

International Organization for Standardization (ISO), which is now used in the fields of library science and technical research. (cf. *Duden—Wörterbuch geographischer Namen*, preface, pp. XXII–XXXI, for the applied transliteration-transcription systems.)

The delegation of the Federal Republic of Germany feels that the development of different transliteration systems should, if possible, be avoided for nationally or areally localized writing systems and for separate fields of science and technology. In both cases, the purposes of a standard international transliteration system readily understandable by and usable for all countries and research fields would be hampered by the creation of differing, localized transliteration systems.

It is therefore proposed that the Conference should recommend the adoption of a single standard international transliteration system for the rendering of non-Roman alphabets and/or characters into the Roman alphabet based on the ISO transliteration system.

It will also be necessary to develop transcription systems for the various language areas. Such transcription systems would be intended for internal use within the various language areas. For the Federal Republic of Germany,

the Duden editorial staff² has been working together with philologists (Arabic, Slavic etc.) on transcription keys for various writing systems. So far, transcription keys have been set up for Arabic, Bulgarian, Greek (ancient and modern), Persian and Russian. Keys for other writing systems are presently being developed.

In the case of countries having an ideographic writing system (such as Chinese or Japanese), the use of the official conversion system into the Roman alphabet proposed by those countries is recommended: in Japan, for example, the Romanization system based upon the Kunreisiki method.

In areas where historically established name forms differ from those used under the officially adopted conversion system, the duplication of names will have to be accepted. The historically older form would appear first; for example, in German: "Hwangho", with the Chinese transcription "Huanghe" "Peking", with the Chinese transcription "Beijing".

² Duden is the officially approved spelling system for the German language used in all schools. In cases where proper spelling forms are in doubt, information is provided by the Duden editorial staff.

METHODS OF TRANSLITERATION

Paper presented by Hungary*

The need to transpose names from other writing systems to one's own according to an approximate translation exists in Hungary and in other countries.

In our opinion, the only feasible method of international standardization would be to use the symbols of the international phonetic alphabet for letter-for-letter substitution of letters. In this manner, the phonetic form may be retained.

* The original text of this paper appeared as document E/CONF. 53/L.14.

Another solution may be the transliteration from one language to another. Either one of these practices may be a starting point towards international standardization, although experience may indicate the need for another international alphabet. This practice, of course, does not involve transcription. It may help since identical symbols may be used for different reigning systems. There would be a basic number of symbols corresponding to all of the letters of a specific writing system. Thus the problem of transliteration might be solved if only the selected symbols are used.

ROMAN-LETTER SPELLING OF TOPONYMS FROM OTHER WRITING SYSTEMS

Paper submitted by the United States of America*

The number of toponyms from areas where non-Roman writing systems are used runs into the millions and tens of millions. In fact, for a names authority such as the Board on Geographic Names in the United States, such toponyms represent a major and vital problem. The board must have workable and consistent procedures for deriving Roman-alphabet spellings of names in the Cyrillic Slavic area, Greece, the Arabic-Persian area and much of Asia.

Toponyms from non-Roman alphabets are written in either alphabetic or non-alphabetic writing systems. For each non-alphabetic writing system a transcription system must be worked out, that is, a one-to-one substitution of Roman letter symbols for distinctive sounds or ranges of sounds, or phonemes. For non-Roman alphabets, although transcription systems can be elaborated, the preference is for transliteration systems, that is, one-to-one substitution of Roman-letter symbols for non-Roman letters (graphemes). Thus in transcription we are dealing with sound units, in transliteration with written symbols.

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In deciding whether to transcribe or to transliterate toponyms written in a given non-Roman alphabet, the board evaluates each alphabet from the point of view of its efficiency as a writing system for the language concerned.

If the alphabet offers, on the whole, a good analysis of the sounds of the language or languages concerned, as is the case with the various Cyrillic alphabets and the Greek, Arabic, Persian and Amharic alphabets, a transliteration system is worked out. If, on the other hand, a given alphabet is poor in representing the sounds of the language concerned, in that it does not distinguish distinctive sounds, as is true of the Tibetan alphabet and the Mongolian alphabet in use prior to the present Cyrillic Mongolian alphabet, or is marked by the inclusion of symbols for phonetic details no longer present in the language, as with the Tibetan alphabet, a transcription rather than a transliteration system is used.

From the standpoint of the United States Board on Geographic Names, there are general principles to be followed in elaborating a transcription or transliteration system or in evaluating one for adoption.

