

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: Working Group Document**Title: Preliminary proposal for encoding the Garay script in the SMP of the UCS****Source: UC Berkeley Script Encoding Initiative (Universal Scripts Project)****Author: Michael Everson****Status: Liaison Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Date: 2012-04-26****Replaces: N4044 (L2/11-181)**

N4044 was an exploratory proposal by Anshuman Pandey.

1. Introduction. The Garay script was created by Assane Faye and published in January 1961. The script shows influences of the Arabic writing system and is written linearly from right-to-left. The basic repertoire consists of 25 consonant letters (including a “vowel-carrier” letter), a number of basic vowel signs, a vowel-length mark, a zero-vowel mark, a gemination sign, and 10 digits. Additional research is required to determine the current scope of use of the script. The official script in Senegal for Wolof is Latin, although the Wolofal script (an Arabic-based script written in the ‘Ajami’ style) is also used. The user community for Garay is small at present, some 200 people, including women’s groups and adult literacy for Mandinka as well as for Wolof. The script has been taught informally for more than fifty years since its invention. Faye designed Garay to be easy to learn, familiar to anyone who had learned some of the Arabic script, but gave it a more simple design. Among the manuscripts Faye has written out include textbooks, folktales, and maps; there exists also a Qur‘ān with interlinear text giving the translation into Wolof using Garay script.

2. Structure. Garay is an alphabet, written from right to left. It has no joining behaviour, and is a casing script, where capital letters are generally distinguished by a swash distinguishing them from the small letters, so \mathcal{A} , \mathcal{a} , \mathcal{C} , \mathcal{c} , \mathcal{M} , \mathcal{m} (see Figure 2). Capital letters tend to be used at the beginnings of sentences and are also used for personal names; Assane Faye for instance writes his name \mathcal{A} \mathcal{s} \mathcal{a} \mathcal{n} \mathcal{e} \mathcal{f} \mathcal{a} \mathcal{y} \mathcal{e} . There are also examples of mathematical diagrams in which capital and small letters are used in isolation (see Figures 18 and 19).

2.1. Consonants. A peculiarity of the consonants is the “tail” which, in handwriting, often swings back under a letter when in final position in a word, as in \mathcal{A} \mathcal{s} \mathcal{a} \mathcal{n} \mathcal{e} \mathcal{f} \mathcal{a} \mathcal{y} \mathcal{e} . This feature of handwriting is rather common. Unfortunately, as there is no tradition of either metal or digital type in Garay, it is difficult to know whether this might be required in type or not. (It does not appear in most of the examples, such as Figures 4 through 15). The representation of this feature would be best achieved via an OpenType feature to letters followed by a space or full stop.

Related to this is a style of writing in which the tail of the final consonant turns back to underline the entire word \mathcal{A} \mathcal{s} \mathcal{a} \mathcal{n} \mathcal{e} \mathcal{f} \mathcal{a} \mathcal{y} \mathcal{e} . The examples here were generated using custom-underlining in typesetting software. (See Figures 3 and 17.)

2.2 Vowels. The script uses five basic vowel signs, one of which is combining, to represent 10 distinct vowels. Six of these vowels are written with a combination of two or more basic vowel signs. Vowels have initial and non-initial forms. Initial forms of vowels are written using the letter A as a “vowel-carrier” letter and one or more vowel signs. Non-initial vowels are written using only vowel signs. The spelling of some vowels differs depending on the consonant letter they precede. The VOWEL SIGN E is a combining mark, but a class of “modified consonants” which are modified by a diacritical mark do not take that sign, but are rather followed by the vowel carrier with the VOWEL SIGN E atop it. The letters concerned are $\dot{\text{ا}}$ *bε*, $\dot{\text{ا}}$ *mbε*; $\dot{\text{ا}}$ *jε*, $\dot{\text{ا}}$ *njε*; $\dot{\text{ا}}$ *gε*, $\dot{\text{ا}}$ *ηgε*, $\dot{\text{ا}}$ *ηε*; $\dot{\text{ا}}$ *dε*, $\dot{\text{ا}}$ *ndε*. This is evidently to avoid confusing the vowel sign with the diacritical mark, since $\dot{\text{ا}}$ *bε* would look like ا *mb* and $\dot{\text{ا}}$ *dε* would look like ا *nd*.

It could be said that the vowels look similar to some other characters in the standard:

- ∕ VOWEL LETTER A looks something like ∕ SOLIDUS
- ∖ VOWEL LETTER I looks something like ∖ REVERSE SOLIDUS
- ◌ VOWEL LETTER O looks something like ◌ RAISED COMMA
- ◌ SUKUN looks something like ◌ MODIFIER LETTER CENTRED LEFT-HALF RING
- VOWEL LENGTH MARK looks something like — LOW LINE
- ◌ VOWEL SIGN E looks something like ◌ COMBINING COMMA ABOVE
- ◌ GEMINATION MARK looks something like ◌ COMBINING CIRCUMFLEX ACCENT.

All of these resemblances are superficial; it is simpler to encode the lot as script-specific characters than to try to unify some or all of them with existing characters in the standard.

The order of the vowels is as given in the charts reproduced in Figures 3–15 below.

Sign	Dalby	Faye	ʔa	c	m	k	b	mb	j	nj
∕	a	a	∕	∕=	∕^	∕u	∕^	∕^	∕g	∕ġ
∖	i	i	∖	∖=	∖^	∖u	∖^	∖^	∖g	∖ġ
◌	o	o	◌	◌=	◌^	◌u	◌^	◌^	◌g	◌ġ
◌	∅		◌	◌=	◌^	◌u	◌^	◌^	◌g	◌ġ
—∕	ā	a(:)	—∕	—∕=	—∕^	—∕u	—∕^	—∕^	—∕g	—∕ġ
—∖	ī	i(:)	—∖	—∖=	—∖^	—∖u	—∖^	—∖^	—∖g	—∖ġ
—◌	o	o(:)	—◌	—◌=	—◌^	—◌u	—◌^	—◌^	—◌g	—◌ġ
◌	ε	é	◌	◌=	◌^	◌u	◌^	◌^	◌g	◌ġ
—◌	ē	é(:)	—◌	—◌=	—◌^	—◌u	—◌^	—◌^	—◌g	—◌ġ
∕	ə	e	∕	∕=	∕^	∕u	∕^	∕^	∕g	∕ġ
∖	ü	u	∖	∖=	∖^	∖u	∖^	∖^	∖g	∖ġ
◌	u	ou	◌	◌=	◌^	◌u	◌^	◌^	◌g	◌ġ
◌			◌	◌=	◌^	◌u	◌^	◌^	◌g	◌ġ
—∕	ā	e(:)	—∕	—∕=	—∕^	—∕u	—∕^	—∕^	—∕g	—∕ġ
—∖	ū	u(:)	—∖	—∖=	—∖^	—∖u	—∖^	—∖^	—∖g	—∖ġ
—◌	ū	ou(:)	—◌	—◌=	—◌^	—◌u	—◌^	—◌^	—◌g	—◌ġ
◌	e	é	◌	◌=	◌^	◌u	◌^	◌^	◌g	◌ġ
—◌	ē	ē	—◌	—◌=	—◌^	—◌u	—◌^	—◌^	—◌g	—◌ġ

Sign	Dalby	Faye	s	w	l	g	ηg	η	d	nd
∕	a	a	∕	∕ġ	∕^	∕H	∕Ĥ	∕Ĥ	∕ġ	∕ġ
∖	i	i	∖	∖ġ	∖^	∖H	∖Ĥ	∖Ĥ	∖ġ	∖ġ
◌	o	o	◌	◌ġ	◌^	◌H	◌Ĥ	◌Ĥ	◌ġ	◌ġ

c	Ø		c	cʔ	cN	cH	cĤ	cĦ	cɁ	cḂ
┌	ā	a(:)	┌	┌ʔ	┌N	┌H	┌Ĥ	┌Ħ	┌Ɂ	┌Ḃ
└	ī	i(:)	└	└ʔ	└N	└H	└Ĥ	└Ħ	└Ɂ	└Ḃ
◌	o	o(:)	◌	◌ʔ	◌N	◌H	◌Ĥ	◌Ħ	◌Ɂ	◌Ḃ
◌̇	ε	é	◌̇	◌̇ʔ	◌̇N	◌̇H	◌̇Ĥ	◌̇Ħ	◌̇Ɂ	◌̇Ḃ
◌̇̇	ē	é(:)	◌̇̇	◌̇̇ʔ	◌̇̇N	◌̇̇H	◌̇̇Ĥ	◌̇̇Ħ	◌̇̇Ɂ	◌̇̇Ḃ
◌̇	ə	e	◌̇	◌̇ʔ	◌̇N	◌̇H	◌̇Ĥ	◌̇Ħ	◌̇Ɂ	◌̇Ḃ
◌̇̇	ü	u	◌̇̇	◌̇̇ʔ	◌̇̇N	◌̇̇H	◌̇̇Ĥ	◌̇̇Ħ	◌̇̇Ɂ	◌̇̇Ḃ
◌̇̇	u	ou	◌̇̇	◌̇̇ʔ	◌̇̇N	◌̇̇H	◌̇̇Ĥ	◌̇̇Ħ	◌̇̇Ɂ	◌̇̇Ḃ
◌̇			◌̇	◌̇ʔ	◌̇N	◌̇H	◌̇Ĥ	◌̇Ħ	◌̇Ɂ	◌̇Ḃ
┌̇	ē	e(:)	┌̇	┌̇ʔ	┌̇N	┌̇H	┌̇Ĥ	┌̇Ħ	┌̇Ɂ	┌̇Ḃ
└̇	ū	u(:)	└̇	└̇ʔ	└̇N	└̇H	└̇Ĥ	└̇Ħ	└̇Ɂ	└̇Ḃ
◌̇̇	ū	ou(:)	◌̇̇	◌̇̇ʔ	◌̇̇N	◌̇̇H	◌̇̇Ĥ	◌̇̇Ħ	◌̇̇Ɂ	◌̇̇Ḃ
◌̇̇̇	e	é	◌̇̇̇	◌̇̇̇ʔ	◌̇̇̇N	◌̇̇̇H	◌̇̇̇Ĥ	◌̇̇̇Ħ	◌̇̇̇Ɂ	◌̇̇̇Ḃ
◌̇̇̇̇	ē	ē	◌̇̇̇̇	◌̇̇̇̇ʔ	◌̇̇̇̇N	◌̇̇̇̇H	◌̇̇̇̇Ĥ	◌̇̇̇̇Ħ	◌̇̇̇̇Ɂ	◌̇̇̇̇Ḃ

Sign	Dalby	Faye	x	h	y	t	r	ny	f	n	p
┌	a	a	┌	┌	┌	┌	┌	┌	┌	┌	┌
└	i	i	└	└	└	└	└	└	└	└	└
◌	o	o	◌	◌	◌	◌	◌	◌	◌	◌	◌
c	Ø		c	c	c	c	c	c	c	c	c
┌̇	ā	a(:)	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇
└̇	ī	i(:)	└̇	└̇	└̇	└̇	└̇	└̇	└̇	└̇	└̇
◌̇	o	o(:)	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇
◌̇̇	ε	é	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇
◌̇̇̇	ē	é(:)	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇
◌̇	ə	e	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇
◌̇̇	ü	u	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇
◌̇̇	u	ou	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇
◌̇			◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇	◌̇
┌̇	ē	e(:)	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇	┌̇
└̇	ū	u(:)	└̇	└̇	└̇	└̇	└̇	└̇	└̇	└̇	└̇
◌̇̇	ū	ou(:)	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇	◌̇̇
◌̇̇̇	e	é	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇	◌̇̇̇
◌̇̇̇̇	ē	ē	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇	◌̇̇̇̇

2.2.1. Vowel length. A long vowel is indicated by writing a vowel-length mark (┌) after a basic vowel.

2.2.2. Sukun. An explicit symbol (c) indicates that a consonant has no following vowel. Evidently this is an optional letter (somewhat like Cyrillic ʁ in pre-1918 Russian); the word for ‘lamb’ or ‘sheep’ is written ċXar° in one of Faye’s books, and ċXar in another.

2.2.3. Gemination. The gemination mark (◌̇̇) is written above a consonant letter and above the VOWEL SIGN E (◌̇̇̇̇).

2.2.4. Reduplication. The reduplication mark (x) is written after a word and indicates that it is repeated. (see Figure 10).

3. Digits. The digits represent decimal numbers and are written from left-to-right. Some of the consonant letters also have numeric values as shown below.

Transl.	Letter	Garay digit	Digit	Transl.	Letter	Garay digit	Digit
<i>a</i>	ⱱ		1	<i>g</i>	ⱱ	10	10
<i>c</i>	ⱱ	ⱱ	2	<i>d</i>	ⱱ	20	20
<i>m</i>	ⱱ	ⱱ	3	<i>x</i>	ⱱ	30	30
<i>k</i>	ⱱ	ⱱ	4	<i>y</i>	ⱱ	40	40
<i>b</i>	ⱱ	ⱱ	5	<i>t</i>	ⱱ	50	50
<i>j</i>	ⱱ	ⱱ	6	<i>r</i>	ⱱ	60	60
<i>s</i>	ⱱ	ⱱ	7	<i>ñ</i>	ⱱ	70	70
<i>w</i>	ⱱ	ⱱ	8	<i>f</i>	ⱱ	80	80
<i>l</i>	ⱱ	ⱱ	9	<i>n</i>	ⱱ	90	90
				<i>p</i>	ⱱ	100	100

4. Character names. The names of the consonants end in -A, and the vowels are named with the usual UCS conventions, with E representing *ε*, EE representing *e*, O representing *ɔ*, OO representing *o*, AE representing *ə*, OE representing *ö*, UE representing *ü*, and NG representing *η*.

