Universal Multiple-Octet Coded Character Set
International Organization for Standardization
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Международная организация по стандартизации

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Title:	**Preliminary proposal to encode Rma script to UCS**
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1. Introduction

The Rma script is used in Qiang people regions in Sichuan Province, PRC for writing Qiang languages and dialects, known as Rma and Rrmea. The Qiang people has a population of about 310,000. The Rma script is a newly developed script, which the name is derived from Qiang people's self-claim and developed by Wei Jiuqiao and his colleagues. Qiang language is a Tibetan-Burman language with around 100,000 Qiang and Tibetan speakers, which includes Northern Qiang (ISO 639-3: `cng`) and Southern Qiang (ISO 639-3: `qxs`).

This script includes 41 consonants, 1 filler, 5 dependent vowel signs, 3 independent vowels and other several marks. It is an alphabet with some characteristics of abugida, but it is not a Brahmi-based script. The glyph shapes for the letters originally come from goat's horn pattern and cloud pattern which are commonly used by the Qiang people. Qiang people call azalea as the flower of goat's horn. The devastating Wenchuan earthquake occurred on May 12, 2008. The area where the earthquake occurred is the settlement of the Qiang people. The song *The Flower of Goat's Horn Blossoms Again* commemorates the victims, which is written by Freeking Chen and Liang Tianshan, sung by Sara Liu.

In 2019, the Qiang people lived in Beichuan Qiang Autonomous County, Mianyang City, Sichuan Province use this script to write their language in the Qiang cultural transmission activity and their daily life. Please see Fig. 1 and 2. The textbook is also distributed. Please see Fig. 4 and 5.

2. Script details

Rma is a script that is written from left to right. Its repertoire consists of 61 characters

41 consonant letters
1 filler
5 dependent vowel signs
3 independent vowel letters
1 nasalization mark
1 rhotacization mark
1 ligature
8 punctuation marks

2.1 Consonant letters

Each consonant letter possesses the vowel /ɑ/ as the letter name. The vowel /ɑ/ will be killed in the syllable everywhere. In the following table, the habitual Romanization for Qiang people is listed in the Line 2, and the corresponding IPA is listed in Line 3. The proposed character names are added the last Latin letter A with the habitual Romanized strings.

1							
	b	p	bb	m	f	w	wf
	/p/	/p^{h}/	/b/	/m/	/f/	/w/	/v/
2							
	d	t	dd	n	lh	l	rl
	/t/	/t^{h}/	/d/	/n/	/ɬ/	/l/	/ɻ *or* r/
3							
	g	k	gg	ng	h	hh	
	/k/	/k^{h}/	/g/	/ŋ/	/x/	/ɣ/	
4							
	j	q	jj	y	x	xx	
	/tɕ/	/tɕ^{h}/	/dʑ/	/j/	/ɕ/	/ʑ/	
5							
	gv	kv		vh	v	vv	
	/q/	/q^{h}/		/ɦ/	/ʁ/	/ʁ/	
6							
	z	c	zz	s	ss		
	/ts/	/ts^{h}/	/dz/	/s/	/z/		
7							
	zh	ch	dh	sh	rr		
	/tʂ/	/tʂ^{h}/	/dʐ/	/ʂ/	/ʐ/		

Qiang is a language with so many consonant clusters. The consonant clusters are written as the original glyph, there is no variation glyphs for them. Therefore, the virama or the similar control characters are not needed in Rma script.

2.2. Filler

There is only one filler in Rma script. The visual usage of the filler is like the consonant letters, so we can also treat it as a special consonant. In the linguistic value, there are two usages, one is to indicate the initial glottal stop before the vowel in the syllables, the other is to indicate the long vowel sign after a vowel and there is no vowel after it.

2.3. Vowel letters and vowel signs

There are two kinds of vowels in Rma script, 5 dependent vowel signs and 3 independent vowel letters.
In the dependent vowel signs, three are written at the top, and 2 are written at the right. These vowel signs have the special names which are listed in Line 3.

◌	◌	◌	◌	◌
a	ae	ea	u	e
amegv	aemaegv	eameagv	ugud	eged
/ɑ/	/æ/	/e/	/u/	/ə/

When the above vowels need to use individually in a word, they need to write after the filler.

G + ◌ = G

The independent vowel letters could be written without the filler. These vowel letters have not the special names, so the letter names and the character names are the Romanization strings.

I		L
i	ü	o
/i/	/y/	/o/

2.4. Nasalization and rhotacization marks

The nasalization mark is like a special vowel sign, and it must be written after vowel.
The rhotacization mark is like a special vowel letter, and it must be also written after vowel.
These two marks should be treated as the special vowels. They can't be used at the beginning of a word.

2.5 Ligature

In Rma script running text, when we need to use /zm̩e/, the word must be written as the ligature. Visually, it looks like the combination of the consonants rra and ma, but it's not a consonant cluster. It's better to encode it separately, but it's necessary to include this information to normalization forms.

ꜧ + ꜩ ≠ ꜧꜩ

2.6. Punctuation marks

11 punctuation marks are used in Rma running texts, three could be unified with the encoded punctuation marks, but there are still 8 special punctuation marks which are only used in Rma running texts.

Usage	Rma Punctuation	Corresponding Latin Punctuation	
full stop	ᱹ	.	U+002E
comma	᱾	,	U+002C
exclamation	ᱽ	!	U+0021
question	᱿	?	U+003F
left double quotation	ᱻ	“	U+201C
right double quotation	ᱻ	”	U+201D
left single quotation	ᱼ	‘	U+2018
right single quotation	ᱼ	’	U+2019
colon		:	U+003A
semicolon		;	U+003B
ellipsis		...	U+2026

Other common punctuation marks are also been used in Rma running texts.

