEU	gbeu-bete	
gba2	GBA2	gba2-bete	
gbeu2	GBEU2	gbeu2-bete	
gbé	GBEE	gbee-bete	
gbê	GBE	gbe-bete	
gbeu3	GBEU3	gbeu3-bete	
gbĩ	GBYI	gbyi-bete	
gbi	GBI	gbi-bete	
gbô	GBO	gbo-bete	
gbo	GBOO	gboo-bete	
gboé	GBOE	gboe-bete	
gbou	GBU	gbu-bete	
gbui	GBUI	gbui-bete	
gbrê	GBRE-GBLE	gbre-gble-bete	















gbra			
	GBRA	gbra-bete	
gbra2			Y
	GBRA2	gbra2-bete	
gbré			YY
	GBREE	gbree-bete	
gbré2			
	GBREE2	gbree2-bete	
gbri			
	GBRI	gbri-bete	
gbro			
	GBROO	gbroo-bete	
gbroê			
	GBROE	gbroe-bete	
gbrô			
	GBRO	gbro-bete	
gbroé			
	GBROE2	gbroe2-bete	
groe3			
	GROE 3	groe3-bete	
gbro2			
	GBROO2	gbroo2-bete	
gbrô2			
	GBRO2	gbro2-bete	
gbrou			
	GBRU	gbrou-bete	
gbrui			
	GBRUI	gbrui-bete	
ka			
	KA	ka-bete	






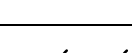



ke			𐌵
	KEE	kee-bete	
k'yī			𐌵𐌶
	KYI	kyi-bete	
ki			𐌵
	KI	ki-bete	
ko2			𐌵𐌶
	KOO2	koo2-bete	
koi			𐌵
	KWA	kwa-bete	
kô			𐌵𐌵𐌵
	KO	ko-bete	
kuê			𐌵
	KUE	kue-bete	
kô2			𐌵𐌵
	KO2	ko2-bete	
ko			𐌵
	KOO	koo-bete	
kou			𐌵𐌵
	KU	ku-bete	
kou2			𐌵𐌵
	KU2	ku2-bete	
kui			𐌵𐌵𐌵
	KUI	kui-bete	
kra			𐌵𐌵
	KRA-KLA	kra-kla-bete	
kra2			𐌵𐌶
	KRA2	kra2-bete	













kra3			
	KRA3	kra3-bete	
kré			
	KREE	kree-bete	
kré2			
	KREE2	kree2-bete	
kri			
	KRI	kri-bete	
kre			
	KREE3	kree3-bete	
krê			
	KRE	kre-bete	
krê2			
	KRE2	kre2-bete	
kré4			
	KREE4- KLEE	kree4-klee-bete	
kri2			
	KRI2- KLII	kri2-klii-bete	
kri3			
	KRI3- KLII	kri3-klii-bete	
kro			
	KROO	kroo-bete	
kroé			
	KROE	kroe-bete	
kro2			
	KROO2	kroo2-bete	
kro3			
	KROO3	kroo3-bete	
















krui			
	KRUI	krui-bete	
krô2			
	KRO	kro-bete	
krou			
	KRU	kru-bete	
krou2			
	KRU2- KLU	kru2-klu-bete	
krui			
	KRUI3	krui3-bete	
krui			
	KRUI2	krui2-bete	
kroi2			
	KRWA- KLWA	krwa-klwa-bete	
kpa			
	KPA	kpa-bete	
kpa2			
	KPA2	kpa2-bete	
kpeu			
	KPEU	kpeu-bete	
kpê			
	KPE	kpe-bete	
kpeu			
	KPEU2	kpeu2-bete	
kpyï			
	KPYI	kpyi-bete	
kpi			
	KPI	kpi-bete	
kpo2			
	KPOO2	kpoo2-bete	


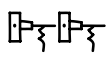






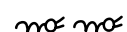





kpoi			
	KPWA	kpwa-bete	
kpô			
	KPO	kpo-bete	
kpou			
	KPU	kpu-bete	
kpra			
	KPRA	kpra-bete	
kpre			
	KPREE2	kpree2-bete	
kpré			
	KPREE	kpree-bete	
kpri			
	KPRI	kpri-bete	
Kpri2	KPRI2	Kpri2-bete	
kprê			
	KPRE	kpre-bete	
kpro			
	KPROO	kproo-bete	
kproé			
	KPROE	kproe-bete	
kprô			
	KPRO	kpro-bete	
kprou			
	KPRU	kpru-bete	
kprui			
	KPRUI	kprui-bete	















la			
	LA	la-bete	
le			
	LEE	lee-bete	
lê			
	LE	le-bete	
le2			
	LEE2	lee2-bete	
li			
	LI	li-bete	
li2			
	LI2	li2-bete	
lo			
	LOO	loo-bete	
lui			
	LUI	lui-bete	
lô			
	LO	lo-bete	
lou2			
	LU2	lu2-bete	
lou3			
	LU3	lu3-bete	
lui3			
	LUI3	lui3-bete	
ma			
	MA	ma-bete	
mé			
	MEE	mee-bete	















mê			
	ME	me-bete	
mê2			
	ME2	me2-bete	
meu			
	MEU	meu-bete	
mi			
	MI	mi-bete	
mo			
	MOO	moo-bete	
mô			
	MO	mo-bete	
mou			
	MU	mu-bete	
mu			
	MUE	muc-bete	
na			
	NA	na-bete	
ne			
	NEE	nee-bete	
nê			
	NE	ne-bete	
ni			
	NI	ni-bete	
nou			
	NU	nu-bete	
no			
	NOO	noo-bete	




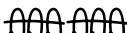










nui			88
	NUI	nui-bete	
nô			
	NO	no-bete	
nou2			
	NU2	nu2-bete	
gna			
	NYA	nya-bete	
gne			
	NYEE	nyee-bete	
gnê			
	NYE	nye-bete	
gni			
	NYI	nyi-bete	
gno			
	NYOO	nyoo-bete	
gnô			
	NYO	nyo-bete	
gnué			
	NYUE	nyue-bete	
gnuê			
	NYUE2	nyue2-bete	
gnou			
	NYU	nyu-bete	
gnui			888
	NYUI	nyui-bete	
pa2			
	PA2	pa2-bete	