5. Ordering. Since the characters have a numeric value, the ordering is based upon this, with modified letters (*mb, nj, ηg, η, nd, h*) interfiled after their bases, at a first-level distinction from them.

ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<
ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<
ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<
ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<
ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<	ⱱ	<<	ⱱ	<

6. Linebreaking. Letters and digits behave as do the letters and numbers in Latin.

7. Punctuation. To date, no script-specific punctuation has been seen. Generic FULL STOP, QUESTION MARK, EXCLAMATION POINT, PLUS SIGN, MINUS SIGN, EQUALS SIGN, left and right CURLY BRACKETS, and left and right PARENTHESES are used; the arabic comma and arabic semicolon are also used.

8. Unicode Character Properties.

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1E920;GARAY CAPITAL LETTER A;Lu;0;R;;;;N;;;1E939;
1E921;GARAY CAPITAL LETTER CA;Lu;0;R;;;;N;;;1E93A;
1E922;GARAY CAPITAL LETTER MA;Lu;0;R;;;;N;;;1E93B;
1E923;GARAY CAPITAL LETTER KA;Lu;0;R;;;;N;;;1E93C;
1E924;GARAY CAPITAL LETTER BA;Lu;0;R;;;;N;;;1E93D;
1E925;GARAY CAPITAL LETTER MBA;Lu;0;R;;;;N;;;1E93E;
1E926;GARAY CAPITAL LETTER JA;Lu;0;R;;;;N;;;1E93F;
1E927;GARAY CAPITAL LETTER NJA;Lu;0;R;;;;N;;;1E940;
1E928;GARAY CAPITAL LETTER SA;Lu;0;R;;;;N;;;1E941;
1E929;GARAY CAPITAL LETTER WA;Lu;0;R;;;;N;;;1E942;
1E92A;GARAY CAPITAL LETTER LA;Lu;0;R;;;;N;;;1E943;
1E92B;GARAY CAPITAL LETTER GA;Lu;0;R;;;;N;;;1E944;
1E92C;GARAY CAPITAL LETTER NGGA;Lu;0;R;;;;N;;;1E945;
1E92D;GARAY CAPITAL LETTER NGA;Lu;0;R;;;;N;;;1E946;
1E92E;GARAY CAPITAL LETTER DA;Lu;0;R;;;;N;;;1E947;
1E92F;GARAY CAPITAL LETTER NDA;Lu;0;R;;;;N;;;1E948;
1E930;GARAY CAPITAL LETTER XA;Lu;0;R;;;;N;;;1E949;
1E931;GARAY CAPITAL LETTER HA;Lu;0;R;;;;N;;;1E94A;
1E932;GARAY CAPITAL LETTER YA;Lu;0;R;;;;N;;;1E94B;
1E933;GARAY CAPITAL LETTER TA;Lu;0;R;;;;N;;;1E94C;
1E934;GARAY CAPITAL LETTER RA;Lu;0;R;;;;N;;;1E94D;
1E935;GARAY CAPITAL LETTER NYA;Lu;0;R;;;;N;;;1E94E;
1E936;GARAY CAPITAL LETTER FA;Lu;0;R;;;;N;;;1E94F;
1E937;GARAY CAPITAL LETTER NA;Lu;0;R;;;;N;;;1E950;
1E938;GARAY CAPITAL LETTER PA;Lu;0;R;;;;N;;;1E951;





































































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1E939;GARAY SMALL LETTER A;Ll;0;R;;;N;;;1E920;;1E920
1E93A;GARAY SMALL LETTER CA;Ll;0;R;;;N;;;1E921;;1E921
1E93B;GARAY SMALL LETTER MA;Ll;0;R;;;N;;;1E922;;1E922
1E93C;GARAY SMALL LETTER KA;Ll;0;R;;;N;;;1E923;;1E923
1E93D;GARAY SMALL LETTER BA;Ll;0;R;;;N;;;1E924;;1E924
1E93E;GARAY SMALL LETTER MBA;Ll;0;R;;;N;;;1E925;;1E925
1E93F;GARAY SMALL LETTER JA;Ll;0;R;;;N;;;1E926;;1E926
1E940;GARAY SMALL LETTER NJA;Ll;0;R;;;N;;;1E927;;1E927
1E941;GARAY SMALL LETTER SA;Ll;0;R;;;N;;;1E928;;1E928
1E942;GARAY SMALL LETTER WA;Ll;0;R;;;N;;;1E929;;1E929
1E943;GARAY SMALL LETTER LA;Ll;0;R;;;N;;;1E92A;;1E92A
1E944;GARAY SMALL LETTER GA;Ll;0;R;;;N;;;1E92B;;1E92B
1E945;GARAY SMALL LETTER NGGA;Ll;0;R;;;N;;;1E92C;;1E92C
1E946;GARAY SMALL LETTER NGA;Ll;0;R;;;N;;;1E92D;;1E92D
1E947;GARAY SMALL LETTER DA;Ll;0;R;;;N;;;1E92E;;1E92E
1E948;GARAY SMALL LETTER NDA;Ll;0;R;;;N;;;1E92F;;1E92F
1E949;GARAY SMALL LETTER XA;Ll;0;R;;;N;;;1E930;;1E930
1E94A;GARAY SMALL LETTER HA;Ll;0;R;;;N;;;1E931;;1E931
1E94B;GARAY SMALL LETTER YA;Ll;0;R;;;N;;;1E932;;1E932
1E94C;GARAY SMALL LETTER TA;Ll;0;R;;;N;;;1E933;;1E933
1E94D;GARAY SMALL LETTER RA;Ll;0;R;;;N;;;1E934;;1E934
1E94E;GARAY SMALL LETTER NYA;Ll;0;R;;;N;;;1E935;;1E935
1E94F;GARAY SMALL LETTER FA;Ll;0;R;;;N;;;1E936;;1E936
1E950;GARAY SMALL LETTER NA;Ll;0;R;;;N;;;1E937;;1E937
1E951;GARAY SMALL LETTER PA;Ll;0;R;;;N;;;1E938;;1E938
1E952;GARAY VOWEL LETTER A;Lo;0;R;;;N;;;;
1E953;GARAY VOWEL LETTER I;Lo;0;R;;;N;;;;
1E954;GARAY VOWEL LETTER O;Lo;0;R;;;N;;;;
1E955;GARAY VOWEL SIGN E;Mn;220;NSM;;;N;;;;
1E956;GARAY SUKUN;Lo;0;R;;;N;;;;
1E957;GARAY VOWEL LENGTH MARK;Lo;0;R;;;N;;;;
1E958;GARAY GEMINATION MARK;Mn;230;NSM;;;N;;;;
1E95F;GARAY REDUPLICATION MARK;So;0;R;;;N;;;;
1E960;GARAY DIGIT ZERO;Nd;0;AN;;0;0;0;N;;;;
1E961;GARAY DIGIT ONE;Nd;1;AN;;1;1;1;N;;;;
1E962;GARAY DIGIT TWO;Nd;2;AN;;2;2;2;N;;;;
1E963;GARAY DIGIT THREE;Nd;3;AN;;3;3;3;N;;;;
1E964;GARAY DIGIT FOUR;Nd;4;AN;;4;4;4;N;;;;
1E965;GARAY DIGIT FIVE;Nd;5;AN;;5;5;5;N;;;;
1E966;GARAY DIGIT SIX;Nd;6;AN;;6;6;6;N;;;;
1E967;GARAY DIGIT SEVEN;Nd;7;AN;;7;7;7;N;;;;
1E968;GARAY DIGIT EIGHT;Nd;8;AN;;8;8;8;N;;;;
1E969;GARAY DIGIT NINE;Nd;9;AN;;9;9;9;N;;;;

9. Acknowledgements. This project was made possible in part by a grant from the U.S. National Endowment for the Humanities, which funded the Universal Scripts Project (part of the Script Encoding Initiative at UC Berkeley) in respect of the Garay encoding. Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment for the Humanities.

10. Bibliography

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	1E92	1E93	1E94	1E95	1E96
0	 1E920	 1E930	 1E940	 1E950	 1E960
1	 1E921	 1E931	 1E941	 1E951	 1E961
2	 1E922	 1E932	 1E942	 1E952	 1E962
3	 1E923	 1E933	 1E943	 1E953	 1E963
4	 1E924	 1E934	 1E944	 1E954	 1E964
5	 1E925	 1E935	 1E945	 1E955	 1E965
6	 1E926	 1E936	 1E946	 1E956	 1E966
7	 1E927	 1E937	 1E947	 1E957	 1E967
8	 1E928	 1E938	 1E948	 1E958	 1E968
9	 1E929	 1E939	 1E949		 1E969
A	 1E92A	 1E93A	 1E94A		
B	 1E92B	 1E93B	 1E94B		
C	 1E92C	 1E93C	 1E94C		
D	 1E92D	 1E93D	 1E94D		
E	 1E92E	 1E93E	 1E94E		
F	 1E92F	 1E93F	 1E94F	 1E95F	

Consonants

1E920	ᄁ	GARAY CAPITAL LETTER A
1E921	ᄂ	GARAY CAPITAL LETTER CA
1E922	ᄃ	GARAY CAPITAL LETTER MA
1E923	ᄄ	GARAY CAPITAL LETTER KA
1E924	ᄅ	GARAY CAPITAL LETTER BA
1E925	ᄆ	GARAY CAPITAL LETTER MBA
1E926	ᄇ	GARAY CAPITAL LETTER JA
1E927	ᄈ	GARAY CAPITAL LETTER NJA
1E928	ᄉ	GARAY CAPITAL LETTER SA
1E929	ᄊ	GARAY CAPITAL LETTER WA
1E92A	ᄋ	GARAY CAPITAL LETTER LA
1E92B	ᄌ	GARAY CAPITAL LETTER GA
1E92C	ᄍ	GARAY CAPITAL LETTER NGGA
1E92D	ᄎ	GARAY CAPITAL LETTER NGA
1E92E	ᄏ	GARAY CAPITAL LETTER DA
1E92F	ᄐ	GARAY CAPITAL LETTER NDA
1E930	ᄑ	GARAY CAPITAL LETTER XA
1E931	ᄒ	GARAY CAPITAL LETTER HA
1E932	ᄓ	GARAY CAPITAL LETTER YA
1E933	ᄔ	GARAY CAPITAL LETTER TA
1E934	ᄕ	GARAY CAPITAL LETTER RA
1E935	ᄖ	GARAY CAPITAL LETTER NYA
1E936	ᄗ	GARAY CAPITAL LETTER FA
1E937	ᄘ	GARAY CAPITAL LETTER NA
1E938	ᄙ	GARAY CAPITAL LETTER PA
1E939	ᄚ	GARAY SMALL LETTER A
1E93A	ᄛ	GARAY SMALL LETTER CA
1E93B	ᄜ	GARAY SMALL LETTER MA
1E93C	ᄝ	GARAY SMALL LETTER KA
1E93D	ᄞ	GARAY SMALL LETTER BA
1E93E	ᄟ	GARAY SMALL LETTER MBA
1E93F	ᄠ	GARAY SMALL LETTER JA
1E940	ᄡ	GARAY SMALL LETTER NJA
1E941	ᄢ	GARAY SMALL LETTER SA
1E942	ᄣ	GARAY SMALL LETTER WA
1E943	ᄤ	GARAY SMALL LETTER LA
1E944	ᄥ	GARAY SMALL LETTER GA
1E945	ᄦ	GARAY SMALL LETTER NGGA
1E946	ᄧ	GARAY SMALL LETTER NGA
1E947	ᄨ	GARAY SMALL LETTER DA
1E948	ᄩ	GARAY SMALL LETTER NDA
1E949	ᄪ	GARAY SMALL LETTER XA
1E94A	ᄫ	GARAY SMALL LETTER HA
1E94B	ᄬ	GARAY SMALL LETTER YA
1E94C	ᄭ	GARAY SMALL LETTER TA
1E94D	ᄮ	GARAY SMALL LETTER RA
1E94E	ᄯ	GARAY SMALL LETTER NYA
1E94F	ᄰ	GARAY SMALL LETTER FA
1E950	ᄱ	GARAY SMALL LETTER NA
1E951	ᄲ	GARAY SMALL LETTER PA

Vowel letters and other marks

1E952	ᄳ	GARAY VOWEL LETTER A
1E953	ᄴ	GARAY VOWEL LETTER I
1E954	ᄵ	GARAY VOWEL LETTER O
1E955	ᄶ	GARAY VOWEL SIGN E
1E956	ᄷ	GARAY SUKUN
1E957	ᄸ	GARAY VOWEL LENGTH MARK
1E958	ᄹ	GARAY GEMINATION MARK
1E959	ᄺ	<reserved>
1E95A	ᄻ	<reserved>
1E95B	ᄼ	<reserved>
1E95C	ᄽ	<reserved>
1E95D	ᄾ	<reserved>
1E95E	ᄿ	<reserved>
1E95F	ᅀ	GARAY REDUPLICATION MARK

