

that place names are to be pronounced and thus Romanized in accordance with the national standard rather than in accordance with their local or dialectal pronunciation. The changes involved are illustrated below.

Character	Gloss	Romanization	
		Giles	CTS-AMS
港	harbour	chiang	kang
堤	dike	ti	t'i
綠	green	lü	lu
浮	float	fu	fou
熱	hot	jo	je
溪	rivulet	ch'i	hsi

The publication is divided into three sections. The first section is a syllabary in alphabetical order. All characters having the same Romanization are placed under the appropriate syllable. The second section is a character list with Romanizations according to the Wade-Giles system. The characters are arranged according to the 214 radicals and additional stroke count. The third section is a lexicon giving glosses for the variant readings of characters contained in section one. An example is shown below.

Character	Romanization	Gloss
乾	ch'ien	"a surname" or, when in combination with "-k'un", male and/or female
	kan	
兒	erh	"son"
	ni	"a surname"

This section is essential in determining what pronunciation and thus what Romanization is accurate for a character in any given name. This assumes, of course, that the characters in the name in question are morphemically distinctive. Included among the glosses are statements as to whether or not a character is used in Chinese phoneticizations of non-Chinese names. This in many instances resolves problems that cannot be resolved through a

semantic and grammatical analysis of the substantive portion of the name.

The publication is not without deficiencies, a fact which is understandable in the light of the enormous corpus of names that must be considered to produce a comprehensive listing. Some of these deficiencies may be eliminated before final publication. Although the omission of obsolete readings and characters that do not occur in geographical names is an advantage, some characters that do occur in geographical names and were not found in the Giles dictionary or Chinese dictionaries such as "Kuo-yü-tz'u-tien", "Tz'u-hai", "Tz'u-yüan" are still absent from the list. Also missing are many short forms and simplified characters (*ch'ien-t'i-tzu*) in use on all mainland Chinese maps. Where included, these characters are entered not according to the characters or radicals from which they are derived, but according to the initial stroke in the character. For instance, the character for "door" (Romanized "men") is itself a radical numbered 164 of the 214 radicals. There are eight strokes in this character (radical). The simplified variant has but three strokes and is listed not as a radical, but as a character under the radical which is identical with its first stroke, radical 3. All simplified characters formed with the simplified radical 164 are also listed under radical 3. Thus two systems of arranging characters are used and character variants such as "men" are listed in separate sections of the character list.

Since the publication is a joint Chinese-United States effort, it is regrettable that the glosses in section II are provided only in Chinese, at times in a quite abbreviated and cryptic manner. However, since a knowledge of research methods used in Chinese lexical works is a prerequisite for using the "Modified readings of Chinese characters . . ." the translation of these glosses is possible for the non-Chinese user.

In summary, the new joint Chinese-United States publication will be an invaluable reference work for research on Chinese geographical names. The publication will make available in one volume the great majority of characters found in geographical names. It will provide the user with Romanizations of these characters according to the standard national pronunciation and according to the various morphemic identities represented by the characters. These facts alone make the work greatly anticipated by researchers in Chinese geographical names and cause its shortcomings to seem small indeed.

## COLLECTION AND TREATMENT OF GEOGRAPHICAL NAMES IN LIBYA

### Paper presented by Libya\*

In 1954, the Governments of Libya and the United States agreed to co-operate in mapping a large part of Libya. The programme involved maps at 1:50,000 scale for the coastal region and at 1:250,000 scale for the area north of 29°N. The maps, covering approximately 170,000 square miles, were published as AMS [Army Map Service] series P 761 and P 502 respectively.

Field operations began in 1956, after aerial photography was flown and the logistics to support topographic units in the area were arranged. An interesting and productive method for collecting and classifying geographical names in the field was introduced in these operations. We believe it contributed significantly to toponymic processes

and promises an extended use in the mapping of other areas.

Several difficulties have plagued the collection, verification and transliteration of geographical names in Arab areas, among them the scarcity of sources from which place and feature names can be extracted and the physical cultural and political obstacles to obtaining correct names at the site. Names sources are usually deficient in quantity for large-scale mapping and in authenticity for any purpose; communication between the foreign cartographer and the native informant usually falls short of complete understanding; the toponymist who tries to retrace names which have been transcribed from the original language into another usually loses something in the process.

The method used in the Libyan project was designed to

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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.