2.7. Digits

There are no special digits in Rma script. The Hindu-Arabic digits are also used in Rma running texts.

2.8. Syllable structure

Dr. Huang Chenglong pointed out 15 kinds of syllable structure in Qiang languages.

1) v; 2) vc; 3) vcc; 4) cv; 5) cvv; 6) cvvv; 7) ccv; 8) ccvv; 9) cvc; 10) cvvc; 11) cvvcc; 12) ccvc; 13) ccvvc; 14) ccvcc; 15) ccvvcc

2.9 Tangut

The Tangut researchers treat Tangut (ISO 639-3: `txg`) is a language related to Qiang and other Qiangic languages. The following is a possible example. The Tangut readings are cited from ccamc.org.

Tangut		Qiang	Meaning
𗾔 U+17710	𘖐 U+18590		fire
/mə̱/ /my/ /mə/	/mji̱/ /my/ /mɪ/	/mə/	

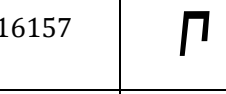
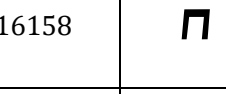
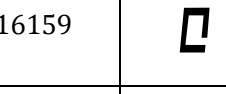
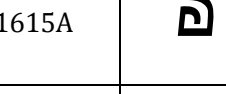
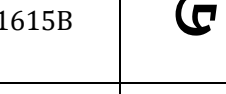
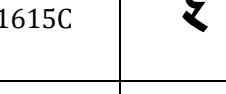
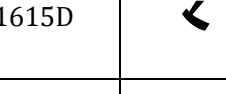
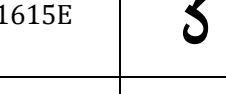
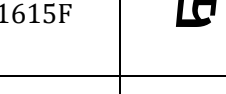
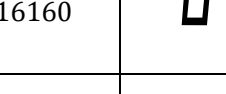
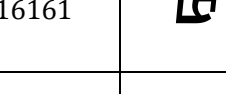
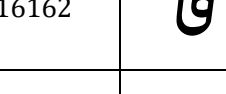
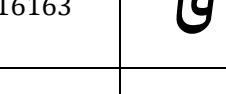
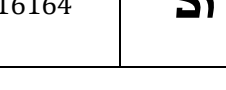
By the way, Eiso is still preparing a document to update and modify something in Tangut script with other Tangut experts.

3. Proposal

The proposed repertoire is shown as below. The order follows the native order.

UCS	Glyph	Character Name
U+16140		RMA LETTER BA
U+16141		RMA LETTER PA
U+16142		RMA LETTER BBA
U+16143		RMA LETTER MA
U+16144		RMA LETTER FA
U+16145		RMA LETTER WA
U+16146		RMA LETTER WFA
U+16147		RMA LETTER DA
U+16148		RMA LETTER TA

UCS	Glyph	Character Name
U+16149	𖅉	RMA LETTER DDA
U+1614A	𖅊	RMA LETTER NA
U+1614B	𖅋	RMA LETTER LHA
U+1614C	𖅌	RMA LETTER LA
U+1614D	𖅍	RMA LETTER RLA
U+1614E	𖅎	RMA LETTER GA
U+1614F	𖅏	RMA LETTER KA
U+16150	𖅐	RMA LETTER GGA
U+16151	𖅑	RMA LETTER NGA
U+16152	𖅒	RMA LETTER HA
U+16153	𖅓	RMA LETTER HHA
U+16154	𖅔	RMA LETTER JA
U+16155	𖅕	RMA LETTER QA
U+16156	𖅖	RMA LETTER JJA

UCS	Glyph	Character Name
U+16157		RMA LETTER YA
U+16158		RMA LETTER XA
U+16159		RMA LETTER XXA
U+1615A		RMA LETTER GVA
U+1615B		RMA LETTER KVA
U+1615C		RMA LETTER VHA
U+1615D		RMA LETTER VA
U+1615E		RMA LETTER VVA
U+1615F		RMA LETTER ZA
U+16160		RMA LETTER CA
U+16161		RMA LETTER ZZA
U+16162		RMA LETTER SA
U+16163		RMA LETTER SSA
U+16164		RMA LETTER ZHA

UCS	Glyph	Character Name
U+16165		RMA LETTER CHA
U+16166		RMA LETTER DHA
U+16167		RMA LETTER SHA
U+16168		RMA LETTER RRA
U+16169		RMA LETTER AGVEI
U+1616A		RMA VOWEL SIGN AMEGV
U+1616B		RMA VOWEL SIGN AEMAEGV
U+1616C		RMA VOWEL SIGN EAMEAGV
U+1616D		RMA VOWEL SIGN UGUD
U+1616E		RMA VOWEL SIGN EGED
U+1616F		RMA LETTER I
U+16170		RMA LETTER YU
U+16171		RMA LETTER O
U+16172		RMA SIGN NASALIZATION

UCS	Glyph	Character Name
U+16173	𖅳	RMA RHOTACIZATION MARK
U+16174		<reserved>
U+16175		<reserved>
U+16176		<reserved>
U+16177	𖅷	RMA LIGATURE RRMEA
U+16178	𖅸	RMA FULL STOP
U+16179	𖅹	RMA COMMA
U+1617A	𖅺	RMA EXCLAMATION MARK
U+1617B	𖅻	RMA QUESTION MARK
U+1617C	𖅼	RMA LEFT DOUBLE QUOTATION MARK
U+1617D	𖅽	RMA RIGHT LOW DOUBLE QUOTATION MARK
U+1617E	𖅾	RMA LEFT SINGLE QUOTATION MARK
U+1617F	𖅿	RMA RIGHT LOW SINGLE QUOTATION MARK