Digits

1E960	ᄁ	GARAY DIGIT ZERO
1E961	ᄂ	GARAY DIGIT ONE
1E962	ᄃ	GARAY DIGIT TWO
1E963	ᄄ	GARAY DIGIT THREE
1E964	ᄅ	GARAY DIGIT FOUR
1E965	ᄆ	GARAY DIGIT FIVE
1E966	ᄇ	GARAY DIGIT SIX
1E967	ᄈ	GARAY DIGIT SEVEN
1E968	ᄉ	GARAY DIGIT EIGHT
1E969	ᄊ	GARAY DIGIT NINE

11. Figures.

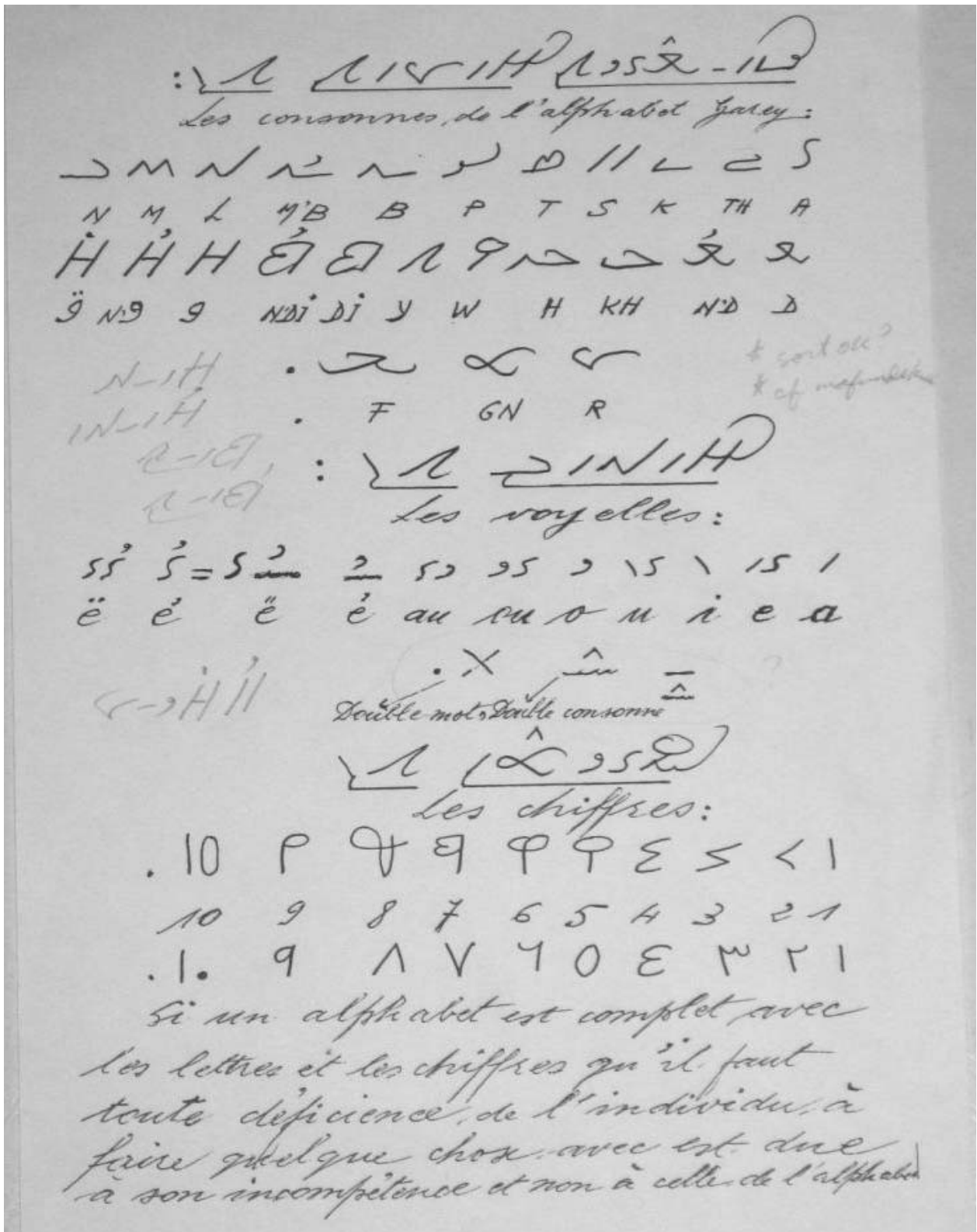


Figure 1. Chart of the Garay alphabet by Assane Faye.

Table II The Wolof Alphabet of Assane Faye										
CONSONANTS									VOWELS	
	INITIAL	NON-INIT.		INITIAL	NON-INIT.		INITIAL	NON-INIT.	(PROVISIONAL IDENTIFICATION)	
[ā] (1)	Ⓛ	ɿ	w (8)	Ⓛ	ɿ	y (40)	Ⓛ	Ⓛ	a	/
c (2)	Ⓛ	Ⓛ	l (9)	Ⓛ	Ⓛ	t (50)	Ⓛ	Ⓛ	ɛ	'
m (3)	Ⓛ	Ⓛ	g (10)	Ⓛ	Ⓛ	r (60)	Ⓛ	Ⓛ	e	ɿ'
k (4)	Ⓛ	Ⓛ	ng	Ⓛ	Ⓛ	n (70)	Ⓛ	Ⓛ	ø	ɿɿ
b (5)	Ⓛ	Ⓛ	ɲ	Ⓛ	Ⓛ	f (80)	Ⓛ	Ⓛ	i	\
mb	Ⓛ	Ⓛ	d (20)	Ⓛ	Ⓛ	n (90)	Ⓛ	Ⓛ	ɔ	,
j (6)	Ⓛ	Ⓛ	nd	Ⓛ	Ⓛ	p (100)	Ⓛ	Ⓛ	o	ɿɿ
nj	Ⓛ	Ⓛ	x (30)	Ⓛ	Ⓛ	DIACRITICS		u	ɿ	
						long vowel (postscript)	—			
						zero vowel (postscript)	c			
s (7)	Ⓛ	Ⓛ	h	Ⓛ	Ⓛ	double consonant (superscr.)	^	ü	\	ɿ
NUMERALS 1 2 3 4 5 6 7 8 9 10										

Figure 2. Table of Garay characters from Dalby 1966.

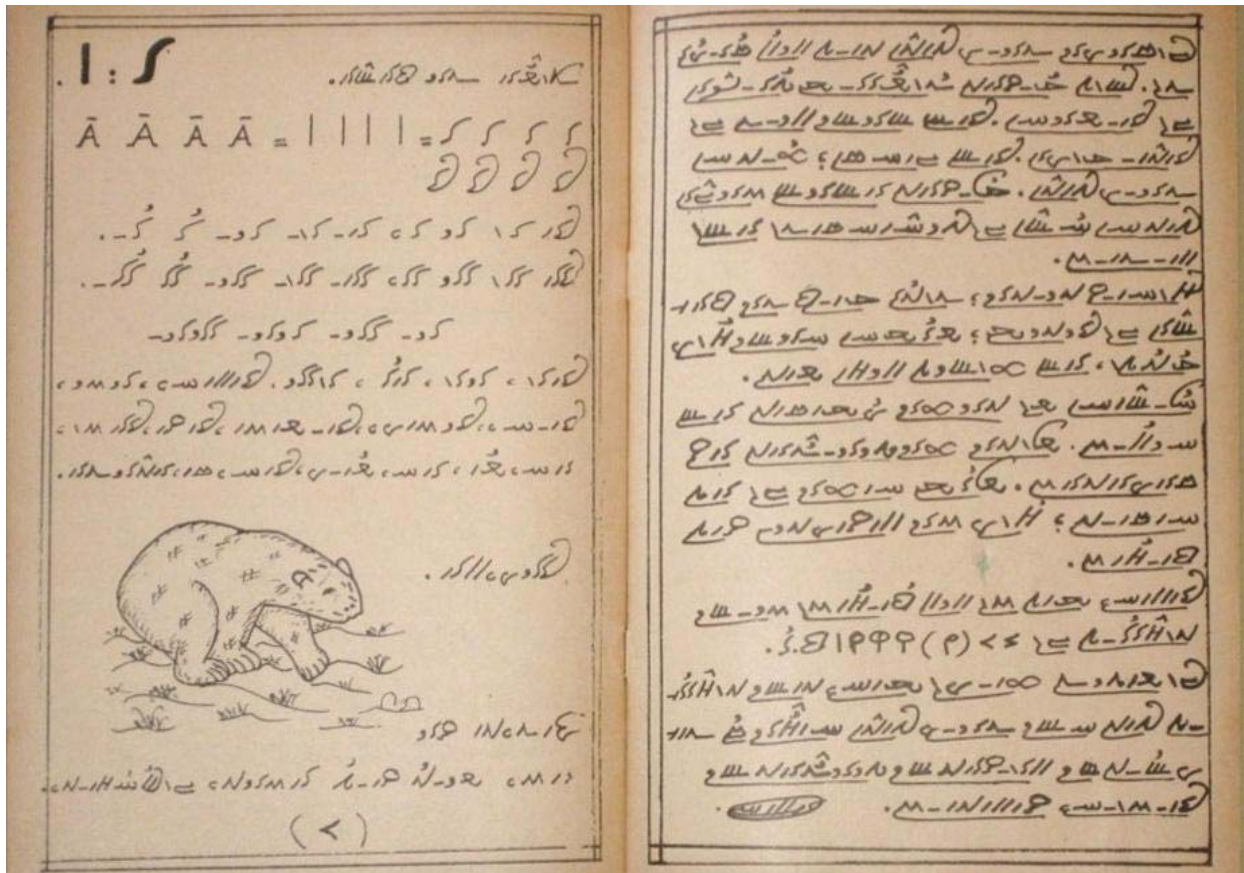


Figure 3. A primer by Assane Faye. On the right, introductory text; on the left, the letter A.

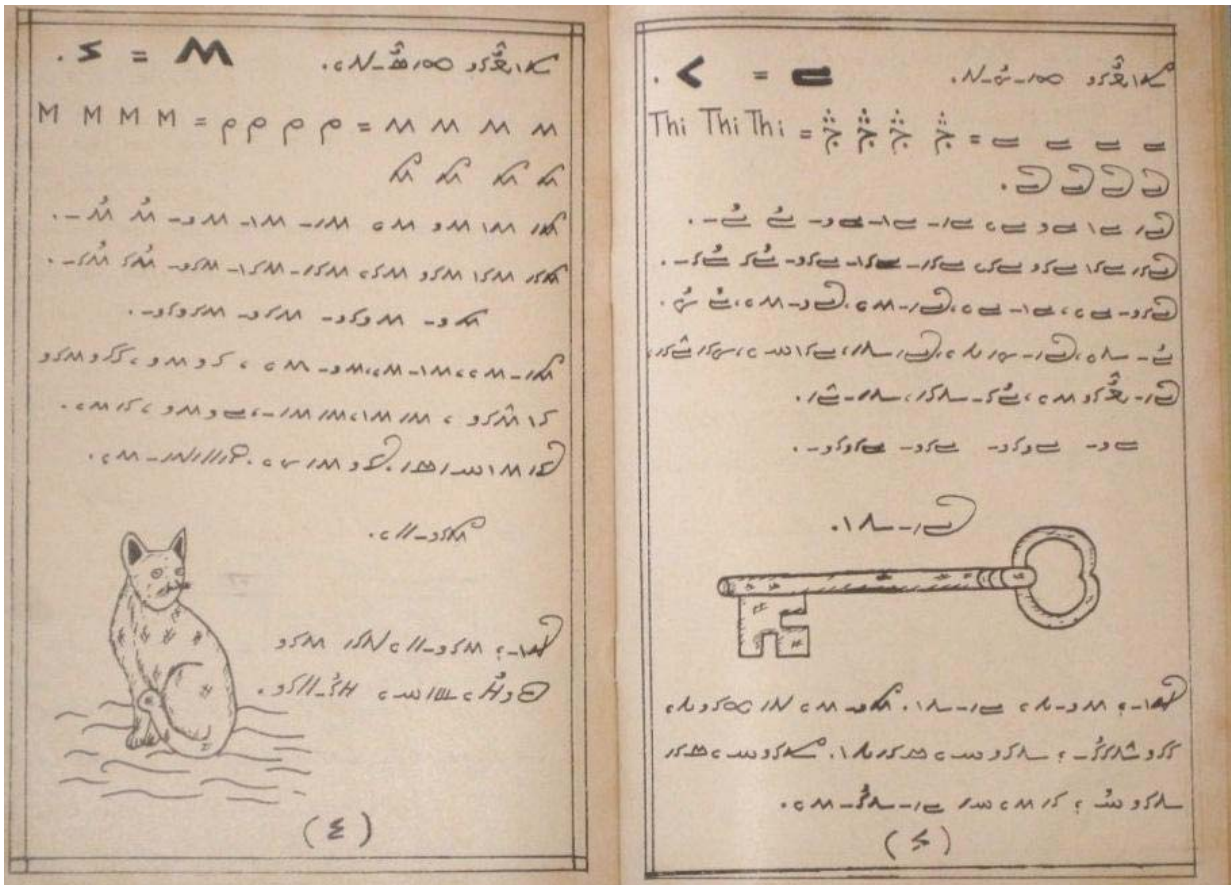


Figure 4. A primer by Assane Faye. On the right, the letter CA; on the left, the letter MA.

