Submitted by: AFRL
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Topic: Reversing the Palladius Mapping Of Chinese Names in Russian Text

We present the Reverse Palladius (RevP) program developed by the Air Force Research Laboratory's Speech and Communication Research, Engineering, Analysis, and Modeling (SCREAM) Laboratory for the National Air and Space Intelligence Center (NASIC). The RevP program assists the linguist in correcting the transliteration of Mandarin Chinese names during the Russian to English translation process.

Chinese names cause problems for transliteration, because Russian writers follow a specific Palladius mapping for Chinese sounds. Typical machine translation of Russian into English then applies standard transliteration of the Russian sounds in these names, producing errors that require hand-correction. For example, the Chinese name Zhai Zhigang is written in Cyrillic as Чжай Чжиган, and standard transliteration via Systran renders this into English as Chzhay Chzhigan. In contrast, the RevP program uses rules that reverse the Palladius mapping, yielding the correct form Zhai Zhigang.

When using the RevP program, the linguist opens a Russian document and selects a Chinese name for transliteration. The rule-based algorithm proposes a reverse Palladius transliteration, as well as a stemmed option if the word terminates in a possible Russian inflection. The linguist confirms the appropriate version of the name, and the program both corrects the current instance and stores the information for future use. The resulting list of name mappings can be used to pre-translate names in new documents, either via stand-alone operation of the RevP program, or through compilation of the list as a Systran user dictionary.

The RevP program saves time by removing the need for post-editing of Chinese names, and improves consistency in the translation of these names. The user dictionary becomes more useful over time, further reducing the time required for translation of new documents.