The information in `NamesList.txt` is shown as below.

```
@@  16140   Rma 1617F
@       Consonants
16140   RMA LETTER BA
16141   RMA LETTER PA
16142   RMA LETTER BBA
16143   RMA LETTER MA
16144   RMA LETTER FA
16145   RMA LETTER WA
16146   RMA LETTER WFA
```

```
16147   RMA LETTER DA
16148   RMA LETTER TA
16149   RMA LETTER DDA
1614A   RMA LETTER NA
1614B   RMA LETTER LHA
1614C   RMA LETTER LA
1614D   RMA LETTER RLA
1614E   RMA LETTER GA
1614F   RMA LETTER KA
16150   RMA LETTER GGA
16151   RMA LETTER NGA
16152   RMA LETTER HA
16153   RMA LETTER HHA
16154   RMA LETTER JA
16155   RMA LETTER QA
16156   RMA LETTER JJA
16157   RMA LETTER YA
16158   RMA LETTER XA
16159   RMA LETTER XXA
1615A   RMA LETTER GVA
1615B   RMA LETTER KVA
1615C   RMA LETTER VHA
1615D   RMA LETTER VA
1615E   RMA LETTER VVA
1615F   RMA LETTER ZA
16160   RMA LETTER CA
16161   RMA LETTER ZZA
16162   RMA LETTER SA
16163   RMA LETTER SSA
16164   RMA LETTER ZHA
16165   RMA LETTER CHA
16166   RMA LETTER DHA
16167   RMA LETTER SHA
16168   RMA LETTER RRA
@       Filler
16169   RMA LETTER AGVEI
    = filler
    * also indicates as the long vowel sign after vowel
@       Dependent vowel signs
1616A   RMA VOWEL SIGN AMEGV
1616B   RMA VOWEL SIGN AEMAEGV
1616C   RMA VOWEL SIGN EAMEAGV
1616D   RMA VOWEL SIGN UGUD
1616E   RMA VOWEL SIGN EGED
```

```
@       Independent vowels
1616F   RMA LETTER I
16170   RMA LETTER YU
16171   RMA LETTER O
@       Nasalization
16172   RMA SIGN NASALIZATION
@       Rhotacization
16173   RMA RHOTACIZATION MARK
16174   <reserved>
16175   <reserved>
16176   <reserved>
@       Ligature
16177   RMA LIGATURE RRMEA
@       Punctuation
16178   RMA FULL STOP
16179   RMA COMMA
1617A   RMA EXCLAMATION MARK
1617B   RMA QUESTION MARK
1617C   RMA LEFT DOUBLE QUOTATION MARK
1617D   RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E   RMA LEFT SINGLE QUOTATION MARK
1617F   RMA RIGHT LOW SINGLE QUOTATION MARK
```

The information in `UnicodeData.txt` is shown as below.

```
16140;RMA LETTER BA;Lo;0;L;;;;;N;;;;;
16141;RMA LETTER PA;Lo;0;L;;;;;N;;;;;
16142;RMA LETTER BBA;Lo;0;L;;;;;N;;;;;
16143;RMA LETTER MA;Lo;0;L;;;;;N;;;;;
16144;RMA LETTER FA;Lo;0;L;;;;;N;;;;;
16145;RMA LETTER WA;Lo;0;L;;;;;N;;;;;
16146;RMA LETTER WFA;Lo;0;L;;;;;N;;;;;
16147;RMA LETTER DA;Lo;0;L;;;;;N;;;;;
16148;RMA LETTER TA;Lo;0;L;;;;;N;;;;;
16149;RMA LETTER DDA;Lo;0;L;;;;;N;;;;;
1614A;RMA LETTER NA;Lo;0;L;;;;;N;;;;;
1614B;RMA LETTER LHA;Lo;0;L;;;;;N;;;;;
1614C;RMA LETTER LA;Lo;0;L;;;;;N;;;;;
1614D;RMA LETTER RLA;Lo;0;L;;;;;N;;;;;
1614E;RMA LETTER GA;Lo;0;L;;;;;N;;;;;
1614F;RMA LETTER KA;Lo;0;L;;;;;N;;;;;
16150;RMA LETTER GGA;Lo;0;L;;;;;N;;;;;
16151;RMA LETTER NGA;Lo;0;L;;;;;N;;;;;
16152;RMA LETTER HA;Lo;0;L;;;;;N;;;;;
16153;RMA LETTER HHA;Lo;0;L;;;;;N;;;;;
16154;RMA LETTER JA;Lo;0;L;;;;;N;;;;;
```

```
16155;RMA LETTER QA;Lo;0;L;;;;;N;;;;;
16156;RMA LETTER JJA;Lo;0;L;;;;;N;;;;;
16157;RMA LETTER YA;Lo;0;L;;;;;N;;;;;
16158;RMA LETTER XA;Lo;0;L;;;;;N;;;;;
16159;RMA LETTER XXA;Lo;0;L;;;;;N;;;;;
1615A;RMA LETTER GVA;Lo;0;L;;;;;N;;;;;
1615B;RMA LETTER KVA;Lo;0;L;;;;;N;;;;;
1615C;RMA LETTER VHA;Lo;0;L;;;;;N;;;;;
1615D;RMA LETTER VA;Lo;0;L;;;;;N;;;;;
1615E;RMA LETTER VVA;Lo;0;L;;;;;N;;;;;
1615F;RMA LETTER ZA;Lo;0;L;;;;;N;;;;;
16160;RMA LETTER CA;Lo;0;L;;;;;N;;;;;
16161;RMA LETTER ZZA;Lo;0;L;;;;;N;;;;;
16162;RMA LETTER SA;Lo;0;L;;;;;N;;;;;
16163;RMA LETTER SSA;Lo;0;L;;;;;N;;;;;
16164;RMA LETTER ZHA;Lo;0;L;;;;;N;;;;;
16165;RMA LETTER CHA;Lo;0;L;;;;;N;;;;;
16166;RMA LETTER DHA;Lo;0;L;;;;;N;;;;;
16167;RMA LETTER SHA;Lo;0;L;;;;;N;;;;;
16168;RMA LETTER RRA;Lo;0;L;;;;;N;;;;;
16169;RMA LETTER AGVEI;Lo;0;L;;;;;N;;;;;
1616A;RMA VOWEL SIGN AMEGV;Mn;0;NSM;;;;;N;;;;;
1616B;RMA VOWEL SIGN AEMAEGV;Mn;0;NSM;;;;;N;;;;;
1616C;RMA VOWEL SIGN EAMEAGV;Mn;0;NSM;;;;;N;;;;;
1616D;RMA VOWEL SIGN UGUD;Mc;0;L;;;;;N;;;;;
1616E;RMA VOWEL SIGN EGED;Mc;0;L;;;;;N;;;;;
1616F;RMA LETTER I;Lo;0;L;;;;;N;;;;;
16170;RMA LETTER YU;Lo;0;L;;;;;N;;;;;
16171;RMA LETTER O;Lo;0;L;;;;;N;;;;;
16172;RMA SIGN NASALIZATION;Mc;0;L;;;;;N;;;;;
16173;RMA RHOTACIZATION MARK;Lo;0;L;;;;;N;;;;;
16177;RMA LIGATURE RRMEA;So;0;L;;;;;N;;;;;
16178;RMA FULL STOP;Po;0;ON;;;;;N;;;;;
16179;RMA COMMA;Po;0;ON;;;;;N;;;;;
1617A;RMA EXCLAMATION MARK;Po;0;ON;;;;;N;;;;;
1617B;RMA QUESTION MARK;Po;0;ON;;;;;N;;;;;
1617C;RMA LEFT DOUBLE QUOTATION MARK;Ps;0;ON;;;;;Y;;;;;
1617D;RMA RIGHT LOW DOUBLE QUOTATION MARK;Pe;0;ON;;;;;Y;;;;;
1617E;RMA LEFT SINGLE QUOTATION MARK;Ps;0;ON;;;;;Y;;;;;
1617F;RMA RIGHT LOW SINGLE QUOTATION MARK;Pe;0;ON;;;;;Y;;;;;
```