One and only one Roman-letter symbol or combination of symbols should be used for a given sound or letter in a transcription or transliteration system and not more than one sound or letter should be represented by a given Roman-letter symbol. For transcription systems, this requires an accurate linguistic analysis of the sounds and ranges of distinctive sounds (phonemes), tones, accent patterns and other significant phenomena of a language before a transcription system can be drawn up. For transliteration systems, there is required an arrangement of the letters of the alphabet concerned over against Roman-letter symbols in a manner such that the Roman letters would be those that the user of the transliterated name would naturally associate with those sounds. For the use of English-speaking countries, at least, only after the Roman-letter stock of reasonably appropriate letters is exhausted should one resort to the use of diacritical marks or modified letters.

In general, transcription should not be combined with transliteration. Only confusion would result from the mixture of graphic and phonemic substitutive symbolization, since transcription is the process of substituting (in the Roman-alphabet areas) Roman-letter symbols for the sounds of a given language, whereas transliteration is not concerned in the strictest sense with sounds, but with Roman-letter equivalents of non-Roman letters. Combination of transcription with transliteration and *vice versa* leads to the temptation of levelling out sound distinctions which do not exist in the language of the transcriber. A notable example would be, in a transliteration system for Arabic, transliterating the Arabic velarized (usually called emphatic) consonant "hā" in the same way as the nonvelarized consonant "hā", "ṣād" as "sīn", "ḡā" as "iā", "ḡād" as "dāl" and "zā" as "zāy". Nor should the long-short vowel distinctions of languages such as Arabic, Amharic or Mongolian be neglected in a transcription or transliteration system because they do not occur in the transliterator's language.

Automatic or nondistinctive sound features such as the fixed initial syllable accents in Mongolian should be disregarded in transcription systems. They need not be marked in the transcriptions themselves because their occurrence can be defined for the users of toponyms in general explanations of pronunciation. Likewise, graphic symbols of non-Roman alphabets can be disregarded in transliteration where they are automatically replaceable in transliteration, as initial "hamzah" in Arabic, or the "smooth breathing" in Greek. Morphophonemic symbols (symbols which represent now one, now another sound, depending on the phonetic environment), can be resolved

into Roman-letter symbols for the sounds they represent. Thus the "lām" of the Arabic definite article can be assimilated to the rules of Arabic, or the "e" in Russian Cyrillic can be transliterated as "ye" and not "e" initially, after vowels, and after the so-called hard and soft consonants.

For transcription and transliteration systems to be used in writing the place names of an area in Roman letters, groups of toponyms should be dealt with area by area. The sound system for the main or nationally official language or dialect of an area should be the basis of transcription and divergent dialects should be disregarded. Otherwise the management of a toponymic programme is likely to become very complex, since a number of sound systems must be analysed instead of only one; moreover, the problem of dialect boundaries, which is often exceedingly difficult, must be resolved. An example is the situation in regard to Chinese names: a satisfactory treatment is possible in terms of the pronunciation of Mandarin Chinese, which is understood throughout most of China, whereas a policy of differentiating between Mandarin, Wu, Hakka and Cantonese, to say nothing of subdialects, would at present at least be almost impossible. Similarly, the transliteration of a non-Roman alphabet by different systems according to the pronunciation of local dialects presupposes the accurate knowledge of local pronunciation which is not strictly speaking, the concern of transliteration.

Since United States Board on Geographic Names transcription and transliteration systems are designed to strike a balance between scientific accuracy and intelligibility for the general public of the United States, diacritical marks and modified letters are kept to a minimum. Some linguistic features totally foreign to European languages, such as the tones of the Sino-Tibetan-Burmese languages, must be sacrificed when they are completely incomprehensible to the user in the United States, or when their presence or even their nature cannot be determined with any accuracy at the present state of our knowledge.

Many problems in the Roman-letter spelling of toponyms from non-Roman writing systems still remain unresolved. The number of areas for which sufficient geographical and linguistic source materials are as unavailable is still larger than one would desire. Such matters as the scarcity of Arabic and Persian toponyms in Arabic script complete with vowel points, and the great variation in the geographic and toponymic data for many areas throughout the world present perplexing problems. However, progress is being made and better results are continually being achieved through the application of toponymic principles to the problem of spelling the place names of the world in Roman letters.

SOME GENERAL PRINCIPLES OF TRANSLITERATION AND TRANSCRIPTION

Paper presented by the United States of America¹

Every country that uses geographical names on maps or charts or in books or documents of any sort is faced with two general categories of such names: names in its own language and names in languages other than its own.

A country can use without further ado names within its own boundaries or names within other countries using the same language. This is especially true if names are avail-

able in easily accessible gazetteers, lists or other publications that provide positive determination of the identity and writing form of the names themselves. A faithful copying of the names from such definitive sources will in each and every case reproduce the body of names without change of any sort.

A country is confronted with other problems when it renders names from languages other than its own, whether such names are written in a variation of the alphabet or writing system of its own language or in an entirely different alphabet or writing system.

¹ The original text of this paper, prepared by J. G. Mutziger, Office of Geography, Department of the Interior, appeared as document E/CONF.53/L.31.