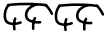









pé	PEE	pee-bete	
pê	PE	pe-bete	
pê	PE	pe-alt-bete	
peu2	PEU2	peu2-bete	
pyï	PYI	pyi-bete	
pi	PI	pi-bete	
po	POO	poo-bete	
po	POO2	poo2-bete	
pui	PUI	pui-bete	
pui	PUI2	pui2-bete	
pô	PO	po-bete	
pou	PU	pu-bete	
pu	PUE	pue-bete	
pu2	PUE2	pue2-bete	
pra	PRA-PLA	pra-pla-bete	















pre			
	PREE	pree-bete	
vou			
	VU	vu-bete	
vui			
	VUI	vui-bete	
pra2			
	PRA2	pra2-bete	
pré2			
	PREE2	pree2-bete	
pri			
	PRI	pri-bete	
prê			
	PRE	pre-bete	
prê2			
	PRE2	pre2-bete	
pri2			
	PRI2	pri2-bete	
pro			
	PROO	proo-bete	
prô			
	PRO	pro-bete	
prou			
	PRU	pru-bete	
prou2			
	PRU2	pru2-bete	
prui			
	PRUI	prui-bete	















ra			
	RA	ra-bete	
re			
	REE	ree-bete	
rê			
	RE	re-bete	
ri			
	RI	ri-bete	
ro			
	ROO	roo-bete	
rô			
	RO	ro-bete	
rou			
	RU	ru-bete	
rui			
	RUI	rui-bete	
sa			
	SA	sa-bete	
se			
	SEE	see-bete	
sê			
	SE	se-bete	
si			
	SI	si-bete	
sô2			
	SO2	so2-bete	
sui			
	SUI	sui-bete	















sou			
	SU	su-bete	
sui2			
	SUI2	sui2-bete	
zô			
	ZO	zo-bete	
zui2			
	ZUI2	zui2-bete	
té			
	TEE	tee-bete	
tê			
	TE	te-bete	
to			
	TOO	too-bete	
to2			
	TOO2	too2-bete	
tô			
	TO	to-bete	
tui			
	TUI	tui-bete	
tui2			
	TUI2	tui2-bete	
tou			
	TU	tu-bete	
tui3			
	TUI3	tui3-bete	
tra			
	TRA	tra-bete	





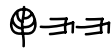









tre			
	TREE	tree-bete	
tri			
	TRI	tri-bete	
tro			
	TROO	troo-bete	
trui			
	TRUI	trui-bete	
trô			
	TRO	tro-bete	
trou			
	TRU	tru-bete	
trui2			
	TRUI2	trui2-bete	
va			
	VA	va-bete	
veu			
	VEU	veu-bete	
ve			
	VEE	vee-bete	
vê			
	VE	ve-bete	
vi			
	VI	vi-bete	
vo			
	VOO	voo-bete	
vo2			
	VOO2	voo2-bete	







vô			
	VO	vo-bete	
vra			
	VRA	vra-bete	
vre			
	VREE	vree-bete	
vra2			
	VRA2-VLA	vra2-vla-bete	
vre2			
	VREE2	vree2-bete	
vrê			
	VRE	vre-bete	
vrou			
	VRU	vru-bete	
vri			
	VRI	vri-bete	
vrou2			
	VRU2	vru2-bete	
vri2			
	VRI2	vri2-bete	
vrô			
	VRO	vro-bete	
wa			
	WA	wa-bete	
wo			
	WOO	woo-bete	
wô			
	WO	wo-bete	

gnué			
	WUI	wui-bete	
gnui			
	WUIN	wuin-bete	
wo2			
	WOO2	woo2-bete	
wou			
	WU	wu-bete	
gnuê			
	WUEN	wuen-bete	
ya			
	YA	ya-bete	
ye			
	YEE	yee-bete	
yê			
	YE	ye-bete	
yo			
	YOO	yoo-bete	
yô			
	YO	yo-bete	
yo2			
	YOO2	yoo2-bete	
ui			
	YUI2	yui2-bete	
you			
	YU	yu-bete	
yui			
	YUI	yui-bete	

za			
	ZA	za-bete	
ze			
	ZEE	zee-bete	
zê			
	ZE	ze-bete	
zi			
	ZI	zi-bete	
zo			
	ZOO	zoo-bete	
zuê			
	ZUE	zue-bete	
zô2			
	ZO2	zo2-bete	
zou			
	ZU	zu-bete	
zui			
	ZUI	zui-bete	
zra			
	ZRA	zra-bete	
zre			
	ZREE	zree-bete	
zré2			
	ZREE2	zree2-bete	
zri			
	ZRI	zri-bete	
zrê			
	ZRE	zre-bete	

zro			
	ZROO	zroo-bete	
zrô			
	ZRO	zro-bete	
zrou			
	ZRU	zru-bete	
zrui			
	ZRUI	zrui-bete	
a			
	A	a-bete	
é			
	EE	ee-bete	
ê			
	E	e-bete	
eu			
	EU	eu-bete	
eua			
	EUA	eua-bete	
i			
	I	i-bete	
ou			
	U	u-bete	
ui			
	UI	ui-bete	
oi2			
	OI2	oi2-bete	
o			
	OO	oo-bete	

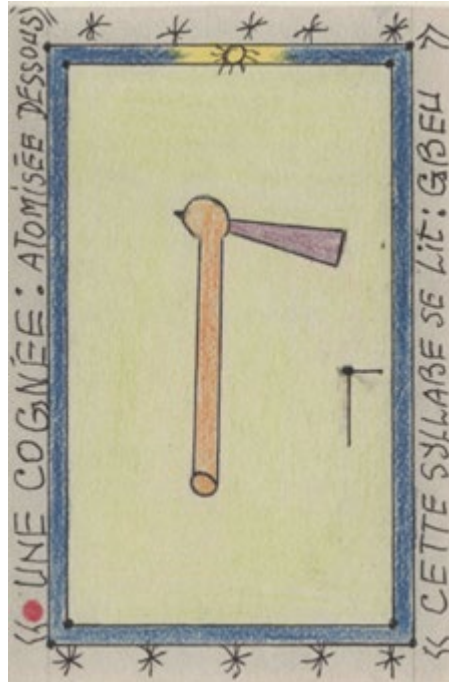
kpó			
	KPOO	kpoo-bete	
kpé			
	KPEE	kpee-bete	
o2			
	OO2	oo2-bete	
ô			
	O	o-bete	
ué			
	UEE	uee-bete	
uê			
	UE	ue-bete	
oi			
	OI	oi-bete	
ui2			
	UI2	ui2-bete	
n'			
	N-NG	n-ng-bete	
n'an			
	HAN	han-bete	
0			
	ZERO	zero-bete	
1			
	ONE	one-bete	
2			
	TWO	two-bete	
3			
	THREE	three-bete	

4	FOUR	four-bete	
5	FIVE	five-bete	
6	SIX	six-bete	
7	SEVEN	seven-bete	
8	EIGHT	eight-bete	
9	NINE	nine-bete	

Structure

Syllables

Bété is a pictographic syllabary that is based on monosyllabic words that occur in the Bété language. The script is written left-to-right. The exact dialect of Bété that Brouabré spoke is unclear, however in general, the imagery of each glyph corresponds to an object or action that has the same phoneme in the language. For example, the word for “axe” in Bété is “gbeu” and the glyph for that syllable is a drawing of an axe. Since the system is based on existing words not all possible CV combinations have unique glyphs. In these circumstances certain diacritics are utilized to expand the repertoire.