The script should be Rma which is a new proposed script for ISO 15924. The proposed code should be `Rmea`.

```
Script=Rma
```

The information in `BidiBrackets.txt` is shown as bellow.

```
1617C; 1617D; o # RMA LEFT DOUBLE QUOTATION MARK
```

```
1617D; 1617C; c # RIGHT LOW DOUBLE QUOTATION MARK
1617E; 1617F; o # RMA LEFT SINGLE QUOTATION MARK
1617F; 1617E; c # RIGHT LOW SINGLE QUOTATION MARK
```

The information in `BidiMirroring.txt` is shown as bellow.

```
1617C; 1617D; # [BEST FIT] RMA LEFT DOUBLE QUOTATION MARK
1617D; 1617C; # [BEST FIT] RIGHT LOW DOUBLE QUOTATION MARK
1617E; 1617F; # [BEST FIT] RMA LEFT SINGLE QUOTATION MARK
1617F; 1617E; # [BEST FIT] RIGHT LOW SINGLE QUOTATION MARK
```

The information in `DerivedCoreProperties.txt` is shown as below.

```
# Derived Property: Alphabetic

16140..16169  ; Alphabetic # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
1616A..1616C  ; Alphabetic # Mn   [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN
EAMEAGV
1616D..1616E  ; Alphabetic # Mc   [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN
EGED
1616F..16171  ; Alphabetic # Lo   [3] RMA LETTER I..RMA LETTER O
16172        ; Alphabetic # Mc      RMA SIGN NASALIZATION
16173        ; Alphabetic # Lo      RMA RHOTACIZATION MARK
16177        ; Alphabetic # So      RMA LIGATURE RRMEA

# Derived Property: ID_Start

16140..16169  ; ID_Start # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
1616F..16171  ; ID_Start # Lo   [3] RMA LETTER I..RMA LETTER O
16177        ; ID_Start # So      RMA LIGATURE RRMEA

# Derived Property: ID_Continue

16140..16169  ; ID_Continue # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
1616A..1616C  ; ID_Continue # Mn   [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN
EAMEAGV
1616D..1616E  ; ID_Continue # Mc   [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN
EGED
1616F..16171  ; ID_Continue # Lo   [3] RMA LETTER I..RMA LETTER O
16172        ; ID_Continue # Mc      RMA SIGN NASALIZATION
16173        ; ID_Continue # Lo      RMA RHOTACIZATION MARK
16177        ; ID_Continue # So      RMA LIGATURE RRMEA

# Derived Property: XID_Start

16140..16169  ; XID_Start # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
1616F..16171  ; XID_Start # Lo   [3] RMA LETTER I..RMA LETTER O
16177        ; XID_Start # So      RMA LIGATURE RRMEA
```

```
# Derived Property: XID_Continue

16140..16169  ; XID_Continue # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
1616A..1616C  ; XID_Continue # Mn   [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN
EAMEAGV
1616D..1616E  ; XID_Continue # Mc   [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN
EGED
1616F..16171  ; XID_Continue # Lo   [3] RMA LETTER I..RMA LETTER O
16172        ; XID_Continue # Mc      RMA SIGN NASALIZATION
16173        ; XID_Continue # Lo      RMA RHOTACIZATION MARK
16177        ; XID_Continue # So      RMA LIGATURE RRMEA

# Derived Property: Grapheme_Extend

1616A..1616C  ; Grapheme_Extend # Mn   [3] RMA VOWEL SIGN AMEGV..RMA VOWEL
SIGN EAMEAGV
1616D..1616E  ; Grapheme_Extend # Mc   [2] RMA VOWEL SIGN UGUD..RMA VOWEL
SIGN EGED
16172        ; Grapheme_Extend # Mc      RMA SIGN NASALIZATION
16173        ; Grapheme_Extend # Lo      RMA RHOTACIZATION MARK

# Derived Property: Grapheme_Base

16140..16169  ; Grapheme_Base # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
1616F..16171  ; Grapheme_Base # Lo   [3] RMA LETTER I..RMA LETTER O
16177        ; Grapheme_Base # So      RMA LIGATURE RRMEA
16178..1617B  ; Grapheme_Base # Po   [4] RMA FULL STOP..RMA QUESTION MARK
1617C        ; Grapheme_Base # Ps      RMA LEFT DOUBLE QUOTATION MARK
1617D        ; Grapheme_Base # Pe      RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E        ; Grapheme_Base # Ps      RMA LEFT SINGLE QUOTATION MARK
1617F        ; Grapheme_Base # Pe      RMA RIGHT LOW SINGLE QUOTATION MARK
```