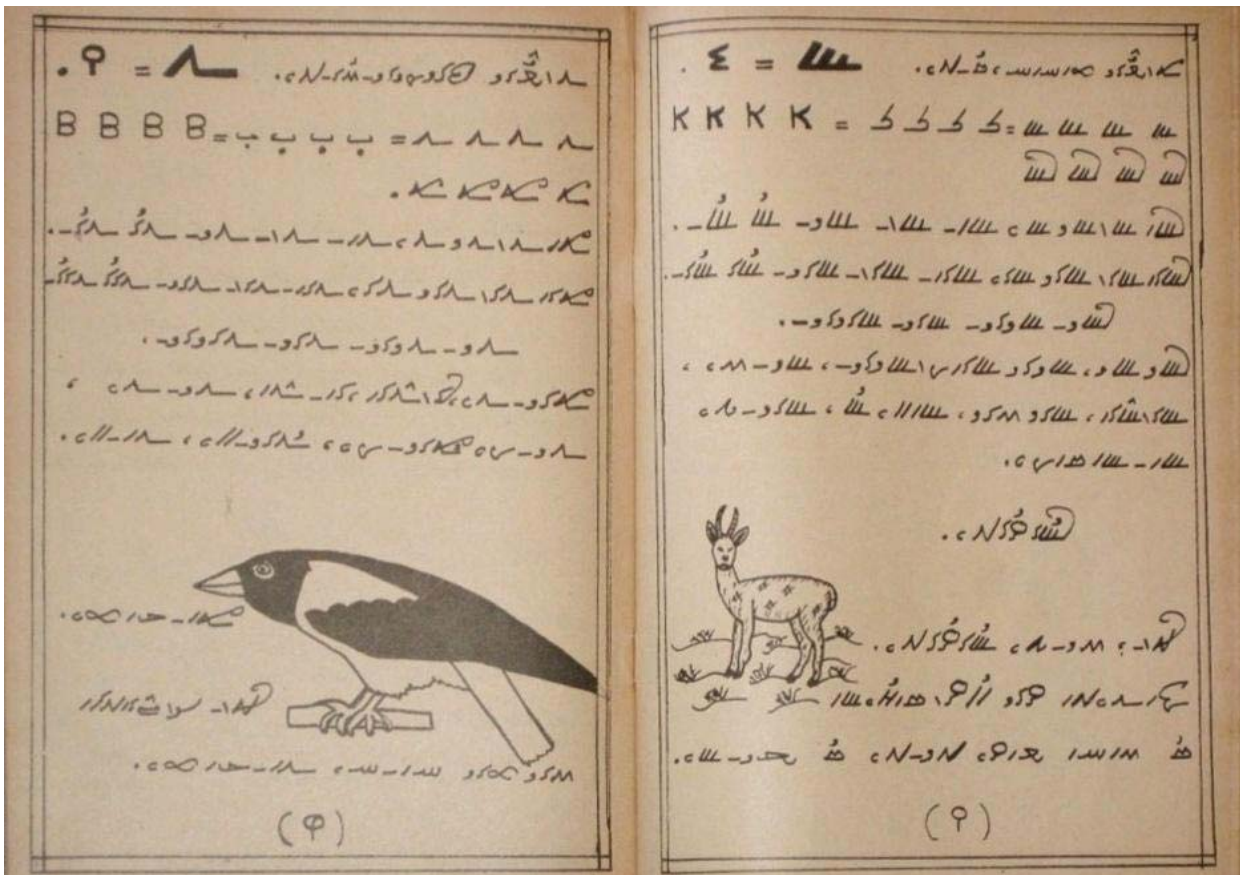


Figure 5. A primer by Assane Faye. On the right, the letter KA; on the left, the letter BA.

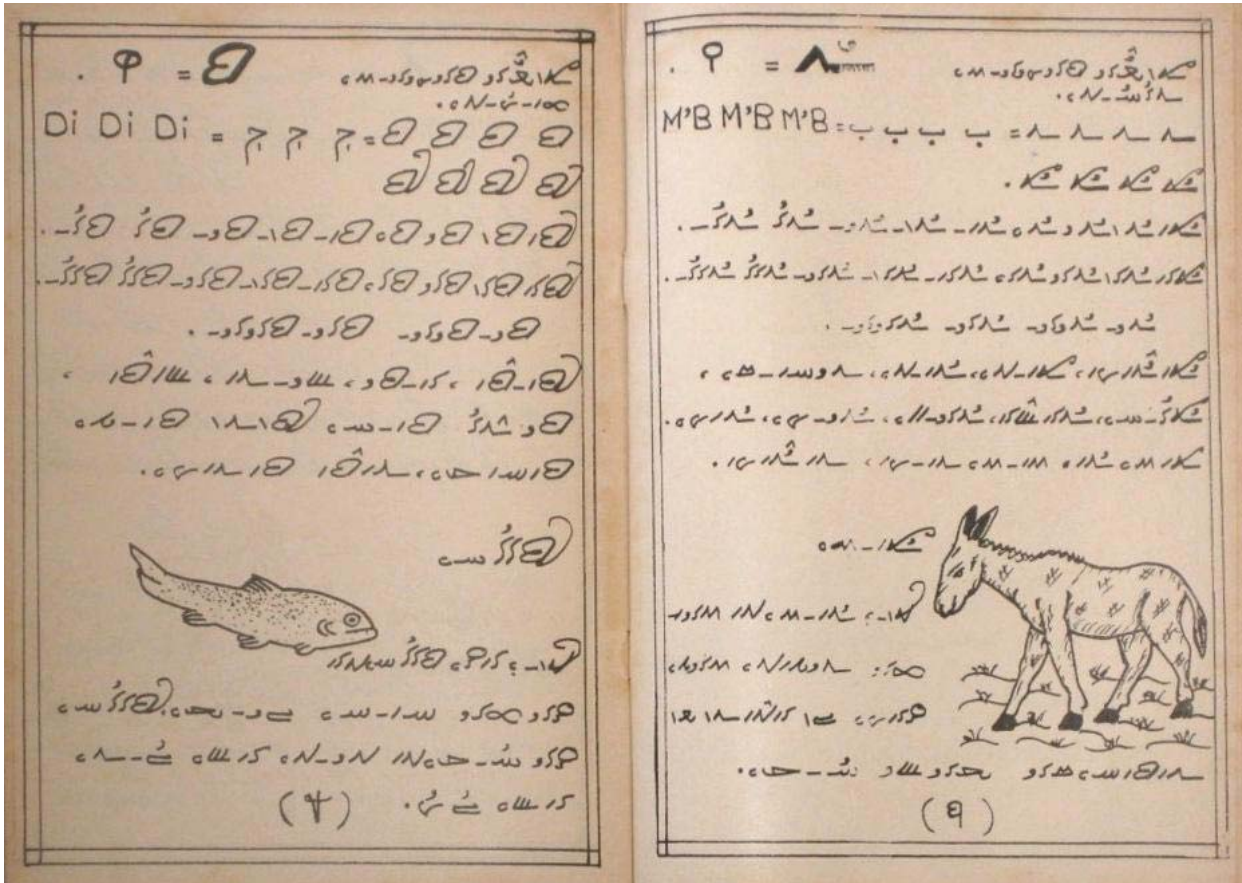


Figure 6. A primer by Assane Faye. On the right, the letter MBA; on the left, the letter JA.

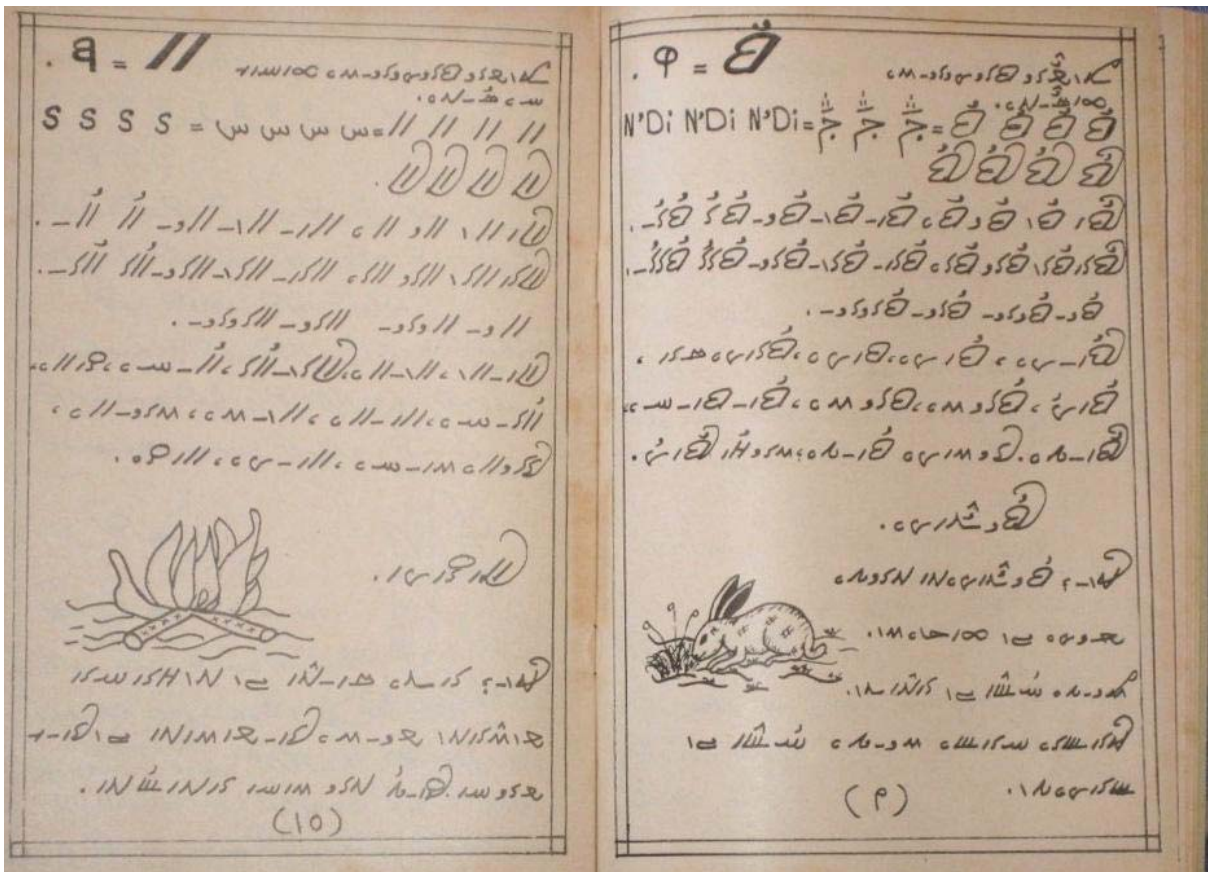


Figure 7. A primer by Assane Faye. On the right, the letter NJA; on the left, the letter SA.

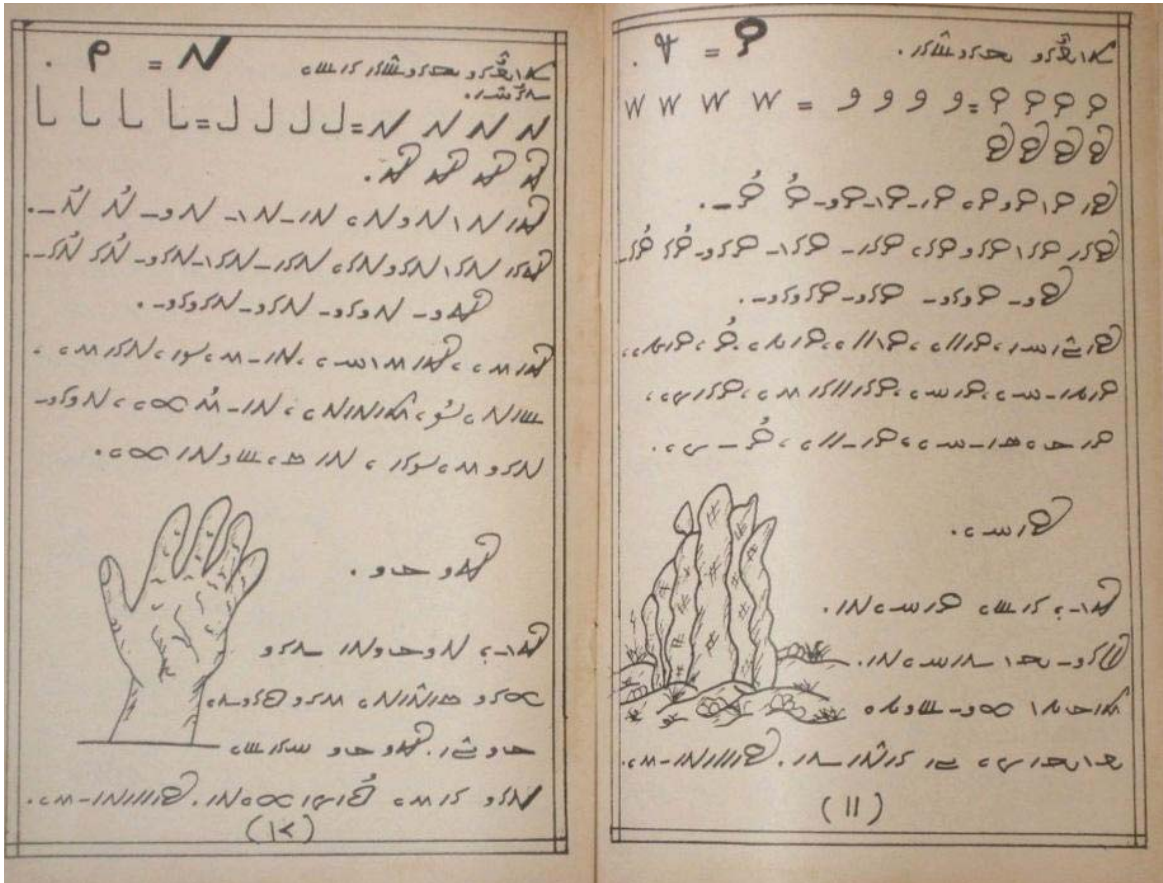


Figure 8. A primer by Assane Faye. On the right, the letter wa; on the left, the letter la.