Bété is tonal language, with four possible tonal variations. However, Brouabré's system does not make explicit notation of tone. Rather, there are a number of phonemes that have multiple graphemes with each variant having a different tonal value. These variants do not exhaustively cover the tonal variation that can occur for a given syllable, so it is presumed that tone is handled in an abstract manner (Werle & Dagou 1976).

Example:

The monosyllable "su" can have four different meanings depending on the tone, however the writing system only contains one glyph for this syllable □, which represents a tree.

"su - dancing with gusto

'su - tree




su - grind into powder

-su - o carry

Another linguistic property of Bété is vowel mutation. Vowel mutations occur for a variety of reasons, but of relevance to the writing system is the mutation that occurs when pluralizing words (Zogbo 2004: 39-41). There are many examples of glyphs with repeating imagery that have different vowel values than their single counterpart. The difference between these related syllables is the vowel component of the syllable, which follows the vowel mutation rules in the Bété language.





The repertoire of glyphs can be broken down into the following classes. (Syllables are identified using Brouabré's notation)





1. ***Singular Monosyllables*** - Syllables that are direct representations of nouns or verbs that map to monosyllables in the Bété language.

Examples		
Knife (GBLÊ)	Interment (GLOU)	Tusks/Teeth (GLA)
		







2. ***Plural Monosyllables*** – Syllables that follow Bété rules for labialization and vowel mutation when nouns are pluralized. There are three subclasses of these.

1. ***Repeating Bases*** – The singular base element is repeated as a pair

Examples			
Leg (BHO)	Legs (BHÉ)	Comb (FRA/FLA)	Combs (FRÉ)
			
Buttock (GO)	Buttocks (GOU)	Sickness (GU)	Sicknesses (GÛHI)




			
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2. **Repeating Elements** – The base glyph has an element that repeats. Sometimes these are arranged side-by-side, vertically or mirrored.



Examples			
Barb (TROU)	Barbs (TRUI)	Root (KPROU)	Roots (KPRUI)
			
Horn (GÛHĭ)	Horns (GÔ)		
			

3. **Doubles w/o Singles** – The base glyph only exists as pairs, but the vowels correspond to pluralization rules.

Examples






Eggs (GUE)	Eggplants (FRÉ)	Breads (FLO)
		

3. **Abstractions** – Syllables that use abstract imagery that is not associated with an object or action





Examples	
(É)	(Ê)
	


4. **Action + Modifier** – An action image is used with a secondary element. The word for the action contributes the consonant and the element contributes the vowel. The action component is usually not a standalone glyph but the modifier component often is an existing syllable. The modifier typically appears to the right of the action component though it can also be incorporated into the design. The vowel does not always match that of the modifier.

Examples	
	Bird (only exists as pair as ZÉ) = BHLA

In Daloa Bété the word <i>bhla</i> means to forge +	
	Lances (only as single LI) = BHLÉ
	
	Lance (LI) = BHLÊ
	
	Leg (BHO) = BHLO
	
	Human (?) = BHLÔ
	




6. **Abstraction + Modifier** – An existing element is used with a secondary element where the action element is used in an abstract fashion, i.e. it doesn't contribute its consonant but creates an action on the modifier. In the example below the leaf wraps the object. The vowel does not always match that of the modifier.

Examples	
Leaf (KPO) + <i>Here leaf is not used for its phonetic value but represents the idea of wrapping the succeeding object to create a standalone vowel sound. Conceptually it is as if wrapping the object obscures it thus hiding its consonant component.</i>	Bird (only exists as pair as ZÉ) = OI
	
	Birds (ZÉ) = UI
	
	Mushroom (O) = O
	
	Human (?) = Ô
	




	Fish (PRÉ) = OÊ
	

Diacritics

Bété utilizes a variety of diacritics which are placed either above or below a syllable. The diacritics are used to expand the repertoire of syllables for which there are no unique glyphs. Despite Brouabré's descriptions the stress mark and the vowel modifier mark are used to re-shape vowel sounds.

Mark	Application	Function	Description
Above			
ʷ		Consonant Modifier	Modifies the consonant value of syllables starting with: Z → J S → CH
◌̃		Post-Nasalization	Nasalizes syllables ending with the following vowels A → AN OI → OAN
◌̂		Post-Nasalization	Nasalizes syllables ending with the following vowel E → EN

œ	œ̃	Post-Nasalization	Nasalizes syllables ending with the following vowel O → ON
—	—̃	Stress Above	Acts like an acute in French (<i>Bouabré's Description</i>) e.g. PARLE → PARLÉ In practice, this marks gets used sometimes to lengthen vowels and convert syllables ending in OU to an O when a corresponding form does not exist. He also uses this mark to change an O to and AU.
=	=̃	Vowel Modifier	Modifies syllables ending with the following vowels Ê → EU É → EU
•	•̃	Aspiration	Aspirates standalone vowels only A → HA E → HA, etc
Below			
ρ	ρ̃	Trailing R	Adds a trailing "R" to any syllable e.g. TA → TAR

—		Stress Below	Modifies syllables ending with the following vowel <i>O → E (This is Bouabré's description, though it is not very clear. In his examples it appears as if this mark acts to suppress or diminish the tone of the vowel of a syllable. See Figure 1 below)</i>
1		Near Proximity	Accommodates tonal shift in Bété when referring to things that are close in proximity
ƴ		Distant Proximity	Accommodates tonal shift in Bété when referring to things that are distant in proximity

Proximity markers may be one of the most significant features of Bété script/language.⁷

⁷ Frederic Bruly-Bouabre, *Une Methodologie de la Nouvelle-Ecriture Africaine <<Bete>>*, onestar press: Paris, France. 2003: 135-136.