The information in `EastAsianWidth.txt` is shown as below.

```
16140..16169;N   # Lo    [42] RMA LETTER BA..RMA LETTER AGVEI
1616A..1616C;N   # Mn     [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN EAMEAGV
1616D..1616E;N   # Mc     [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN EGED
1616F..16171;N   # Lo     [3] RMA LETTER I..RMA LETTER O
16172;N         # Mc        RMA SIGN NASALIZATION
16173;N         # Lo        RMA RHOTACIZATION MARK
16177;N         # So        RMA LIGATURE RRMEA
16178..1617B;N   # Po     [4] RMA FULL STOP..RMA QUESTION MARK
1617C;N         # Ps        RMA LEFT DOUBLE QUOTATION MARK
1617D;N         # Pe        RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E;N         # Ps        RMA LEFT SINGLE QUOTATION MARK
```

```
1617F;N         # Pe        RMA RIGHT LOW SINGLE QUOTATION MARK
```

The information in `IndicPositionalCategory.txt` is shown as below.

```
# Indic_Positional_Category=Right

1616D..1616E  ; Right # Mc   [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN EGED
16172         ; Right # Mc      RMA SIGN NASALIZATION
16173         ; Right # Lo      RMA RHOTACIZATION MARK

# Indic_Positional_Category=Top

1616A..1616C  ; Top # Mn   [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN EAMEAGV
```

The information in `IndicSyllabicCategory.txt` is shown as below. It is necessary to discuss if U+16177 is suitable to list under the value as Consonant or add a new value for it.

```
# Indic_Syllabic_Category=Vowel_Independent

1616F..16171  ; Vowel_Independent # Lo   [3] RMA LETTER I..RMA LETTER O
16173         ; Vowel_Independent # Lo      RMA RHOTACIZATION MARK

# Indic_Syllabic_Category=Vowel_Dependent

1616A..1616C  ; Vowel_Dependent # Mn   [3] RMA VOWEL SIGN AMEGV..RMA VOWEL
SIGN EAMEAGV
1616D..1616E  ; Vowel_Dependent # Mc   [2] RMA VOWEL SIGN UGUD..RMA VOWEL
SIGN EGED
16172         ; Vowel_Dependent # Mc      RMA SIGN NASALIZATION

# Indic_Syllabic_Category=Consonant

16140..16169  ; Consonant # Lo  [42] RMA LETTER BA..RMA LETTER AGVEI
16177         ; Consonant # So      RMA LIGATURE RRMEA
```

The information in `LineBreak.txt` is shown as below.

```
16140..16169;AL   # Lo    [42] RMA LETTER BA..RMA LETTER AGVEI
1616A..1616C;CM   # Mn     [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN EAMEAGV
1616D..1616E;CM   # Mc     [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN EGED
1616F..16171;AL   # Lo     [3] RMA LETTER I..RMA LETTER O
16172;CM         # Mc        RMA SIGN NASALIZATION
16173;AL         # Lo        RMA RHOTACIZATION MARK
16177;AL         # So        RMA LIGATURE RRMEA
16178..1617B;CL   # Po     [4] RMA FULL STOP..RMA QUESTION MARK
1617C;OP         # Ps        RMA LEFT DOUBLE QUOTATION MARK
1617D;CL         # Pe        RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E;OP         # Ps        RMA LEFT SINGLE QUOTATION MARK
1617F;CL         # Pe        RMA RIGHT LOW SINGLE QUOTATION MARK
```

The information in `NormalizationTest.txt` is shown as below.

```
16177;16177;16177;16168 16143 1616C;16168 16143 1616C; # (𖵧; 𖵧; 𖵧; 𖵧; 𖵧) RMA LIGATURE RRMEA
```

The information in `PropList.txt` is shown as below.

```
1617C        ; Quotation_Mark # Ps      RMA LEFT DOUBLE QUOTATION MARK
1617D        ; Quotation_Mark # Pe      RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E        ; Quotation_Mark # Ps      RMA LEFT SINGLE QUOTATION MARK
1617F        ; Quotation_Mark # Pe      RMA RIGHT LOW SINGLE QUOTATION MARK

16178..1617B  ; Terminal_Punctuation # Po   [4] RMA FULL STOP..RMA QUESTION
MARK

16178..1617B   ; Sentence_Terminal # Po    [4] RMA FULL STOP..RMA QUESTION
MARK

16178..1617B  ; Pattern_Syntax # Po   [4] RMA FULL STOP..RMA QUESTION MARK
1617C        ; Pattern_Syntax # Ps      RMA LEFT DOUBLE QUOTATION MARK
1617D        ; Pattern_Syntax # Pe      RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E        ; Pattern_Syntax # Ps      RMA LEFT SINGLE QUOTATION MARK
1617F        ; Pattern_Syntax # Pe      RMA RIGHT LOW SINGLE QUOTATION MARK
```