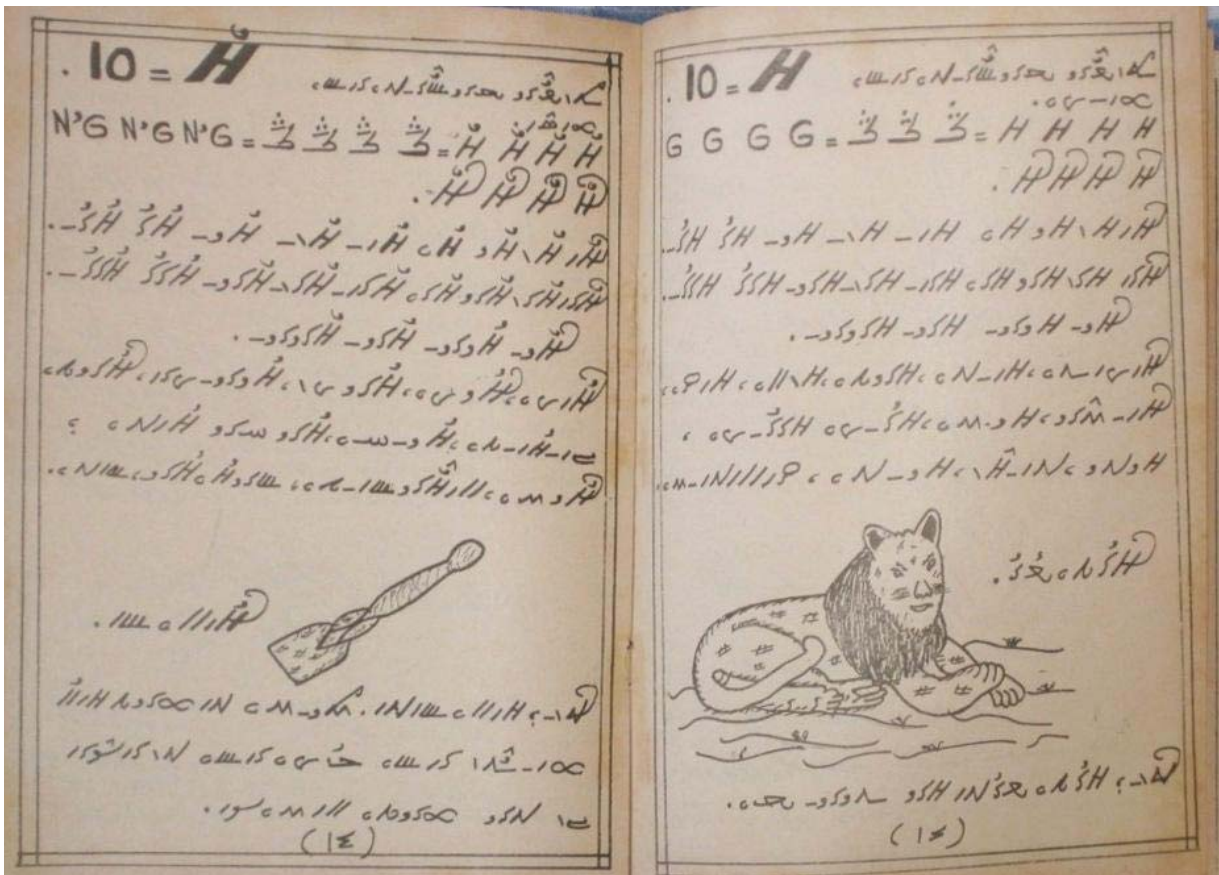


Figure 9. A primer by Assane Faye. On the right, the letter ga; on the left, the letter ngga.

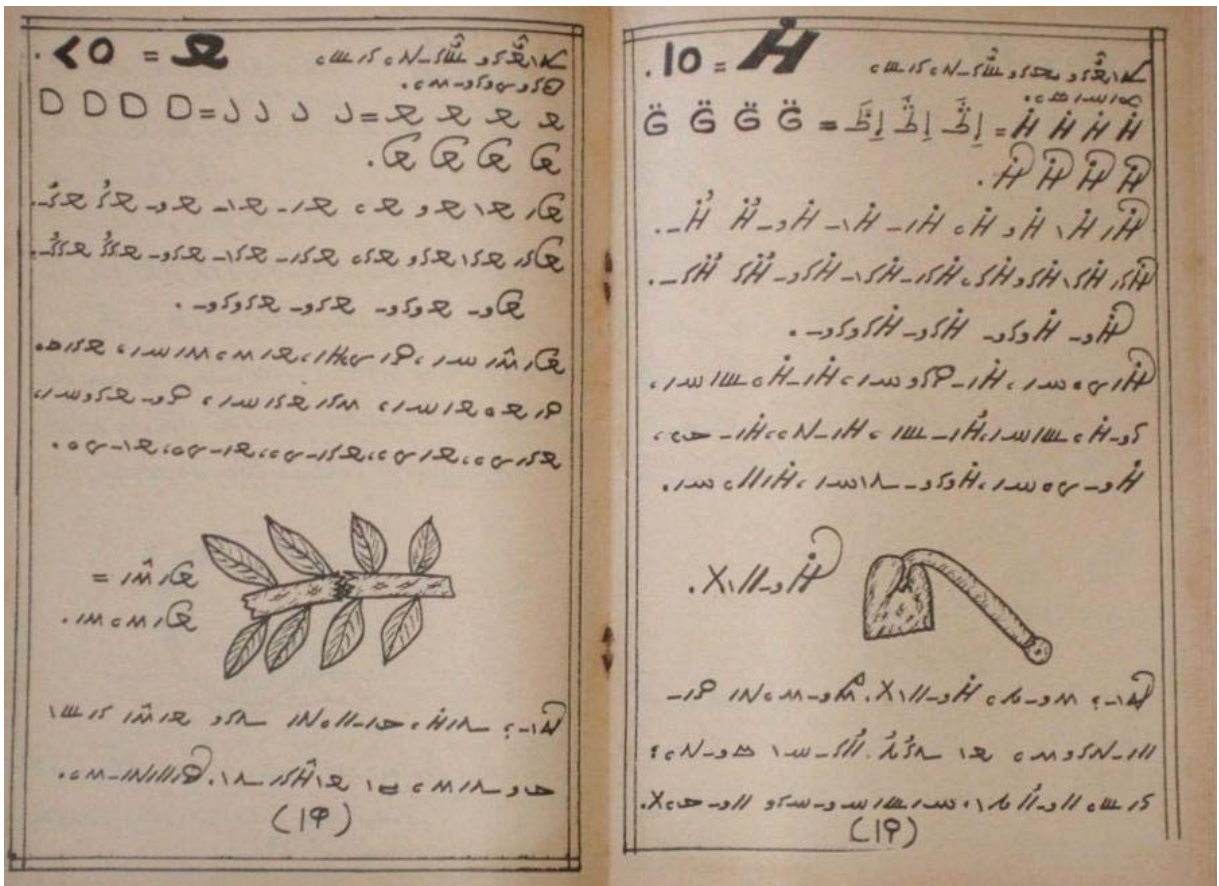


Figure 10. A primer by Assane Faye. On the right, the letter NGA; on the left, the letter DA. On the right, $\chi_{\text{N}}-\text{H}$ indicates *Dōsi ηōsi*.

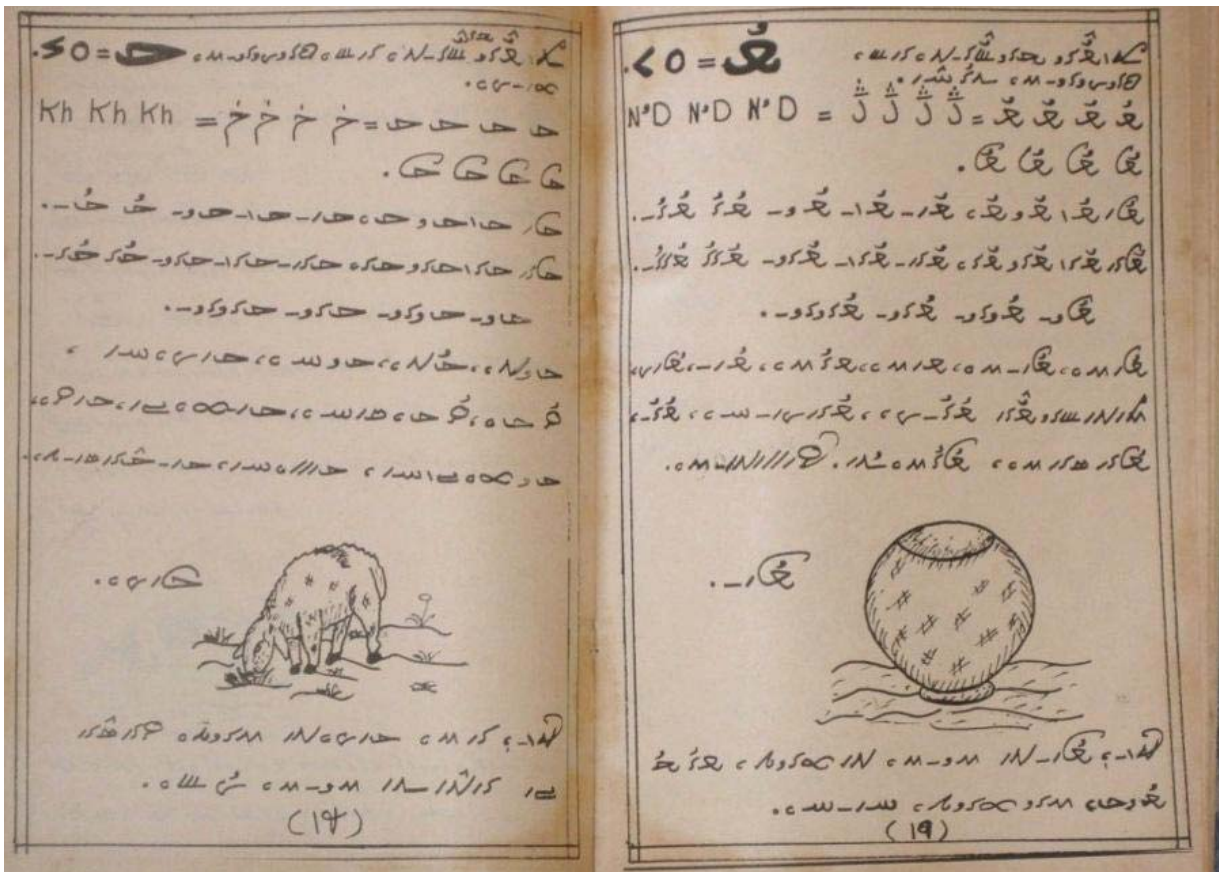


Figure 11. A primer by Assane Faye. On the right, the letter NDA; on the left, the letter XA.

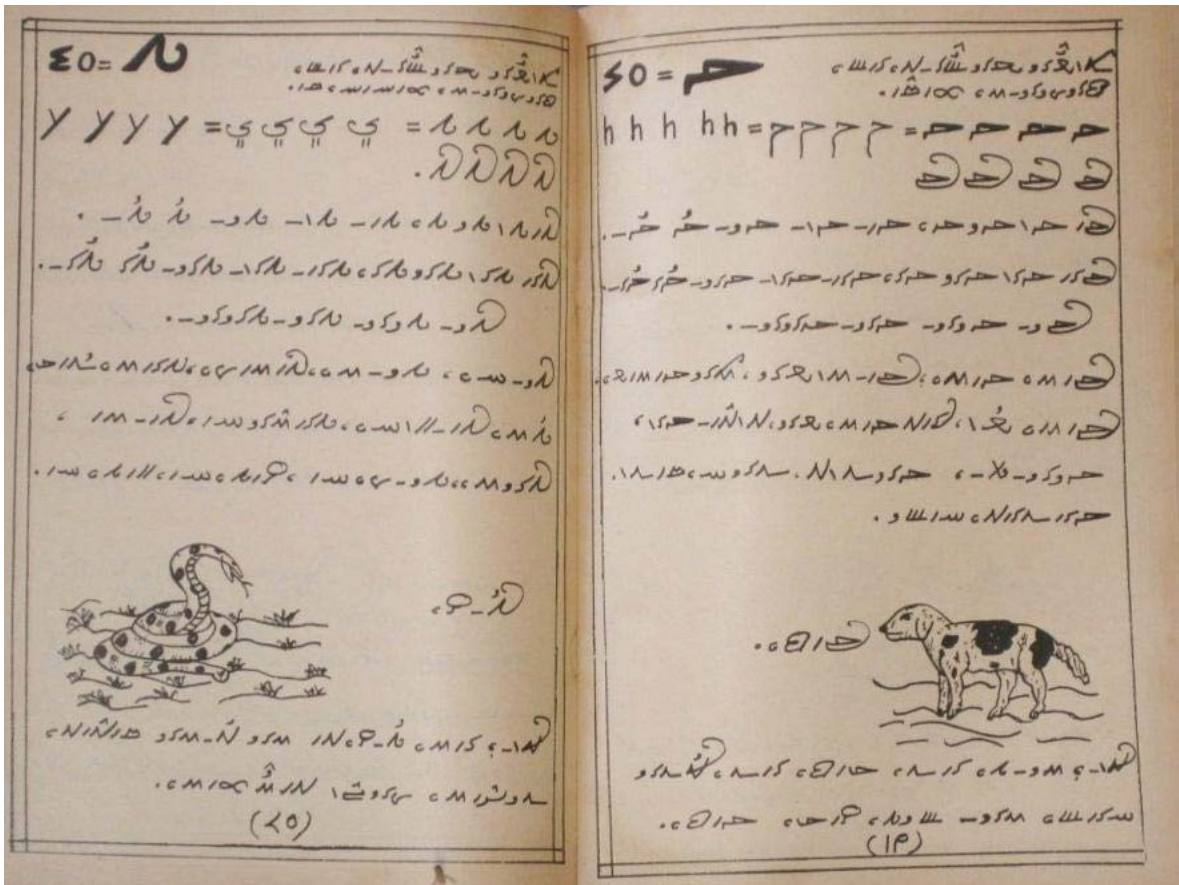


Figure 12. A primer by Assane Faye. On the right, the letter HA; on the left, the letter YA.

