

dispel or avoid most of these difficulties. The sparse data were augmented with many place names gathered at first hand. Names were authenticated by combining their written and spoken versions. This method is relatively easy to operate, but depends on painstaking preliminary arrangements, strict adherence to the rules and strong logistic support. Without the full co-ordination of traditional skills and modern facilities, the method would dissolve into another idealistic ambition. It could not achieve the necessary degree of accuracy without skills. It could not satisfy the desired time limit without these facilities.

The method began for the Libya project with annotated aerial photographs as an adjunct to the normal field classification survey materials. Place names and descriptive terms were transcribed from existing maps and other sources to the photographs. The names were written in Arabic; the terms in English. This procedure ensured that the survey parties could verify at least all known names.

The method involved the co-ordination of three items: photographs to which the available names were applied; cards on which collected names and generic terms were written and keyed to features in the photographs; tapes which captured the sounds of the names spoken by inhabitants of the area. The field parties were instructed in the purpose and operation of the tape recorder. They were trained to use photographs and reference cards. This orientation coincided with the period of preparation for other aspects of field classification.

The field parties arrived in Libya with the material, equipment, directions and logistic support to collect place names as well as to pursue their other functions. Each party included a locally recruited interpreter who assisted the American members in communicating with the area's inhabitants. This complement and the established procedure promised the home-based toponymist enough data to identify the map features and provided him with the tools to refine that identification to a precise expression.

Typically, a member of the party, aided by the interpreter, questioned a local official about a place name.

The official's response was written in Arabic on the card in pencil and, simultaneously, was recorded on the tape. The card was marked with a number which keyed it to the specific feature on the specific photograph. The feature was marked with the corresponding number. All these records were sent to the home office and processed by the area specialist.

The area specialist first considered the validity of the written Arabic. He reviewed the cards, examining the script for accuracy of rendition, correcting it from his knowledge of the language and completing it by adding the vowel points. In this operation, he listened to the taped record to verify the written name, making allowances for deflected variations, and to resolve ambiguities in the script. The tapes proved to be an invaluable reference where illegibility or misinterpretation in the written record permitted no convincing conclusion. When the area specialist was satisfied that the text was correct, he completed the card in ink. He wrote instructions for the cards' use and prepared a master glossary of generic terms for the entire project and special glossaries which were tailored to each map. These materials, together with the source maps and customary guides for names treatment, were sent to the map compiler.

We have assessed the results of the method used in the Libya project in four categories and in comparison with other methods. We find that more names of a higher degree of validity were obtained; that the area specialist's capability for verifying names was improved and his capacity for processing them extended; that the orthography of names reached a higher degree of consistency and that the total operation was simplified and accelerated.

Our experience encourages the extended use of the name card and tape recorder method. Its application to areas without written languages, especially, promises greater benefits than other procedures. We suggest that the portable tape recorder become standard equipment for the names' collector in the field. For reasons of economy, we suggest that the method be used in conjunction with the regular field classification survey. Naturally, the success of the method will vary with conditions in the specific area. It can be adapted to almost any conceivable situation.

## PRINCIPLES OF THE TRANSLITERATION OF ARABIC IN ROMAN CHARACTERS

Paper presented by France<sup>1</sup>

The principles set out below concern the transliteration, in Roman characters of place names written in Arabic characters; they are not concerned with the direct transcription of such place names on the basis of their oral form. Account is, however, taken, in the system which has been adopted, of the phonetic value which is inherent in the Arabic characters.

The Arabic characters have been classified under five main headings:

- Consonants;
- Semi-consonants;
- Vowels;
- Other Arabic characters;
- Auxiliary orthographic signs.

Under the first two headings, the Arabic characters are arranged in the traditional order. Under the third heading, the "vowel accents" (or vowel points) have been included,<sup>2</sup> and it has appeared necessary, in order that the actual pronunciation of the place names might be rendered more faithfully, to diversify somewhat the relationship between the Arabic and Roman characters. Various special features of pronunciation and spelling have been included under the fourth and fifth headings.

The sixth, and final, heading covers the notation of the Arabic definite article.

The notation in Roman characters in the fourth column corresponds to the Arabic characters in the first column.