The information in `VerticalOrientation.txt` is shown as below.

```
16140..16169   ; R  # Lo    [42] RMA LETTER BA..RMA LETTER AGVEI
1616A..1616C   ; R  # Mn     [3] RMA VOWEL SIGN AMEGV..RMA VOWEL SIGN EAMEAGV
1616D..1616E   ; R  # Mc     [2] RMA VOWEL SIGN UGUD..RMA VOWEL SIGN EGED
1616F..16171   ; R  # Lo     [3] RMA LETTER I..RMA LETTER O
16172         ; R  # Mc       RMA SIGN NASALIZATION
16173         ; R  # Lo       RMA RHOTACIZATION MARK
16177         ; R  # So       RMA LIGATURE RRMEA
16178..1617B   ; R  # Po    [4] RMA FULL STOP..RMA QUESTION MARK
1617C         ; R  # Ps       RMA LEFT DOUBLE QUOTATION MARK
1617D         ; R  # Pe       RMA RIGHT LOW DOUBLE QUOTATION MARK
1617E         ; R  # Ps       RMA LEFT SINGLE QUOTATION MARK
1617F         ; R  # Pe       RMA RIGHT LOW SINGLE QUOTATION MARK
```

4. Next step

This is a preliminary proposal, so we have many works for encoding this script in future.

1) Consider if it's suitable to treat U+1616D, U+1616E and U+16172 as vowel letters or keep them as vowel signs. The native speakers hope that they could be kept as the vowel signs.

2) Consider if it's necessary to encode U+17177 separately.

3) Consider if it's possible to encode the tone marks for the Southern Qiang language.

4) Show the information for the possible named sequences for vowels.

5) Elaborate the encoding model.

6) Show more evidence if needed.

5. Bibliography

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I Love Languages: Qiang, https://www.bilibili.com/video/av586950445/
English introduction on Rma script, https://omniglot.com/writing/rma.htm

6. Picture

Fig. 1 Qiang cultural transmission activity in 2019

Fig. 2 Group photo of Qiang cultural transmission activity in 2019

The picture is copied from [the web article to introduce this activity](#).

Fig. 3 Group photo of the Rma script and Qiang language speakers and learners

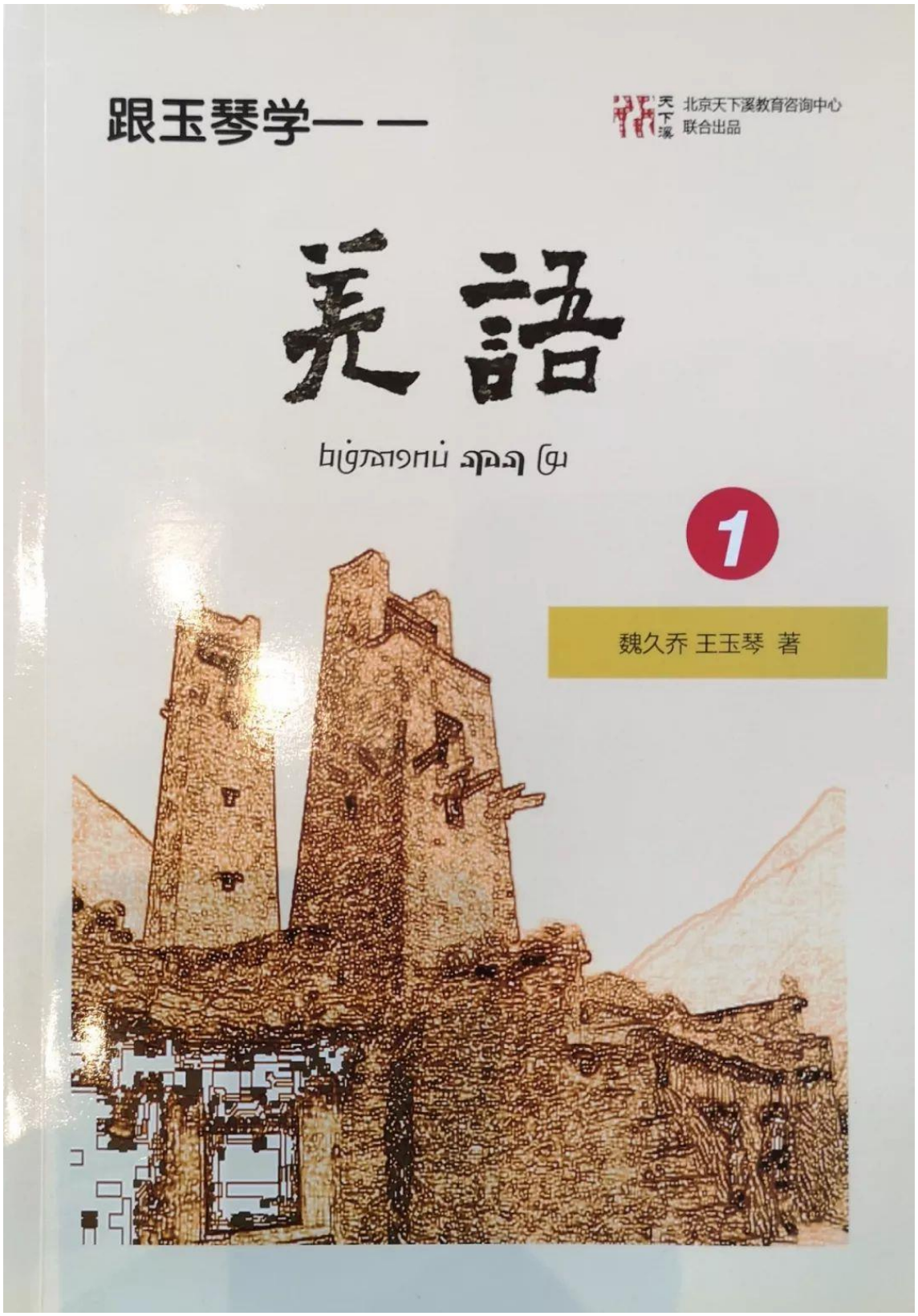

Fig. 4 The Qiang language textbook with Rma script

This picture is copied from the article to introduce the book on the WeChat Public Account.