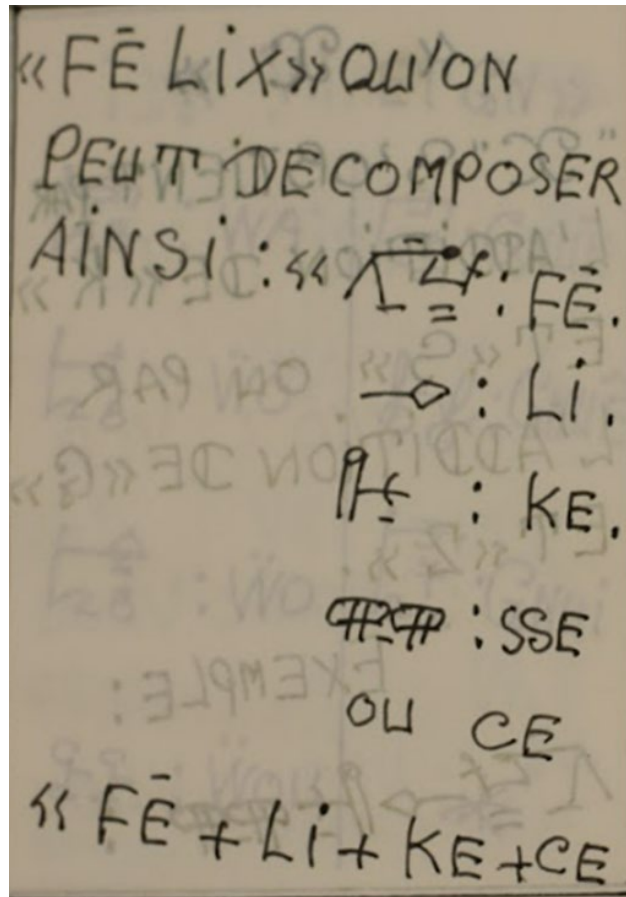


Figure 1: Brouabré's explanation of how to write English names in Bété.

Diacritics are vertically positioned some common relative distance away from base glyphs rather than at a fixed position for all glyphs. Horizontal positioning varies with the base glyph. In general marks are centered with the base glyph unless there is whitespace that is available to fill.

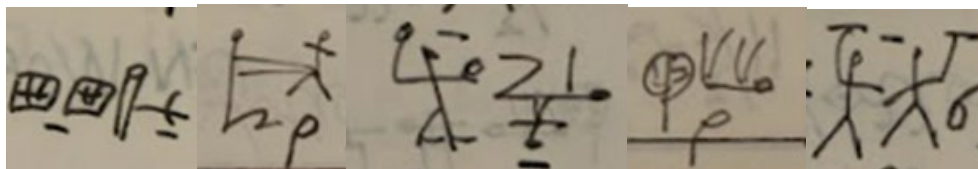


Figure 2: Examples of diacritic placement.

Diacritics can appear above and below a base glyph simultaneously. The following example shows a vowel modifier used in conjunction with a trailing R mark.

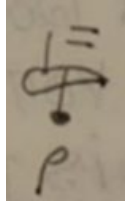


Figure 3: Example of diacritics appearing above and below the same syllable.

The only attested combination of stacked diacritics is the consonant modifier and the acute. The sequence in which they appear is not consistent. Bouabré placed the acute under the consonant modifier. However, other authors reverse the arrangement. Regardless of the sequence the phonetic result is equivalent.



Figure 4: Examples of stacked diacritics. (The first two images are drawn by Bouabré and the last image was drawn by a contemporary writer.)

While other stacked diacritic combinations are not attested they are likely possible based on how their individual functions. The following set of rules have not all been fully validated but are the best assessment of how they interact based on studying Bouabré's writing and examples.

- The consonant modifier mark **can** occur with post-nasalization marks, vowel modifier marks, stress marks, trailing R mark.
- The consonant modifier **cannot** occur with the aspiration mark.
- Post-nasalization marks **cannot** occur simultaneously on a syllable as they are mutually exclusive.
- Post-nasalization marks **may** occur with vowel modifiers and stress marks but which post-nasalization mark is chosen is unclear.
- Post-nasalization mark **cannot** occur with the trailing R mark.
- Post-nasalization marks **can** occur with the aspiration mark.
- Stress marks **cannot** occur with other vowel modifiers.
- Stress marks **may** occur with the trailing R mark.
- Vowel modifiers **cannot** occur simultaneously as they are mutually exclusive.
- Aspiration mark **can** occur with the trailing R mark.
- Aspiration mark **cannot** occur with vowel modifiers as there is a complete set of standalone vowels.
- Proximity marks are mutually exclusive and **cannot** co-exist on the same syllable.
- The full usage case of the proximity marks is not completely understood. It is possible they can occur with the consonant modifier and aspiration mark; however they may not work with all other marks.






Encoding Considerations











The Bété system utilizes a number of reoccurring motifs throughout the repertoire. These reoccurring motifs are predominantly incorporated into the design of complex glyphs and to a lesser extent appear side-by-side with other forms. As a result, a cursory review of the repertoire suggests that these motifs could potentially be decomposed into smaller elements that would then subsequently be composed to form more complex glyphs. In off-line discussions with Unicode a suggestion was made to explore approaches taken for the Mayan and Egyptian hieroglyphics. Unlike these systems the Bété writing system is not as systematic, i.e. the motifs are not always applied with consistent size, orientation, and placement. In order to decompose the visual motifs, one would require multiple versions of the forms; some acting as base glyphs and other acting as combining modifiers. This would lead to confusion as to which form to choose to compose complex glyphs.













Understanding the visual system is best done using glyph classes outlined in the structure section. The glyphs are presented in Latin alphabetical order (with stand-alone vowels at the end of the list) by class.












Singular Monosyllables












These glyphs can be encoded as single units as they consist of distinct integrated artwork that represent monosyllables which make up the base units of the writing system.













Syllable Name (FBB transcript)	Glyph	Notes
BI (BI)		
BU (BOU)		
BHA (BHA)		
BHE (BHÉ)		
BHO (BHÔ)		












BHU (BHOU)		
BHUI (BHOU)		
BHLI (BHLI)		
BHLU (BHLOU)		
BRO (BRÔ)		
BRU (BROU)		
BRUI-2 (BRUI)		
BRA/BLA (BRA)		Looks like two elements but they are a single composition. The drawing of the building differs from the syllable GRU (GROU)
BHLOO-2 (BHLO2)		This syllable is related to SO and TA as they represent the number 1, 2, and 3. Stroke length on all three should be the same.
DA (DA)		
DI (DI)		












DOO (DO)		
DRA (DRA)		
DRO (DRÔ)		
DRI (DRI)		
DREE (DRÉ)		
DRE (DRÊ)		
FI (FI)		
FRE (FRÊ)		
DJEE (DJÉ)		
DJI (DJI-GUI)		
DJO (DJÔ)		
DJOO (DJO)		












DJU (DJOU)		
DJE (DJÊ)		
GBI (GBI)		
GBO (GBÔ)		
GREE-2 (GRÉ2)		
GRI (GRI)		
GREE (GRÉ)		
GRI-2 (GRI2)		May appear like 2 repeating glyphs but is a pair of squinting eyes.
GBRI (GBRI)		
GBRO-2 (GBRÔ2)		
KA (KA)		













KOO-2 (KO2)		
KI (KI/TCHI)		
CE (TCHÊ)		
KRI-3/KLII (KRI2)		
KRWA/KLWA (KROI2)		
KRA-2 (KRA2)		
KRWA (KROI)		
KRE-2 (KRÊ2)		
KREE-3 (KRE/KRÉ3)		
KPOO-2 (KPO2)		
KPRE (KPRÊ)		This syllable consists of two parts. The first is the syllable GBRE/GBLE that is connected to a cylindrical form. This syllable could be broken up but the cylindrical form has no other application.





KPRI-2 (KPRI2)		
KPRO (KPRÔ)		
LA (LA)		
LEE (LE)		May look like 2 repeating glyphs but is a single glyph of plants in a field.
LI (LI)		
LI-2 (LI2)		
ME-2 (MÊ2)		
MEU (MEU)		
MI (MI)		
MU (MOU)		This syllable is related to the To Make set under Action + Modifier but the arms are drawn in a unique fashion.
NI (NI)		
NYA		

(GNA)		
NYEE (GNE)		
NYE (GNÊ)		
NYI (GNI)		
NY (N'EU/GN)		
PI (PI)		
PU (POU)		This syllable consists of two parts. The figure on the left is similar to the syllable MEU  but with only one arm. This is the only application of this figure. The form on the right is the syllable GRU  .
PRE-2 (PRÊ2)		
PRE (PRÊ)		
PRU (PROU)		



ROO (RO)		
RI (RI)		
RE (RÊ)		
SA (SA)		
SE (SÊ)		The seated figure is the same as the figure in the To Do White Seated set of the Action + Modifier. This glyph however is not an action but a representation of measles.
SI (SI)		
SO (SÔ)		
TA (TA)		
TEE (TÉ)		
TE (TÊ)		
TI (TI)		



TO (TÔ)		
TRA (TRA)		
TRO (TRÔ)		
TREE (TRÉ)		
TRE (TRÊ)		
VEE (VÉ)		
VE (VÊ)		The base form is the face from KROO with a mustache.
VI (VI)		
VOO-2 (VO2)		
VRE (VRÊ)		
VRO (VRÔ)		





WUEN (GNUÊ/UIN)		
HAN (N'AN/HAN)		
ZA (ZA)		
ZE (ZÊ)		The corpse is based on the syllable TREE 
ZI (ZI)		
ZRO (ZRÔ)		This syllable consists of 2 parts. The figure on the right is holding a rifle and is the only application of this figure. The figure on the right is related to the figure seen in the syllable KRO  .
ZROO (ZRO)		
A (A)		
EU (EU)		
EUA (EUA)		


I (I)		This syllable consists of two forms. Neither is used independently.
OI-2 (OI2)		
O (OO)		
N/NG (N')		



Below are some examples of how visual motifs are utilized within this set. While an argument could be made to decompose these syllables, the combining elements needed would only be used for a single or a few instances.



 BHLO: The figure above the wavy path is the same as the syllable  MEU, which also appears in the




syllables  LU-3  LUI-3.



 DA: The upright person in this form is used in other glyphs, like  ZREE-2,  ZRI and  KRO



and is based in the syllable MEU .

 DRO: The base form is the tree used in the syllable  SU.

 NYI: The fish in this glyph is based on the syllable  PREE-2.







 TRA: The base of this glyph is the syllable  GREE with an arrow in its head. The arrow is a motif that is present in the syllable  KEE.








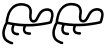











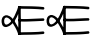


 ZE: The corpse in this syllable is related to the syllable  TREE.

 ZROO: The pot here is full sized and is the syllable,  NYU.








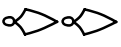














Plural Monosyllables: Repeating Bases

The following syllables are made up of repeating bases to create plurals that have a different vowel from the singular form. This change in the vowel follows mutation rules in the Bété language. In some cases the repeating glyphs are not arranged side-by-side but can be nested or arranged vertically. As seen in the previous section, combining above and below diacritics are placed centered over the pair.
















Syllable Name (FBB transcript)	Singular Glyph	Syllable Name (FBB transcript)	Plural Glyph	Notes
BA (BA)		BEU (BEU)		
BEU-2 (BEU2)		BYI (B'YI)		
BHOO (BHO)		BHEE (BHÉ)		Some renditions nest the two forms; however, legibility is not affected if they are not.
BHEU (BHEU)		BHYI (BHYİ)		










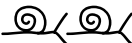







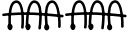
BREE (BRÉ)		BRI (BRI)		
BROO (BRO)		BROE (BROÉ)		
BREE-2 (BRÉ)		BRI-2 (BRI2)		
BRU-2 (BROU2)		BRUI (BRUI)		
DWA (DOI)		DO-3 (DÔ3)		.
DOO (DO-2)		DUI (DUI)		
DU (DOU)		DUI-2 (DUI2)		
DU (DOU)		DUI-2 (DUI2)		This pair is arranged vertically when pluralized. The pluralized glyph could be encoded with a separate value.
FU (FOU)		FUI (FUI)		
FRA (FRA)		FREE (FRÉ)		
GRO (GRÔ)		GROE-2 (GROÉ2)		










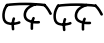














GYI-2 (GÛHĬ2)	𐤒	GOO-2 (GO2)	𐤒𐤒	
GI (GÛI)	𐤒	GO-3 (GÔ3)	𐤒𐤒𐤒	
GU-2 (GOU2)	𐤒	DJUI (DJUI/GÛHĬ)	𐤒𐤒	
GOO (GO)	𐤒	GU (GOU)	𐤒𐤒	
GO-2 (GÔ2)	𐤒	GYI-3 (GÛHĬ3)	𐤒𐤒𐤒	
GBA (GBA)	𐤒	GBEU (GBEU)	𐤒𐤒𐤒	
GBOO (GBO)	𐤒	GBOE (GBOÉ)	𐤒𐤒𐤒	
GBU (GBOU)	𐤒	GBUI (GBUI)	𐤒𐤒𐤒	
GBEU-3 (GBEU3)	𐤒	GBYI (GBI)	𐤒𐤒𐤒	
GRE (GRÊ)	𐤒	GRA-2/GLA (GRA2)	𐤒𐤒𐤒	
GRU-2 (GROU2)	𐤒	GRUI-2 (GRUI2)	𐤒𐤒𐤒	
GROO (GRO)	𐤒	GROE (GROÉ)	𐤒𐤒𐤒	





GRO-3 (GRÔ)		GROE-3 (GROÉ3)		
GRU (GROU)		GRUI (GRUI)		
GBA-2 (GBA2)		GBEU-2 (GBEU2)		
GBRE/GBLE (GBRÊ)		GBRA (GBRA)		
GBRO (GBRÔ)		GBROE-2 (GBROÉ)		
GBROO (GBRO)		GBROE (GBROÉ)		
GBRA-2 (GBRA2)		GBREE (GBRÉ)		
GBRU (GBROU)		GBRUI (GBRUI)		
KWA (KOI)		KO (KÔ)		
KUE (KUÊ)		KO-2 (KÔ2)		
KOO (KO)		KU (KOU)		

KU-2 (KOU2)		KUI (KUI)		
CE-2 (TCHÊ2)		CEE (TCHÉ)		
COO (TCHO)		CUI (TCHUI)		
KROO-3 (KRO3)		KRUI (KRUI)		
KREE-4/KLEE (KRÉ4)		KRI-2/KLII (KRI2)		
KRU-2/KLU (KROU2)		KRUI-3 (KRUI)		
KROO (KRO)		KROE (KROÉ)		
KPE (KPÊ)		KPA (KPA)		
KPA-2 (KPA2)		KPEU (KPEU)		
KPOO (KPO)		KPEE (KPÉ)		
KPWA (KPOI)		KPO (KPÔ)		
KFREE (KPRÉ)		KPRI (KPRI)		

KPRA (KPRA)		KFREE-2 (KPRE/KPRÉ)		Based on a NU
KPRO		KPRUI		
KPEU-2 (KPEU)		KPYI (KPYĬ)		
LE (LÊ)		LEE-2 (LÉ2)		
LUI (LUI)		LO (LÔ)		
LU (LOU)		LUI-2 (LUI2)		
NA (NA)		NEE (NÉ)		
NU (NOU)		NUI (NUI)		
NYU (GNOU)		NYUI (GNUI)		
PA (PA)		PEU (PEU)		
PEU-2 (PEU2)		PYI (PYI)		
POO (PO)		PUI (PUI)		



POO-2 (PO2)	—	PUI-2 (PUI2)	=	
PRA/PLA (PRA)		PREE (PRE/PRÉ)		
PREE-2 (PRÉ2)		PRI (PRI)		
PRU-2 (PROU2)		PRUI (PRUI)		
RU (ROU)		RUI (RUI)		
SO-2 (SÔ2)		SUI (SUI)		
SU (SOU)		SUI-2 (SUI2)		The plural form can also be drawn as two separate trees. See the section on To Climb under Action + Modifier for further discussion.
TOO (TO)		TUI (TUI)		
TU (TOU)		TUI-3 (TUI3)		
TROO (TRO)		TRUI (TRUI)		



VA (VA)		VEU (VEU)		
VU (VOU)		VUI (VUI)		
VRA (VRA)		VREE (VRE/VRÉ)		
VRU (VROU)		VRUI (VRUI)		The plural syllable may be drawn in a nested fashion.
VRA-2/VLA (VRA2)		VREE-2 (VRE2)		
YOO-2 (YO2/IO)		YUI-2 (UI/YUI2)		
YU (YOU)		YUI (YUI)		
WU (WÖ2)		WU (WÖU)		
ZUE (ZUÊ)		ZO-2 (ZÔ2)		
ZRA (ZRA)		ZREE (ZRE/ZRÉ)		
ZREE-2 (ZRÉ2)		ZRI (ZRI)		
ZRU		ZRUI		

(ZROU)		(ZRUI)		
E (Ê)		E (É)		This glyph is a complete abstraction with no tie to any real object.
U (OU)		UI (UI)		

Within this set there are certain glyphs which contain elements that re-occur in other syllables.

 YOO-2/YUI-2: This glyph is also a 2-Part Syllable with the house on the right being the same as























the syllable  GRU. It is also an element in the syllable  TRI (See Action + Modifier). These two parts are always conjoined as a single composition.













 ZREE-2/ZRI: The figure wearing the mask uses the same base form as MEU .

Plural Monosyllables: Repeating Elements





These glyphs can be encoded in one of two ways. Option one is to encode the pluralized form as separate glyphs. Option 2 is to encode the individual elements as combining marks that can be attached via anchors. Except for a few cases the repeating elements are only used for single compositions. Breaking these out would create a lot of single use marks. It should be noted that in all cases the repeating element is the operative part of the glyph. That is to say that the monosyllable that is associated with the glyph is a repeating element, not the thing it is attached to.



Syllable Name (FBB transcript)	Singular Glyph	Syllable Name (FBB transcript)	Plural Glyph	Notes

DRU (DROU)		DRUI-2 (DRUI2)		The repeating element is a second drop of blood
FREE-3 (FRÉ3)		FRI (FRI)		The repeating element is an additional hole
FRU (FROU)		FRUI (FRUI)		The repeating element is a second sepal
GO (GÔ)		GYI (GÛHĬ)		The repeating element is an extra horn
GE (GÛÊ)		GO-4 (GÔ4)		The repeating element is a second chimpanzee.
KEE (KE)		KYI (K'YĬ)		The repeating element is a second arrow
KREE-2 (KRÉ2)		KRI (KRI)		The repeating element is a second branch.
KRU (KROU)		KRUI-2 (KRUI)		The repeating element is a second boat.
KPRU (KPROU)		KRPUI (KPRUI)		The repeating element is a second root
LU-3 (LOU3)		LUI-3 (LUI3)		The repeating element is a second enemy (person with their lance on the ground)
PA-2 (PA2)		PEE (PÉ)		The repeating element is a rock in the right hand


RA (RA)		REE (RE)		The repeating element is the second bamboo stick on the right
TOO-2 (TO2)		TUI-2 (TUI2)		The repeating element is a second squiggle
TRU (TROU)		TRUI-2 (TRUI2)		The repeating element is a second barb on the arrow
VRU-2 (VROU2)		VRI-2 (VRI2)		The repeating element is a second mouse hole
ZO (ZÔ)		ZUI-2 (ZUI2)		The repeating element is a second parasitized branch.
ZU (ZOU)		ZUI (ZUI)		The repeating element is a second stake

As with the previous two glyph classes, there are certain glyphs in this set which utilize re-occurring elements. These elements are often single use or require complex composition.

  DRU/DRUI-2: The knife in the figure's hand in these glyphs is a common motif, A similar element is the trowel seen in the syllable  TRI (Action + Modifier). The handle shape differs in this application. Another easily confused element is the serrated knife which appears in the syllable  FUE.

  KRU/KRUI-2: The second boat in the pluralized version appears before the base singular glyph.

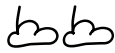


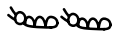










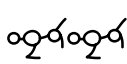

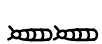

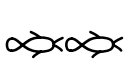
LU-3/LUI-3: The fleeing enemy used in these glyphs are the same as the syllable 

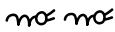


MEU and the lance is an element that appears To Forge set (see Action + Modifier). If LU-3 and LUI-3 were broken down to utilize these other elements. The composition of LU-3 would be straight forward since the lance can easily be anchored below the MEU. LUI-3 would be more complicated since the second lance must anchor below the first lance.

Plural Monosyllables: Doubles w/o Singles

The glyphs in this class are also plurals but their respective singular forms don't exist in the system. To maintain consistency and creative expression, only the singular base should be encoded. While the individual form does not have an explicit assigned phonetic value in the writing system as devised, they do have implicit phonetic values because these are pluralized monosyllables. Encoding only the singular forms could allow them to be used creatively. The final syllable ZEE in this class consists of two birds. A single bird is used in the Abstraction + Modifier class.

Syllable Name (FBB transcr.)	Glyph	Notes
BE (BÊ)		
BEE (BÉ)		
BUI (BUI)		
FEU (FEU)		
FREE-2/ FLEE (FRÉ2 /FLÉ)		




FROO-2/FLOO (FRO2/FLO)		
GE (GUE)		
GBEE (GBÉ)		
GBE (GBÊ)		
GR (GRA)		
KRA/KLA (KRA)		
LOO (LO)		
NE (NÊ)		
NO (NÔ/NON)		
UI-2 (UI2)		
PE (PÊ)		
PO (PÔ)		















PROO (PRO)		
SEE (SE/SÉ)		
ZEE (ZE/ZÉ)		See Abstraction + Modifier section for further discussion.














Action + Modifier













These glyphs utilize either reoccurring base glyphs (representing an action), reoccurring modifying elements, or both to create syllables. Each glyph in this class is organized by the action glyph.













The modifiers are often based on or related to an existing monosyllable. However, they are often rendered at a smaller size and need to attach to the action in a position that is not the same as the monosyllable. While the modifier could be encoded as separate glyphs, they are not broadly reusable. In some cases, the action component may only be used in one or two instances. As a result there is not a compelling reason to break these glyphs down into components.













Syllable Name (FBB transcript)	Glyph	Notes
To Dress		
BO (BÔ)		This is the only glyph in the set. The item in the upright figures hand is the textile that is based on the syllable NA  and the corpse on the ground is based on the syllable TREE  . The upright figure however only occurs in this glyph.
To Suspend		













BRE (BRÊ)		This set features two tree that are based on the syllable SU  with a line connecting them and an object suspended below. The suspended items only occur once.
DE (DÊ)		
VO (VÔ)		
To Forge		
BHLA/BHRA (BHLA)		<p>The action portion of this set is a figure seated in front of a crucible with a tool in one hand and a modifier object in the other hand. The vertical position of the crucible varies with the size of the modifying object.</p> <p>The modifier is a single bird that is half off the syllable ZEE .</p>
BHLOO/BHROO (BHLO)		The modifier is a leg that is based on the syllable BHOO  .
BHLO (BHLÔ)		<p>The modifier is a corpse based on the syllable TREE .</p> <p>The action and the modifier are joined with a connecting stroke.</p>
BHLE/BHRE (BHLÊ)		<p>The modifier is a single lance based on the syllable LI .</p> <p>The action and the modifier are joined with a connecting stroke.</p>
BHLEE (BHLÉ)		The modifier is two lances based on the syllable LI  .
To Swim/Retrieve		












NU-2 (NOU2/NO)		<p>The To Swim/To Retrieve action form resembles the To Chop action but lacks the bracing foot below.</p> <p>The fish to the right of this syllable is based on the syllable PREE-2 .</p>
PRI-2 (PRI)		<p>This syllable contains two modifiers a cup and a pot that is based on the syllable NYU .</p>
To Chop		
FE (FÊ)		<p>The axe used in the To Chop action is a reoccurring theme, but the size and orientation differs from other applications of it.</p> <p>This syllable has no modifier.</p>
FA (FA)		<p>The modifier in this syllable is based on the syllable GBA .</p>
FOO (FO)		<p>The modifier is a branch that is related to the branch seen in the syllable KREE-2  and KRI .</p>
FO (FÔ)		<p>The modifier in this syllable is based on the syllable TREE .</p>
FEE (FÉ)		<p>The modifier in this syllable is two horizontal strokes representing wood. This should not be confused with a vowel modifier mark which can appear above a syllable.</p>
To Marry		

FRO (FRÔ)		The To Marry action is the figure on the right of these syllables. The figure on the left is the modifier. In this case the modifier is a lean person.
FRA-2/FLA (FRA2/FLA)		The modifier in this syllable is a heavysset person.
To Do		
FUE (FU)		<p>The To Do action is a seated figure with a single arm outstretched.</p> <p>The modifier in this syllable consists of two parts. The object in the figure's hand is a serrated knife that is based on the syllable FI . This should not be confused with the knife that represents the syllable GBRE/GBLE .</p> <p>The second object represents a grinding wheel, but the design is the same as the crucible in the To Forge set.</p>
MUE (MU)		The modifier in this set is based on the syllable O  .
WOO (WO)		<p>The modifier in this syllable consists of two parts. The first part is based on the syllable O . Unlike the previous syllable the mushroom attaches to the action at a different position. The lower object is based on the syllable NYU .</p>
PUE-2 (PU2)		<p>This syllable is the same as the previous syllable with the addition of a fire below. The fire is related to the syllable BHU . This is a common motif.</p>

LU-2 (LOU2)		The modifier in this syllable is an inverted mushroom.
WA (WA)		The modifier in this syllable consists of two parts. The bird in the figures hand is half of the syllable ZEE  The lower object is based on the syllable NYU  .
WUI (GNUÉ/WUI)		This syllable is the same as the previous with the addition of a second bird below the pot.
WUIN (GNUI/UGN)		This syllable is similar to the previous, but the pot is replaced with the fire modifier.
WO (WÔ)		The modifier consists of two parts. The first is a person and the second is the based on the syllable NYU  .
TRI (TRI)		The modifier in this syllable consists of two parts. The item in the figures hand is a trowel that resembles the syllable GBRE/GBLE  but has a different handle and orientation. The object to the right is the syllable GRUI  . This theoretically could be broken apart, but the combination of the action and the trowel are only used with this syllable.
To Make		
DJA (DJA)		The To Make action is similar to the To Do action but the seated figure has two outstretched arms. The modifier is a cattail that re-occurs as a motif but is not rendered in the same manner.

MA (MA)		The modifier represents a ball of clay, but the rendering matches the crucible and grinding wheel used in other glyphs in this class.
ME (MÊ)		The modifier in this syllable is a vessel, which is related to the syllable VA  .
MEE (MÉ)		This syllable is the same as above with the addition of a second vessel. The second vessel has a handle.
MO (MÔ)		The modifier in this syllable is the same person figure that is in the syllable WO.
RO (RÔ)		The modifier in this syllable is the fire that appears in the To Do set.
To Climb		
GBROO-2 (GBRO2)		The To Climb action features a figure attached to a tree which is same as the syllable SU  .
GBREE-2 (GBRÉ2)		This syllable is like the previous but the figure is attached to the plural form of trees SUI-2  .
To Do While Seated		
NYOO (GNO)		<p>The To Do While Seated action resembles the To Make action but the arms are spread apart.</p> <p>The modifier in this syllable is a single drop below.</p>
NYO (GNÔ)		The modifier in this syllable is a squiggle below the figure that represents an earthworm like shape.

NYUE (GNUÉ)		The modifier in this syllable is related to the previous but features a second squiggle.
NYUE-2 (GNUÊ)		The modifier in this syllable is a worm that is related to the syllable NO  .
BRA-2/BLA (BRA2)		The modifier in this syllable consists of two parts. The first is the knife that related to the syllable GBRE/GBLE  rotated 45 degrees. The lower object represents a banana.
To Attack 1		
KRA-3 (KRA3)		<p>The To Attack action has two forms. The first is swinging an axe downward.</p> <p>The modifier in this syllable is the same bird that appears in other syllables in this class.</p>
KRE (KRÉ)		The modifier in this syllable is based on the syllable GBI  .
To Attack 2		
KROO-2 (KRO2)		The second To Attack action has the axe raised behind the figure's head. The modifier in this syllable is the same as the syllable SU  .
KREE (KRÉ)		This syllable is like the previous, but the modifier is the plural form of trees SUI-2  .
To Dry/Smoke		

YA (YA)		<p>The To Dry/To Smoke action is composed of two parts. The first is a drying rack which is based on the syllable GBOO . The second is the same fire modifier seen in other syllables in this class. The rendering of the drying rack changes greatly with the modifier that is applied.</p> <p>The modifier in this syllable is the protruding element at the top.</p>
YE (YÊ)		The modifier in this syllable is a cattail that is integrated onto the rack.
YE (YEE)		This syllable is similar to the previous but has an additional cattail.
YO (YÔ)		The modifier in this syllable is a seated figure that resembles the To Do While Seated action.
YOO (YO)		The modifier in this syllable is a mushroom that is based on the syllable O  .
To Feed		
PRO (PRÔ)		<p>The base form in this syllable is based on the syllable SU  with a long branch. The modifier consists of a fruit that hangs below the branch that is related to the syllable ME-2 , and two birds that are related to the syllable ZEE , but placed at different orientations.</p>

Abstraction + Modifier

The glyphs in this class are made up of a base glyph that is applied in an abstract manner followed by other glyphs. The result is a phoneme that is loosely tied to the sequence of glyphs. Specifically in this group the syllable KPO is used to “wrap” the glyphs following it to create standalone vowels. The modifiers in this set are at full size and are at the standard position. Therefore, these modifiers can all be encoded as simple letters. Except for the person laying on its back the rest are already base glyphs which can be reused.

Leaf: KPO	Mushroom: OO	Syllable: OO-2 (O2)
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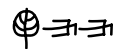
Person

Syllable: O (Ô)



Bird + Bird: ZEE

Syllable: UEE (UÉ)



Fish: PREE-2

Syllable: UE (UÊ)



Bird: Half of ZEE







Syllable: OI (OI)







Diacritics

Brouabré identifies certain syllables which include a mark attached to them. Previous Bété working documents include these in the character repertoire for possible encoding. These are excluded from this encoding model as they are applications of the diacritic system.

Examples:

Accented Syllable Name (FBB transcript)	Glyph	Base Syllable Name (FBB transcript)	Glyph
BHI (BHI)		BHEE (BHÉ)	
NO (NO)		NU (NOU)	
FROO (FRO)		FROU (FRU)	



All diacritics can be encoded as combining marks.

Name	Mark
Above	
COMBINING CONSONANT MODIFIER MARK	
COMBINING POST NASALIZATION MARK 1	
COMBINING POST NASALIZATION MARK 2	
COMBINING POST NASALIZATION MARK 3	











COMBINING STRESS MARK ABOVE	—
COMBINING VOWEL MODIFIER MARK	=
COMBINING ASPIRATION MARK	•
Below	
COMBINING TRAILING R MARK	ρ
COMBINING STRESS MARK BELOW	—
COMBINING NEAR PROXIMITY MARK	1
COMBINING DISTANT PROXIMITY MARK	ϣ

Punctuation

Only one punctuation symbol requires encoding which is the BÊTÉ HYPHEN □ which is used to indicate that two adjoining syllables from the Plural Monosyllables: Repeating Bases are meant to be read as two separate singular syllables.

Glyph Sequence	Read As	Glyph Sequence	Read As
	NA NA		NE

Digits

Name	Digits	Name	Digits
ZERO		FIVE	
ONE		SIX	
TWO		SEVEN	
THREE		EIGHT	
FOUR		NINE	

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Appendix

Universal Declaration of Human Rights translated into Bété by BAÏ DODO

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~~90~~ $\overline{\Delta\Delta}$:

$\sigma \otimes \Delta$

$\rho: \varphi \rightarrow \text{...}$, $\chi \rightarrow \text{...}$, $\phi \rightarrow \text{...}$

$\frac{1}{\sqrt{2}} \begin{pmatrix} 0 & L \\ L^{\dagger} & -Z K^{+} \end{pmatrix}$, $8 \sim 8$.
 The other terms are also written down.

၂၀၁၁ ခုနှစ်

၁။ မြန်မာနိုင်ငံတော် အစိုးရက အမတ်ကြီးများကို ခန့်အပ်ရာတွင် အမျိုးမျိုး ပါဝင်စေရန် ဆုံးဖြတ်ခဲ့သည်။

၂။ အမတ်ကြီးများ၏ အသက်အရွယ်၊ လိင်၊ အမျိုးမျိုး ပါဝင်စေရန် ဆုံးဖြတ်ခဲ့သည်။

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