<sup>1</sup> The original text of this paper, prepared by the National Geographic Institute, appeared as document E/CONF.53/L.36.

<sup>2</sup> These are usually omitted in written Arabic, and there are too few of them to represent all the variations of the spoken language. It is desirable, however, for the Arabic spelling of the place names to include the vowel accents.

In the third column, the phonetic value of the Arabic characters is defined as precisely as possible and is represented by a symbol taken from the alphabet of the International Phonetic Association.<sup>3</sup> The fifth column con-

tains numerous examples of current usage<sup>4</sup> illustrating the principles in question.<sup>5</sup> The final column, for remarks, provides additional information on particular points.

<sup>3</sup>The use of these symbols is an essential element in toponymic research. It has the further advantage of facilitating, on the international level, an understanding of the accepted relationships between writing and pronunciation.

<sup>4</sup>As a rule, three examples in each instance, showing the character in the initial, median and final positions.

<sup>5</sup>The examples are usually limited to a single pronunciation.

## I. CONSONANTS

Arabic character	Name	Phoneme represented <sup>6</sup>	Notation	Examples	Remarks
ب ب ب	bâ	b occlusive bilabiale sonore	b	باب كبير كلب	bâb kbîr kelb
ت ت ت	tâ	t occlusive dentale sourde	t	تاجر زيتون بيت	tâjer zîtoûn bit
ث ث ث	thâ	θ spirante dentale sourde	th	ثمين كثير حارث	thnine kthîr ħarth
ج ج ج	jîm	ǰ spirante palato-alvéolaire (chuintante) sonore	j	جدبان مراجعة حاج	jediâne merja hâjj
ح ح ح	djîm		dj	حجر	ħadjar
خ خ خ	hâ	ħ spirante pharyngale sourde	h	عمار ساحل ملح	hmâr sâhel melħa
ك ك ك	khâ	x spirante vélaire sourde	kh	خميس نخل شعير	khmis nkhel chefkh
د د د	dâl	d occlusive dentale sonore	d	دشرة دردار جديد	dechra derdâr jdîd
ذ ذ ذ	dhâl	ð spirante dentale sonore	dh	ذيب حاذق	dhîb ħâdheq
ر ر ر	râ	r vibrante	r	راجل صخرة دار	râjel çekhra dâr
ز ز ز	zine	z sifflante sonore	z	زبداء عزازب لوز	zebda 'azzâb loûz
س س س	sîne	s sifflante sourde	s	سقايا بسباس راس	seqqâya besbâs râs
			ss	موسى قاسم	moûssa kâssem
ش ش ش	chîne	ʃ spirante palato-alvéolaire (chuintante) sourde	ch	شمس مشتكى ببوش	chems mechta bebboûch
ص ص ص	çâd	ʂ sifflante sourde pharyngalisée (emphatique)	ç	صهراء رصاص	çefra rçaç

Intervocalique.

<sup>6</sup>Each phoneme is represented by a separate symbol in the International Phonetic Alphabet. This alphabet should be used by the specialists responsible for investigating the place names and recording their pronunciation.

1. CONSONANTS (continued)

Arabic character	Name	Phoneme represented <sup>6</sup>	Notation	Examples	Remarks
د ض ض	dād	ḏ occlusive dentale sonore pharyngalisée (emphatique)	ḏ	ضيف dif خضرة khoḏra أرض ard	
ط ط ط	ṭā	ṭ occlusive dentale sourde pharyngalisée (emphatique)	ṭ	طير tir قنطرة guentra حيط hit	
ظ ظ ظ	dā	ḏ spirante dentale sonore pharyngalisée (emphatique)	ḏ	ظفر dhar مظلل mḏell مخظوظ mehḏoḏḏ	Notation identique à celle de l'occlusive dentale sonore emphatique.
ع ع ع	'aīn	ʿ spirante pharyngale sonore	ʿ	عبد 'abd نعجة na'ja جامع jāma'	
غ غ غ	ghāīn	ǧ spirante vélaire sonore	gh	غابة ghāba مغرفة mgherfa كبابغ debbāgh	
ف ف ف	fā	f spirante labio-dentale sourde	f	فارس fāres صفصاف ṣefṣāf صوف ṣoūf	
ق ق ق	qāf	q occlusive uvulaire sourde	q	قلم qālm مقطع meqta' قوى foū	
ك ك ك	gāf	g occlusive vélaire sonore	g	قارة gāra أجدال agdāl برواق berouāg قمر guemra بقر bguer	Devant e et i
ك ك ك	kef	k occlusive vélaire sourde	k	كباش kebch شبكة chebka مبروك mabroūk	
ل ل ل	lām	l latérale	l	ليل lil طالحة talḥa	
م م م	mīm	m nasale bi-labiale	m	مدينة mdīna ناموس nāmōūs فومم foūmm	
ن ن ن	noūn	n nasale dentale	n	نار nār زقاة zenqa عين 'aīn	
			ne	جنان jnāne عشر بن 'achrine لبن lbene فكرون fekrōne	En finale, pour éviter la prononciation d'une voyelle nasale: an, en, in, on. Exceptions : ben, bīn.
ه ه ه	hā	h spirante glottale sourde	h	هدية hdiya بهيمة bhīma وجه oūjeh	

## 2. SEMI-CONSONANTS

Arabic character	Name	Phoneme represented	Notation	Examples	Remarks
و و و	ouâou	w bi-labiale	ou ou	طويل واحد والد قود خومة yâmina ي عمون زاوية بوت كدية عين عين	<p>           touil ouâhad ouâlid 'aoud haouma yâmina yedd 'ayoûn zâouya biût koudia 'ain 'aid         </p> <p>Diphongue.</p> <p>A l'initiale. Egalement yidd. Intervocalique.</p> <p>Mouillure des consonnes. Diphongue.</p>
ي ي ي	yâ	j palatale	y y i i	<p>           يامينة ي عمون زاوية بوت كدية عين عين         </p>	<p>           A l'initiale. Egalement yidd. Intervocalique. Mouillure des consonnes. Diphongue.         </p>

## 3. VOWELS

Arabic character	Name	Phoneme represented	Notation	Examples	Remarks	
ا	fatha	a antérieure étirée ouverte centrale d'aperture moyenne	a e	<p>           معة كرموس جبل ma'za karmoûs jbel         </p>	<p>L'alif est essentiellement un support ou une lettre de prolongation. Voir ci-dessous les notations particulières des groupes dans lesquels il entre en composition.</p>	
ي	kesra	i antérieure étirée fermée centrale d'aperture moyenne	i e	<p>           مالي جيار مين مجان mâlik jiyyâr men ferhâne         </p>		
و	damma	u postérieure arrondie fermée o postérieure arrondie demi-fermée	ou o	<p>           ويا كناش بورج مفزة zouyyâr kounnâch. borj hofra         </p>		
ا	alif		non noté			
أ		a antérieure étirée ouverte	a	أحمد		ahmed
إ		i antérieure étirée fermée	i	أهمر إمام إدريس		ahmar imâm idris
أ		u postérieure arrondie fermée	ou	أمر		oumm
ا	alif maqçoû-ra (alif bref)	a antérieure étirée ouverte	a	مرس ملق		mersa melqa
آ	fatha alif	a voyelle longue	â	خزاز		khebbâz
ا	kesra yâ	i voyelle longue	i	طريف بئر		trîc bîr

### 3. VOWELS (continued)

Arabic Character	Name	Phoneme represented	Notation	Examples	Remarks
و و و	damma ouâou	u voyelle longue o voyelle longue	oû ô	عَرُوب دُوم تُور	'argoûb doûm tôr

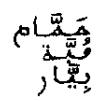

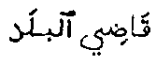
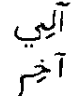
### 4. OTHER ARABIC CHARACTERS

Arabic Character	Name	Phoneme represented	Notation	Examples	Remarks
ء	hamza	non prononcé	non noté	مَاء mā	Ce signe est supporté ordinairement par un alif (le cas échéant par un yâ qui perd alors ses points diacritiques); il a la valeur d'un simple hiatus.
لا لا لا لا	lâm alif				Ce n'est qu'une façon d'écrire la lettre "lâm" suivie de la lettre "alif". Se reporter à chacune de ces deux lettres.
تة تة تة	tâ mar- boûta	a antérieure étirée ouverte	a et	شَرَّارَةٌ صَاكَّة كُدَيْتَةُ الرَّمْلِ	cherchâra dâya koudiet er rmel En finale de substantifs ou d'adjectifs. Etat construit.
ا ا ا ا ا	tanouï- ne	an in un p occlusive bi- labiale sourde v spirante labio- dentale sonore	ane ine oun p v		En finale, et réservé à l'arabe classique.  Ces deux caractères ne correspondent pas à des sons arabes, mais peuvent servir à noter des mots étrangers.

### 5. AUXILIARY ORTHOGRAPHIC SIGNS

Arabic Character	Name	Phoneme represented	Notation	Examples	Remarks
و و و و و	jezm ou soukoûn	Indique la fin d'une syllabe; la lettre arabe qui le supporte doit se rattacher à la consonne précédente en une seule émission de voix, et par l'intermédiaire de la voyelle brève qui accompagne toujours cette dernière.	non noté		

## 5. AUXILIARY ORTHOGRAPHIC SIGNS (continued)

Arabic Character	Name	Phoneme represented	Notation	Examples	Remarks
و	chedda ou tachdid	Indique que la lettre arabe qui le supporte doit être prononcée redoublée	Redoublement de la lettre ou du digramme représentatif.	 hammâm qoubba biyyâr	
		Si la lettre arabe surmontée du chedda est un "yâ" ou un "ouâou" (semi-consonnes), et si elle est précédée de l'accent voyelle correspondant: kesra ou damma, il peut y avoir seulement indication d'une voyelle longue.	iy  oïou	 'arbiya kourziya	
ا	oueçla	Indique que l'alif qui le supporte ne doit pas être prononcé.	non noté	 qâdi el bled	Se place toujours sur un alif initial dit "alif d'union".
ا	madda	Indique que l'alif qui le supporte doit être prononcé comme un a long.		 âli âkher	Le madda tient lieu d'alif de prolongation. Egalement âkhir.

## 6. THE DEFINITE ARTICLE

The Arabic definite article **ال** is invariable; it is attached, in the written language, to the word which follows it. In Roman characters, it should be represented by "el", which is written separately from the word with which it is linked in the Arabic text.

Examples: **الْبِير** el bîr, **الْفَار** el fâr.

In the pronunciation of the article, however, the consonant "l" is assimilated with the following consonants:<sup>7</sup>

Dentals: **ت ت ذ ض ط ظ**

Sibilants: **ز س ص**

Palatal fricatives:<sup>8</sup> **ج ش**

Liquids: **ر ل ن**

<sup>7</sup> The corresponding Arabic letters are referred to as "sun" letters.

<sup>8</sup> Sometimes "moon" letter.

when these stand at the beginning of the word which the article precedes. This consonant is then pronounced as if it was written twice.

It is customary to note this assimilation in the transliteration in Roman characters.<sup>9</sup>

Examples: **الْدَّرُوش** ed derouïch **الرَّمْلَة** er remla **الشَّمْس** ech chems.

On the other hand, the changes in pronunciation are not noted in cases where the article precedes a word beginning with a vowel or with two consonants.

Examples: **الْمَدْرَسَة الْكَبِيرَة**

Pronounced: le-mdersa le-kbîra, but must be written: el mdersa el kbîra.

<sup>9</sup> Assimilation may be indicated in written Arabic by the presence of a shedda over the initial letter.

## GEOGRAPHICAL NAMES IN CYRILLIC SCRIPT

### Paper presented by the International Committee on Onomastic Sciences (ICOS)<sup>1</sup>

Although not a Slavist, I should like to refer to the discussions which took place in the Cyrillic Sub-Committee of ICOS and to the resolution adopted by the Congress of Munich (1958) [see annexes I and II].

<sup>1</sup> The original text of this paper, prepared by H. J. van Wijer Secretary-General of ICOS, appeared as document E/CONF.53/L.82.

I consider it extremely unfortunate that at the present time a wide variety of spellings for the letters of the Cyrillic alphabet is customary in the Western countries. To take an example, the phoneme "f" is spelt variously as "ch", "sch", "sj", and "sh", the spelling "sh" being recommended by the Permanent Commission on Geographical