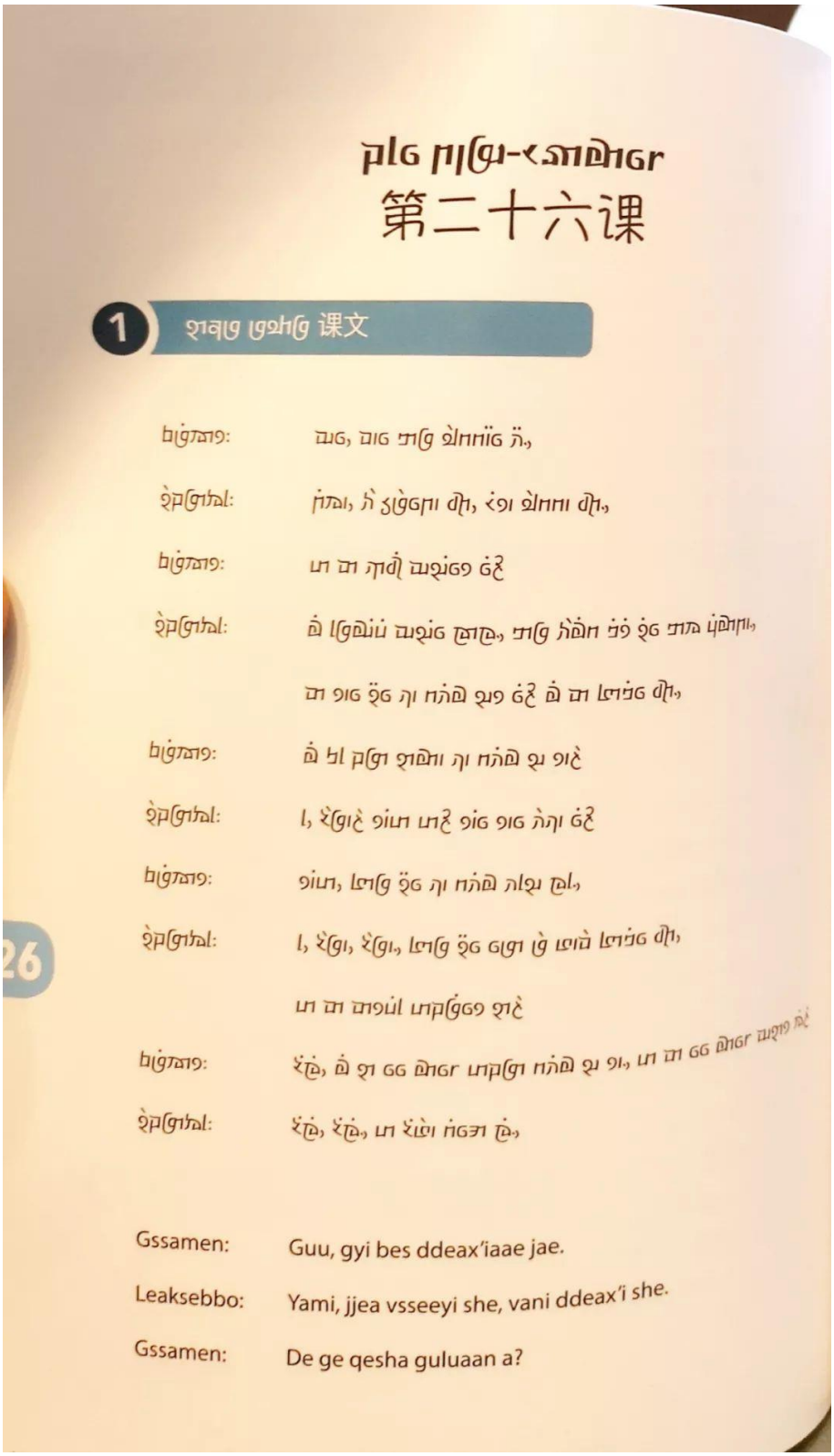

Fig. 5 Inner page of the Qiang language textbook with Rma script

This picture is copied from [the article to introduce the book] on the WeChat Public Account.