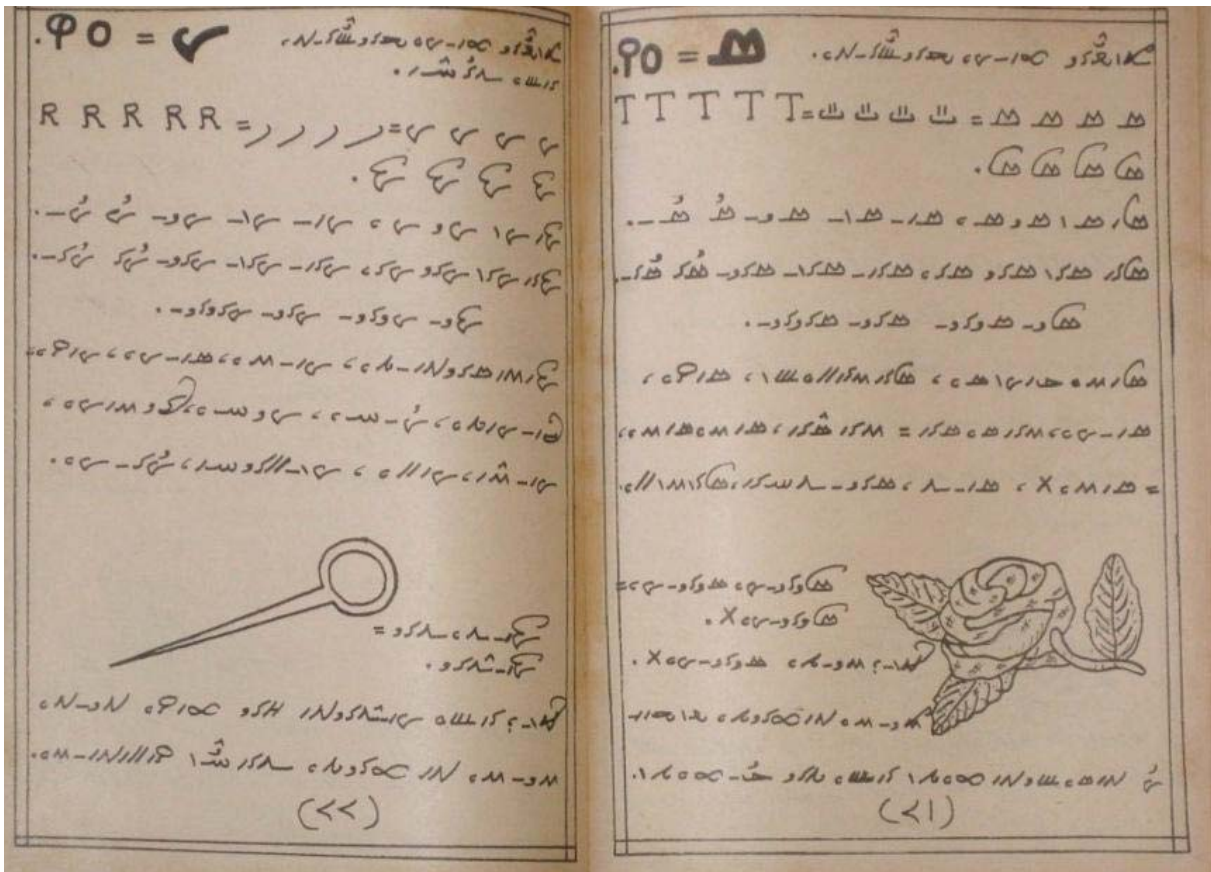


Figure 13. A primer by Assane Faye. On the right, the letter TA; on the left, the letter RA.

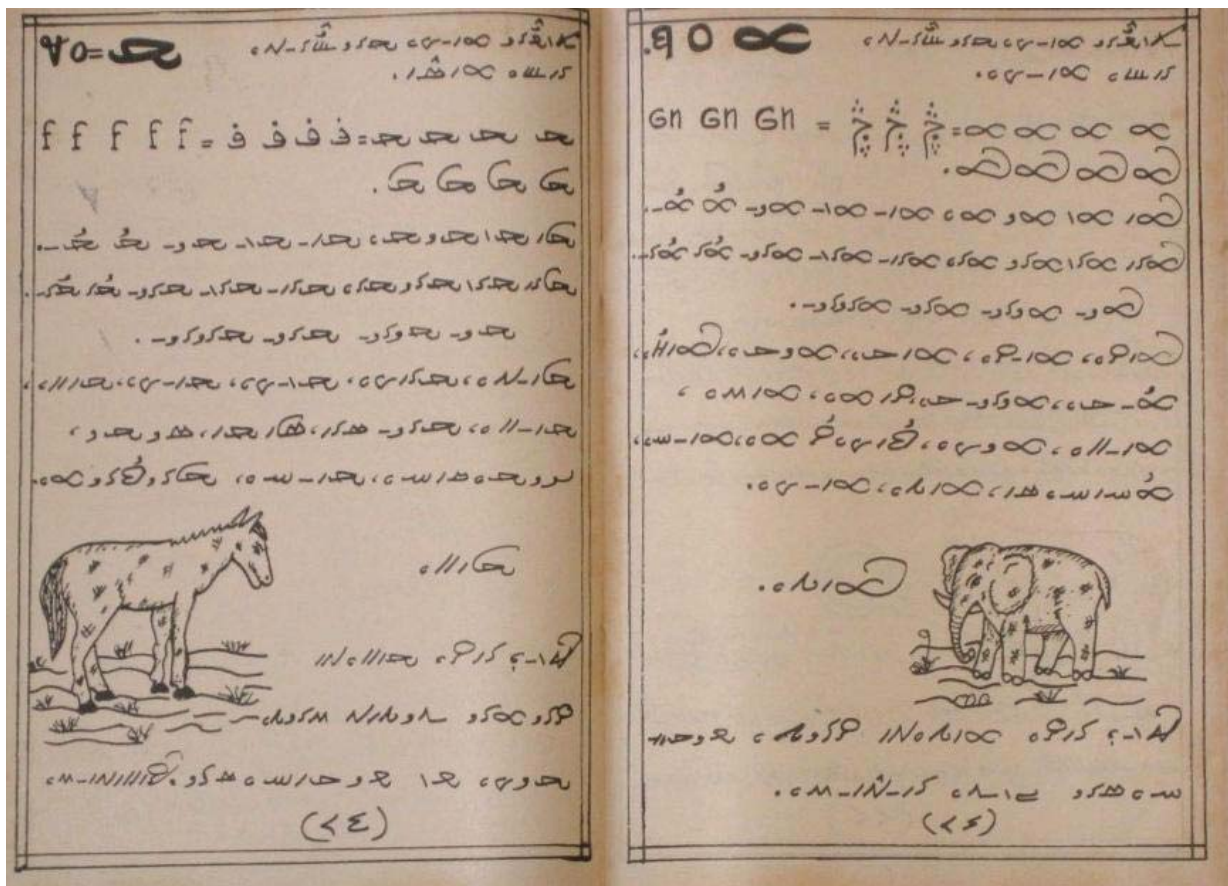


Figure 14. A primer by Assane Faye. On the right, the letter NYA; on the left, the letter FA.

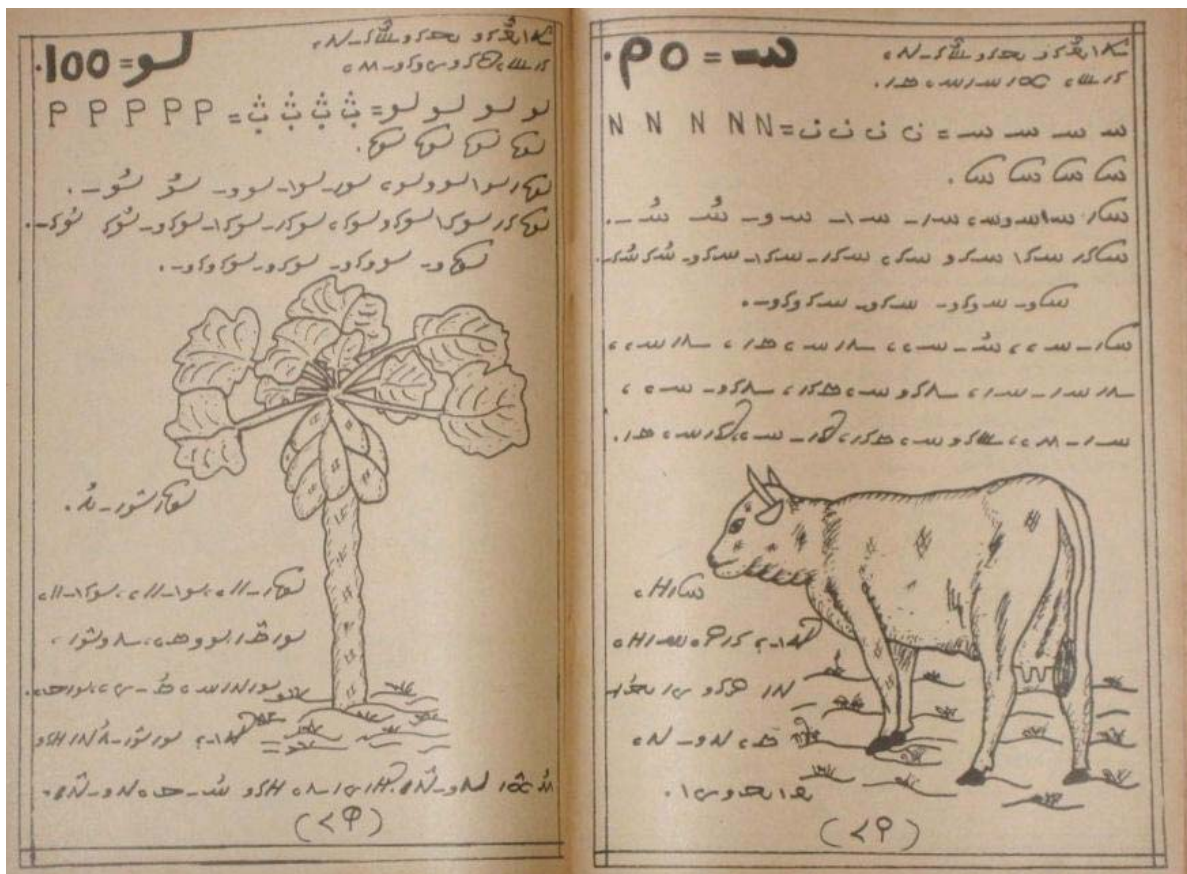


Figure 15. A primer by Assane Faye. On the right, the letter NA; on the left, the letter PA.

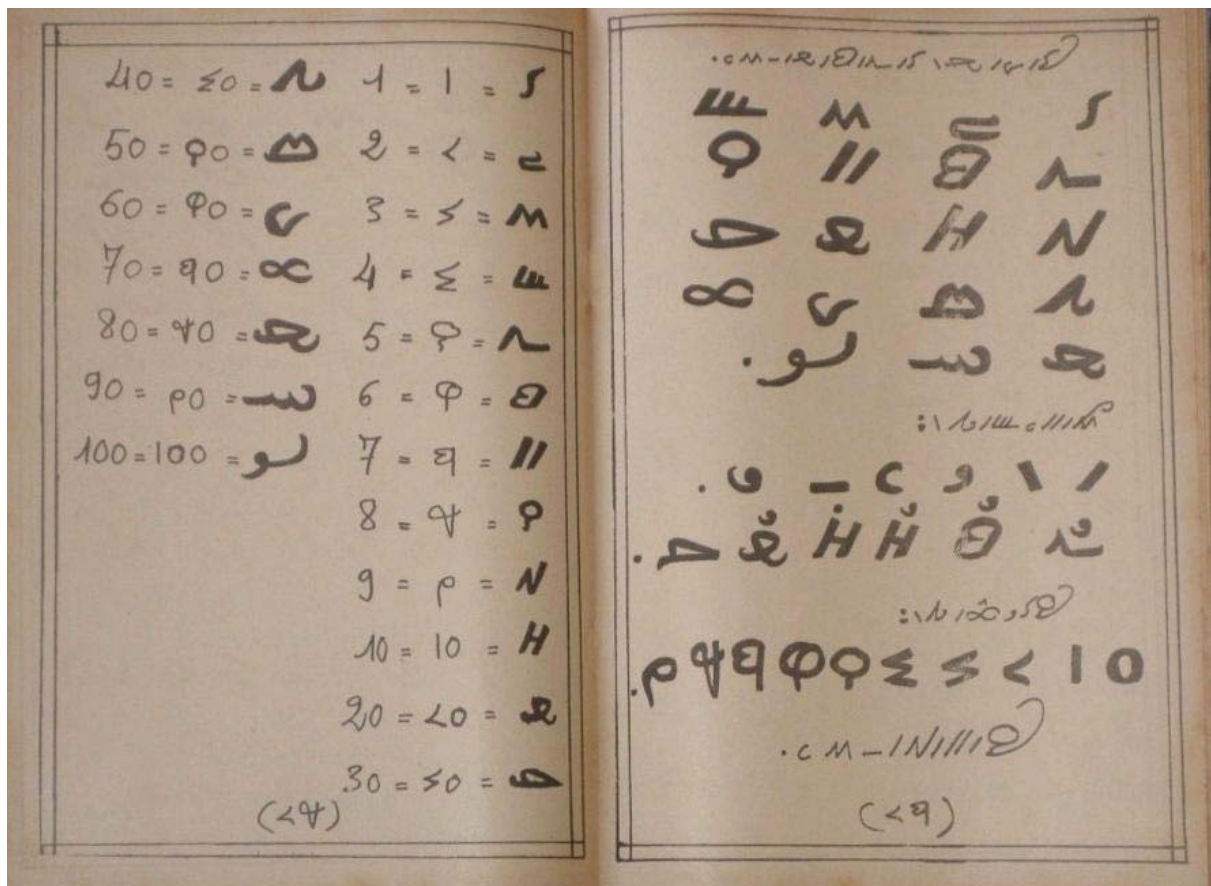


Figure 16. A primer by Assane Faye. On the right, a summary of forms; on the left, the digits and numeric values of the letters.

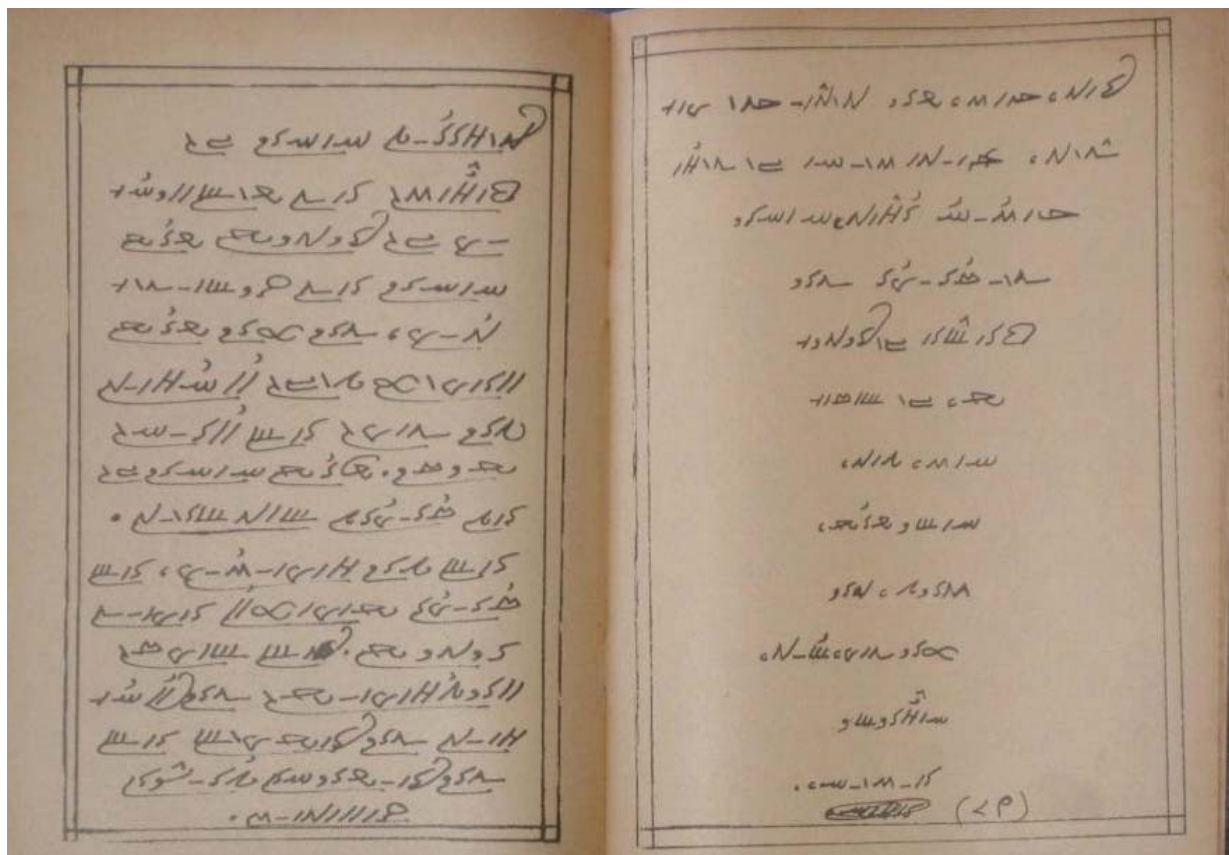


Figure 17. The final pages of a primer by Assane Faye. Note the word-underlining on the left but not on the right.

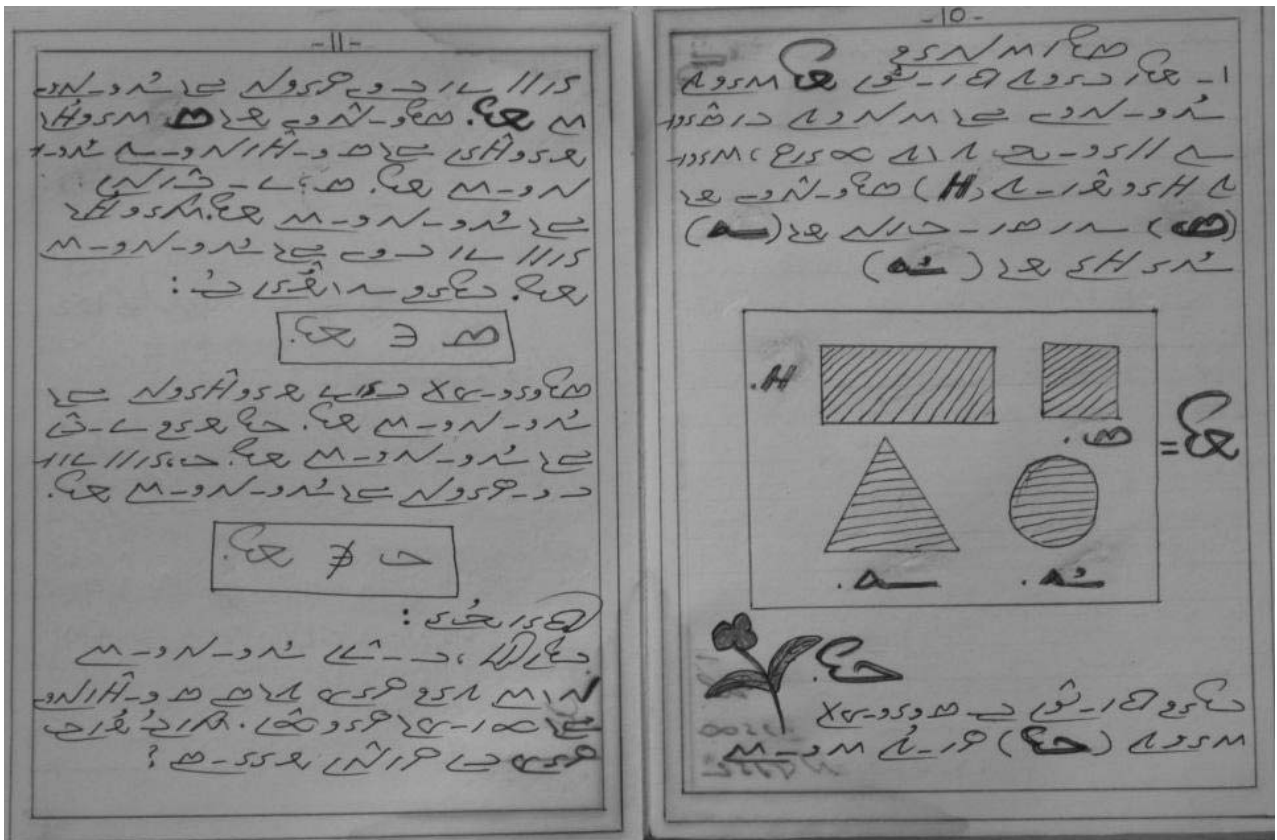


Figure 18. From a maths primer by Assane Faye, 1982, showing lower-case letters and upper case letters.

On the left is shown $\mathcal{D} \ni \mathcal{t} \text{ and } \mathcal{D} \ni \mathcal{x}$.

On the right, \mathcal{D} , \mathcal{t} , \mathcal{g} , \mathcal{b} , \mathcal{m} .

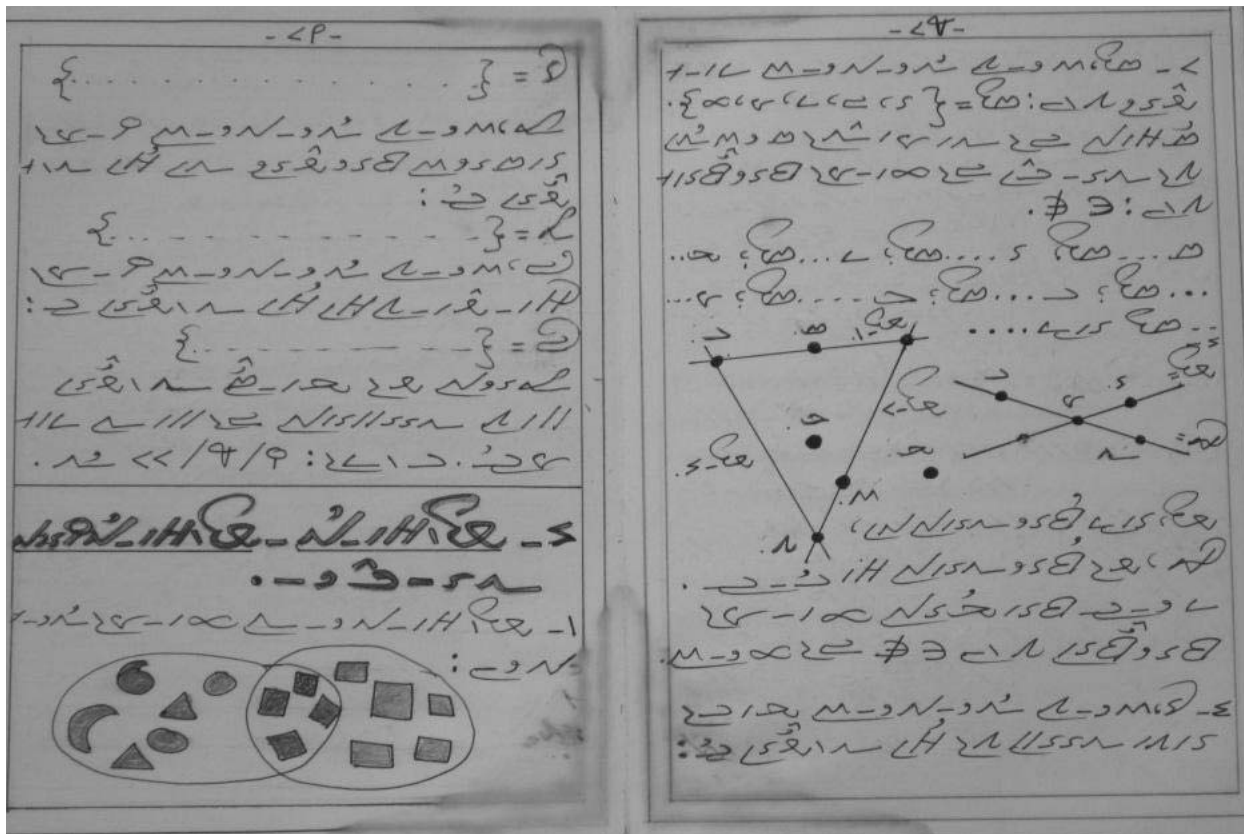


Figure 19. From a maths primer by Assane Faye, 1982. showing lower-case letters and upper case letters.

In the triangle, the terms \mathcal{D} , \mathcal{D} , \mathcal{D} , \mathcal{m} , \mathcal{y} , \mathcal{n} , \mathcal{t} , \mathcal{x} appear.

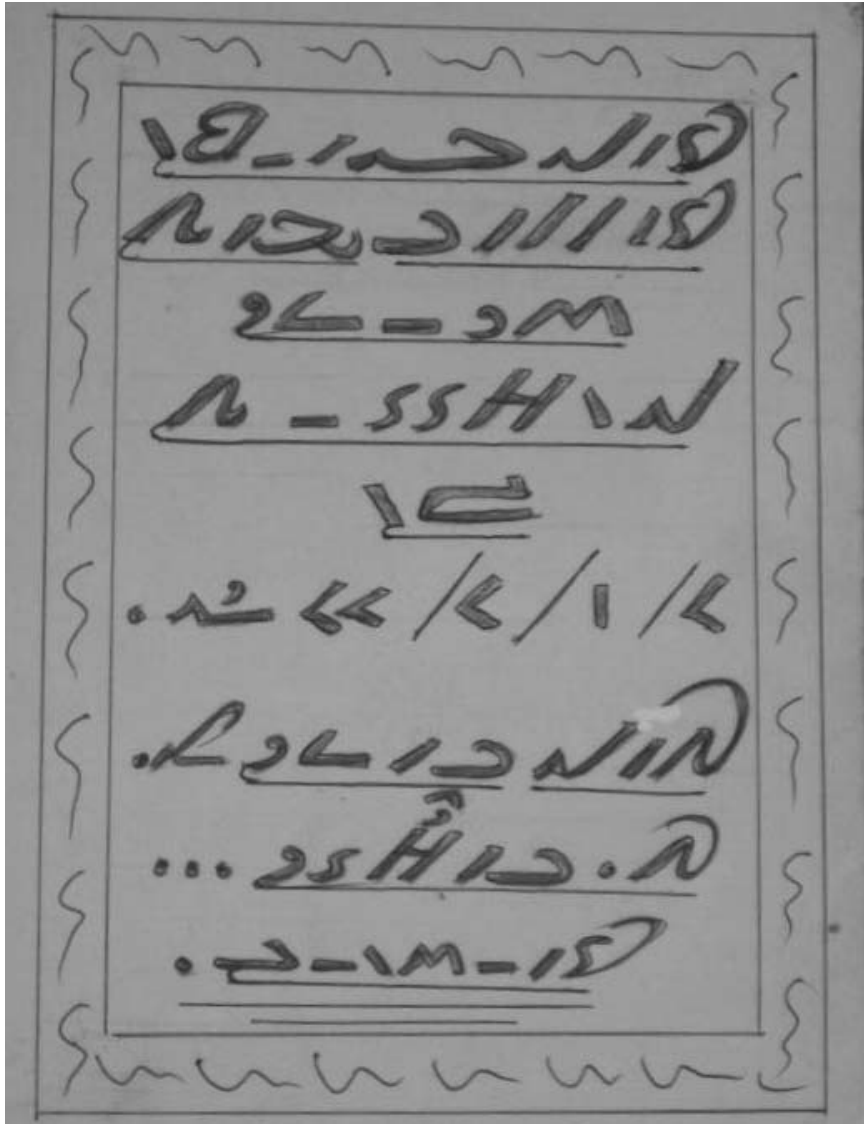


Figure 20. Title page of a book by Assane Faye. The text reads:

<p> لآر نآءء ءء لآر نآءء ءء لآر نآءء ءء لآر نآءء ءء لآر نآءء ءء لآر نآءء ءء لآر نآءء ءء لآر نآءء ءء </p>	<p> Alhāji Asan fay mōro ligēy ci 22/2/1/2 mb. Yalnaro B. Y. nanngu... Āmīn. </p>
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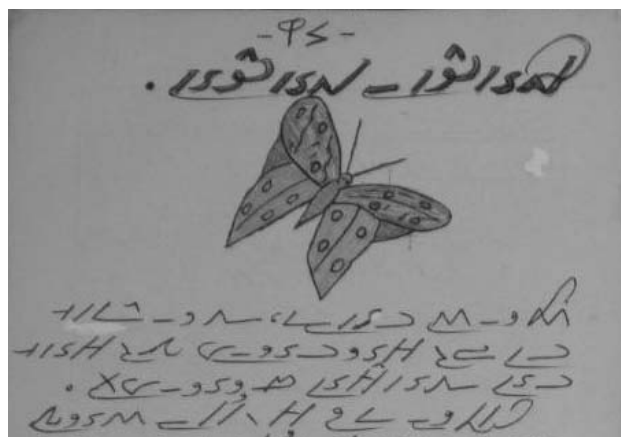


Figure 21. From a book of stories by Assane Faye. The title reads *Lappälappa*

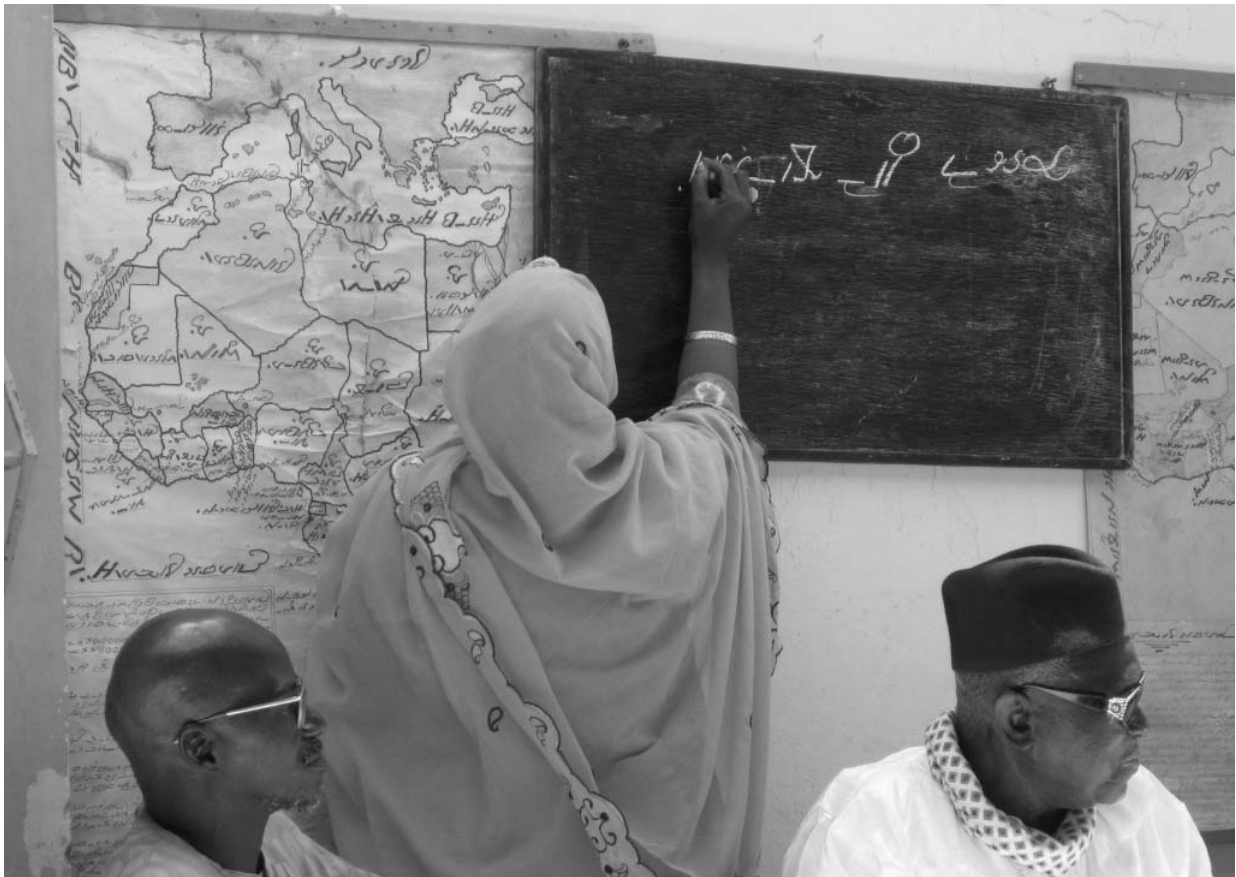


Figure 22. A woman writing in Garay. Note the map to the left with names written in Garay script.



Figure 23. Garay text. The final swash has been added to the glyphs, but note that on the map it is not present. This indicates that it is a stylistic variant, not an obligatory feature of the writing system..

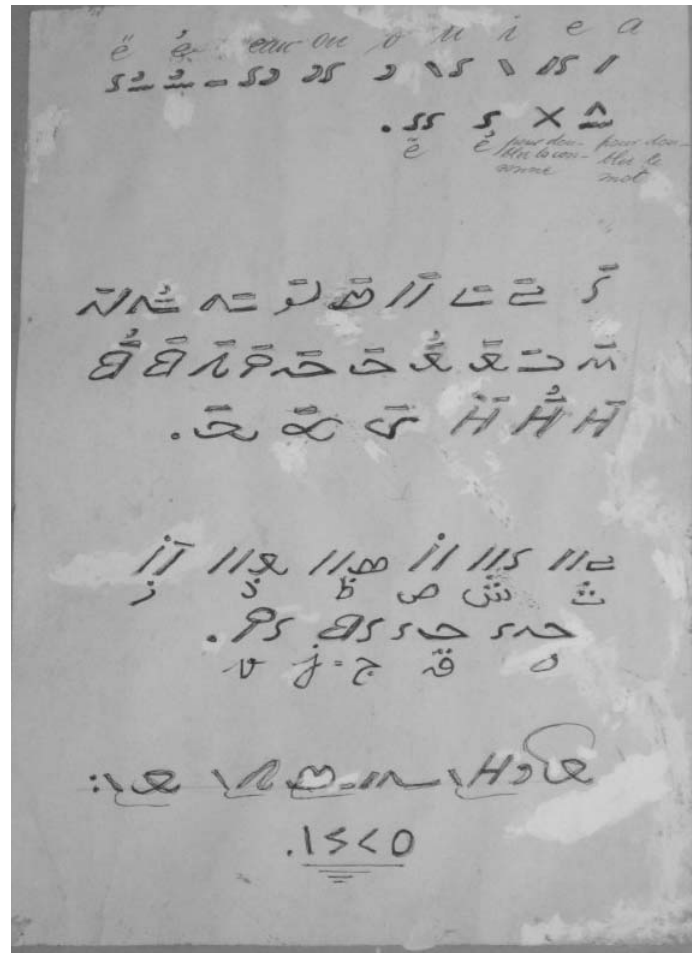


Figure 24. A primer by Assane Faye. On the right, the letter GA; on the left, the letter NGGA.

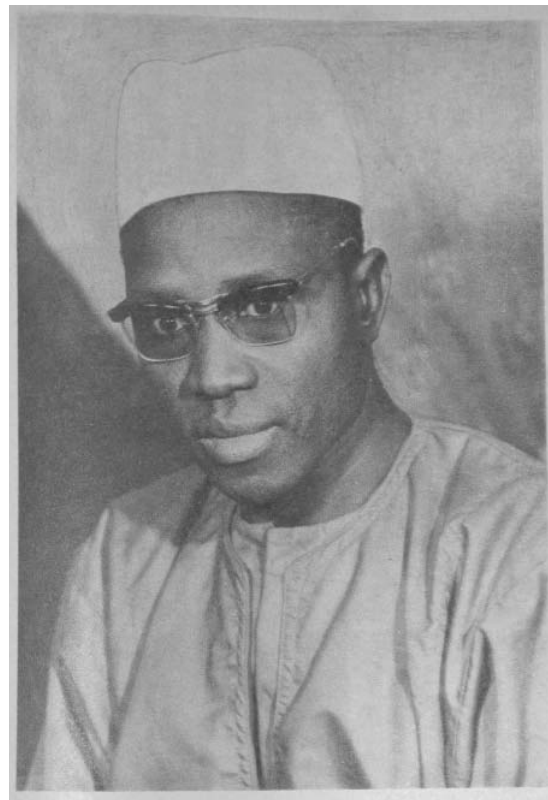


Figure 25. Assane Faye, some years ago.

A. Administrative

1. Title

Preliminary proposal for encoding the Garay script in the SMP of the UCS

2. Requester's name

UC Berkeley Script Encoding Initiative (Universal Scripts Project)

3. Requester type (Member body/Liaison/Individual contribution)

Liaison contribution.

4. Submission date

2012-04-26

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

Yes.

6b. More information will be provided later

No.

B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)

Yes.

Proposed name of script

Garay.

1b. The proposal is for addition of character(s) to an existing block

No.

Name of the existing block

2. Number of characters in proposal

69.

3. Proposed category (select one from below – see section 2.2 of P&P document): (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

Category A.

4a. Is a repertoire including character names provided?

Yes.

4b. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document?

Yes.

4c. Are the character shapes attached in a legible form suitable for review?

Yes.

5a. Font related: Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

Andrij Rovenchak and Michael Everson.

5b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.)

Andrij Rovenchak

6a. References. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes.

6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

7. Special encoding issues. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes.

8. Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database (<http://www.unicode.org/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

See above.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

Yes. N4044 (L2/11-181)

2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

Yes.

2b. If YES, with whom?

Assan Faye.

2c. If YES, available relevant documents

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

No.

4a. The context of use for the proposed characters (type of use; common or rare)

Relatively rare, but with potential for revival.

4b. Reference

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

Scholars and some local use in Senegal and the Gambia.

6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?

No.

6b. If YES, is a rationale provided?

6c. If YES, reference

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

Yes.

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?

No.

8b. If YES, is a rationale for its inclusion provided?

8c. If YES, reference

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

No.

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

Yes.

10b. If YES, is a rationale for its inclusion provided?

Yes. Resemblances are superficial.

10c. If YES, reference

11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?

Yes.

11b. If YES, is a rationale for such use provided?

No.

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

11e. If YES, reference

12a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

12b. If YES, describe in detail (include attachment if necessary)

13a. Does the proposal contain any Ideographic compatibility character(s)?

No.

13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?