尔玛文瑟什巴意（印刷体）伊热意（手写体）对照表

Fig. 6 Printed and handwritten forms of the Rma letters
《跟玉琴學羌語》, p. III

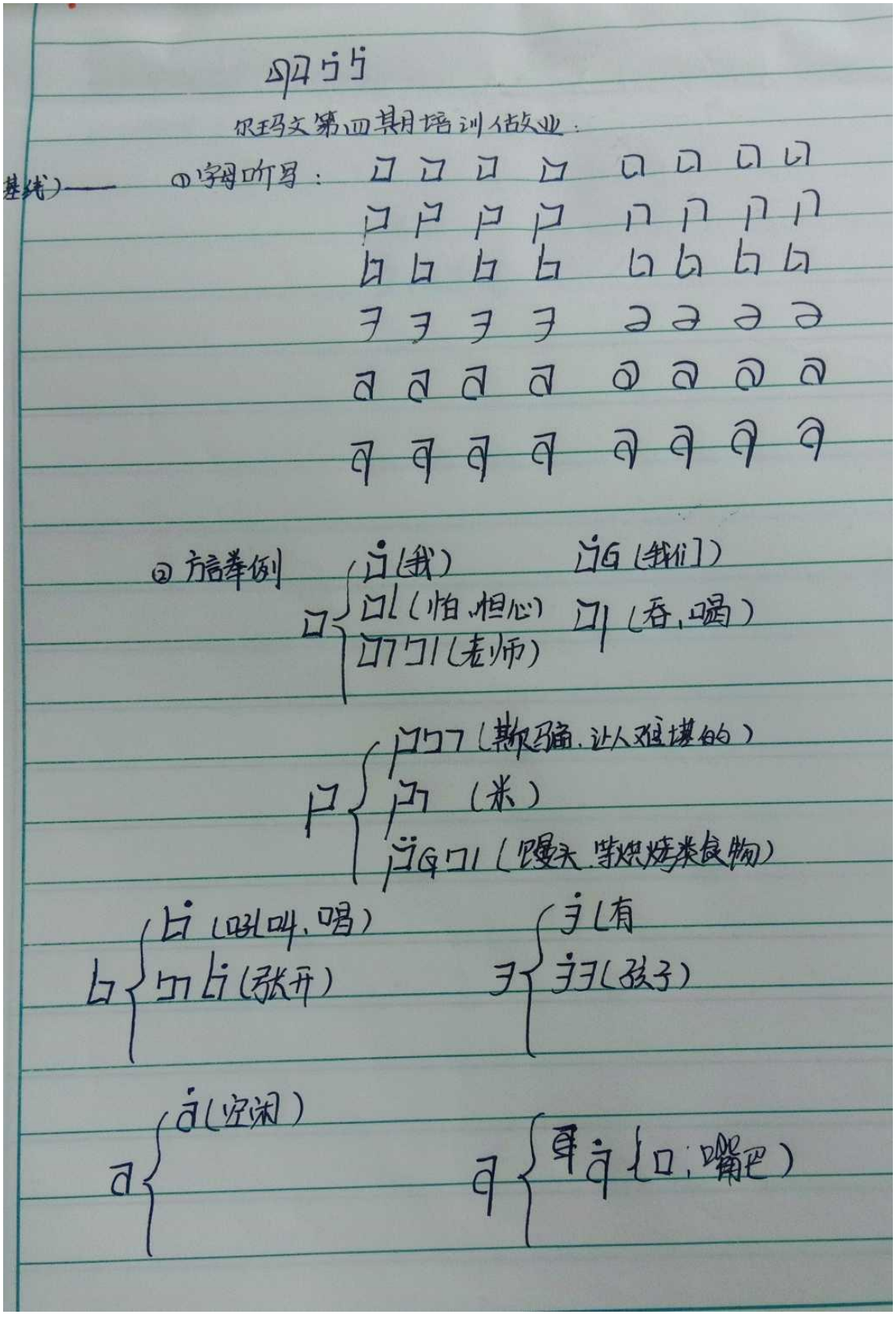

Fig. 7 Homework of a Qiang student

Fig. 8 Festival red paper

Fig. 9 Wedding celebration of Qiang compatriots, which Hànzì and Rma script are used at the same time

(End of Document)

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html **for guidelines and details before filling this form.**
Please ensure you are using the latest Form from http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html **.**
See also http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html **for latest *Roadmaps*.**

A. Administrative

1. **Title:**	***Preliminary proposal to encode Rma script to UCS***
2. Requester's name:	*Eiso CHAN, WEI Jiuqiao, Nathaniel SIMS*
3. Requester type (Member body/Liaison/Individual contribution):	*Individual contribution*
4. Submission date:	*2022-06-06*
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	
(or) More information will be provided later:	*YES*

B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters): *YES*
      Proposed name of script: *Rma*
   b. The proposal is for addition of character(s) to an existing block: *NO*
      Name of the existing block:
2. Number of characters in proposal: *61*
3. Proposed category (select one from below - see section 2.2 of P&P document):

A-Contemporary	X	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	

4. Is a repertoire including character names provided? *YES*
   a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document? *YES*
   b. Are the character shapes attached in a legible form suitable for review? *YES*
5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
   Eiso CHAN, WEI Jiuqiao
   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
   WEI Jiuqiao, weijiuqiao@gmail.com; Eiso CHAN, eisoch@126.com
6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *YES*
   b. 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)? *NO*

8. Additional Information:

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

[1] Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

(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.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? *NO*

   If YES explain

2. 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*

   If YES, with whom? *Qiang people lived in Sichuan Province, PRC; the Rma script developers*

   If YES, available relevant documents: *this document*

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

   Reference:

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

   Reference:

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

   If YES, where? Reference: *Beichuan Qiang Autonomous County, Mianyang City, Sichuan Province, PRC (中华人民共和国四川省绵阳市北川羌族自治县)*

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? *NO*

   If YES, is a rationale provided?

   If YES, reference:

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

8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? *NO*

   If YES, is a rationale for its inclusion provided?

   If YES, reference:

9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? *NO*

   If YES, is a rationale for its inclusion provided?

   If YES, reference:

10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character? *NO*

    If YES, is a rationale for its inclusion provided?

    If YES, reference:

11. Does the proposal include use of combining characters and/or use of composite sequences? *NO*

    If YES, is a rationale for such use provided?

    If YES, reference:

    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? *NO*

    If YES, reference:

12. Does the proposal contain characters with any special properties such as control function or similar semantics? *NO*

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

13. Does the proposal contain any Ideographic compatibility characters? *NO*

    If YES, are the equivalent corresponding unified ideographic characters identified?

    If YES, reference: