

On the status of the curly-tail alveolo-palatal (舌面前) symbols [ɿ, ɲ, ɳ, ʎ, ʑ, ʒ]

Richard S. COOK, Jr.
STEDT Project, Linguistics Department
University of California, Berkeley, USA
<rscook@socrates.berkeley.edu>

This article seeks to document linguistic usage of the "curly-tail" phonetic symbols used to transcribe sounds of the alveolo-palatal series, namely the six symbols [ɿ, ɲ, ɳ, ʎ, ʑ, ʒ]. Of these six symbols, the last two may be the only ones familiar to readers, as these are included among the list of "Other Symbols" in the IPA's chart of phonetic symbols (1993, revised 1996). These two symbols [ʑ, ʒ] are discussed in the *Phonetic Symbol Guide* (PSG, PULLUM & LADUSAW 1996: 33, 204), though the other four [ɿ, ɲ, ɳ, ʎ] are not. Omission of these symbols from PSG, in contrast to Sinitic, Sinologic and Sino-Tibetanist usage, is what provided the original stimulus for the writing of this article. Seeking to address issues relating to the encoding of the STEDT¹ Project's source and data transcriptions, it is hoped that this article will succeed in raising the profile of these "curly-tailed" signs, such that it may be deemed appropriate to include them in computerized encoding standards. At present although [ʑ, ʒ] are both to be found in the Unicode Standard 3.0, at U+0255 and U+0290, respectively, the four signs [ɿ, ɲ, ɳ, ʎ] are not.²

Insofar as the precise status of these symbols within the IPA Standard may be in question, a few words may be said with regard to the place and manner of articulation of this series. As PSG reports under its entry for [ʑ] (p. 33):

IPA USAGE

Voiceless "alveolo-palatal" median laminal fricative. Articulated further forward than [ʑ] (true palatal) but not as far forward as [ʃ] (palato-alveolar), and articulated laminally (with the flat blade of the tongue) rather than apically (with the tip of the tongue, as in retroflex [ʂ]).

As PSG notes, this sign [ʑ] is used to represent the Hanyu Pinyin /x-/ initial of Mainland Standard Chinese (MSC, as in the word 现 xiàn 'now'). To this, it may be added that, according to WU Zongji (1992:77) key differences between the [ʃ] as in English and MSC [ʑ] are that, whereas the English sound involves a certain degree of lip-rounding and troughing (grooving) of the tongue, the Chinese sound does not: medial tongue closure is rather tight with [ʑ], and the primary point of frication is rather back in comparison with [ʃ]. Note also that this [ʑ] initial is always found with a following high front vowel, and so is in complementary distribution with MSC's [ʂ] retroflex.

¹ *Sino-Tibetan Etymological Dictionary and Thesaurus*, James A. Matisoff et al.

Please see <<http://stedt.berkeley.edu/work/CookLowe.pdf>> for a recent project description.

² Cf. <<http://charts.unicode.org/PDF/U0250.pdf>> for the "IPA Extensions" [U+0250 - U+02AF].

What is being distinguished here for [ɕ, ʑ] is a place of articulation, such that the following four places are distinguished in the continuum from alveolum to palate:

ALVEOLAR, PALATO-ALVEOLAR, ALVEOLO-PALATAL, PALATAL.

Although IPA [ɕ, ʑ] are apparently marginalized in the “Other Symbols” part of the IPA chart, the “curly-tail” manner of writing in these consonants does in fact lend itself to the same logical extension as that seen in the writings of symbols for other places of articulation, e.g. as seen in the IPA symbols for the retroflex series [ɖ, ɗ, ɳ, ʂ, ʐ, ʄ, ɭ]. PSG calls this “right tail” a “diacritic for retroflexion” (p. 177), which begs the question: is the “right tail” a diacritic when it is part of the character? (In fact, cp. PSG's own *Comments* on the “right hook” diacritic, p. 264.) And if apico-postalveolar retroflexion is indicated with a diacritic, then by the same reasoning the “curly-tail” mark itself could be viewed as a diacritic. As such, it would be improper to exclude other symbols of the curly-tail series as “non-IPA”, based on the supposition that they are full characters not in the IPA standard (cp. also PSG p.40 regarding [ɖ̥]: “Not actually on the IPA chart, but permitted implicitly under IPA conventions [...]”). Rather, the full series for this place of articulation has simply been sketched, alluded to in the “Other Symbols” portion of the IPA's chart. Just as the alveolar [t, d, n, l] symbols may receive the “diacritic for retroflexion” to become apico-postalveolar retroflex [ɖ, ɗ, ɳ, ɭ], so too [ɖ̥, ɗ̥, ɳ̥, ɭ̥] are generated by the same principle, after the pattern of [ɕ, ʑ] to indicate laminal alveolo-palatals.

This appears, at any rate, to have been the reasoning employed by linguists in their creation and usage of these [ɖ̥, ɗ̥, ɳ̥, ɭ̥] curly-tailed symbols. It is not the purpose of the present article to attempt to demonstrate the distinctiveness of an “alveolo-palatal” place of articulation. It is sufficient for the present purposes to note that these symbols are indeed employed by linguists, in apparent conformity with IPA principles. As such, it is suggested that this curly-tailed class of symbols should not be treated as an aberrant, non-IPA class of symbols. Rather, they should be recognized as having the same status as all other place series symbols.

Although several of the following are apparently unattested, they are all legitimate members of this place series³, and appear in the appended table “CONSONANTS (PULMONIC AND GLOTTALIC)”:⁴

[ɖ̥, ɗ̥, ɳ̥, ɭ̥, ɕ̥, ʑ̥, ʃ̥, ʒ̥, ʂ̥, ʐ̥, ɬ̥, ɮ̥, ɥ̥, ɕ̥̌, ʑ̥̌]

The remainder of the current article is devoted to presentation of bibliographic information and statistics for the known sources providing attested usage of the curly-tail [ɖ̥, ɗ̥, ɳ̥, ɭ̥] symbols. The STEDT Project's *Main Lexicon* database contains the following curly-tail symbols, all (with exception of [ɭ̥]) contained also in the printed sources from which the STEDT data derives (STEDT *Source Bibliography* abbreviations are explained below):

- [ɖ̥] curly-tail-t in 99 records (3 sources, the principal of which is ZMYYC with 87; SHK-Sulung has 10; TBL has 2);
- [ɗ̥] curly-tail-d in 01 record (AW-TBT) [cf. also LI&ZHOU 1996 below];
- [ɳ̥] curly-tail-n in 5686 records (1858 from ZMYYC, the rest from numerous others, including CSL-Yizd, DH-FRL, SLZO-MLD, TBL);

³ PSG (174, 209) notes that IPA approval of [ʃ̥, ʒ̥] (U+0286, U+0293) “palatalized post-alveolars” was withdrawn in 1989. These seem to be functionally equivalent to [ɕ̥, ʑ̥], pointing to the same place of articulation.

⁴ <http://stedt.berkeley.edu/pdf/curly-tail-table3.pdf>

- [ɭ] curly-tail-l in 8 records, all in transcription of original (JP-Idu) [ʎ] (a character not originally in the STEDT transcription font). A distinction between [ɭ] and [ʎ] is not intended in the transcription. A STEDT typographer in the early 1990's (reportedly Michael Brodhead) apparently added [ɭ] for transcription of Hmong-Mian sources which are at present not part of the STEDT *Main Lexicon*. Please see the bibliographic entries below for WANG Fushi (1985,1994) and NIEDERER (1998).

BIBLIOGRAPHIC REFERENCES (SELECTED)

In addition to the above statistics for data in the STEDT *Main Lexicon*, the following references seek to document attested usages of and comments on curly-tail alveolo-palatal place series symbols. Comments on usage of specific symbols are appended to some entries below.

• **CHAO Yuen Ren** 趙元任

1928 《現代吳語的研究》 <Xiandai Wuyu de yanjiu> [Research on Modern Wu Dialects.] Pei-p'ing: Ch'ing-hua hsueh hsiao yen chiu yuan. 2nd edition. Series: Ch'ing-hua hsueh hsiao yen chiu yuan ts'ung shu ; ti 4 chung. {UCB East Asian 5155.4012.}

1934 "The non-uniqueness of phonemic solutions of phonetic systems." Nanking: Extract from v. 4 of the Bulletin of the National research Institute of History and Philology, Academia Sinica. (363-398 p. 28 cm.) {UCB Main P221; .C5.}

• **International Phonetic Association (IPA)**

2000 Current Charts Available at <<http://www.arts.gla.ac.uk/IPA/ipa.html>>. See specifically, <<http://www2.arts.gla.ac.uk/IPA/symbols.html>> for the Chart of OTHER SYMBOLS.

1999 *Handbook of the International Phonetic Association*. Cambridge: Cambridge University Press. {ISBN: 0 521 63751 1.}

• **LI Zhenhua** 李珍華 and **ZHOU Changji** 周長楫

1993 《漢字古今音表》，〔美〕李珍華，周長楫編撰。北京：中華書局。<Han Zi Gu Jin Yin Biao> [Historical Chinese Phonologic Tables]. Li Zhenhua and ZHOU Changji. Beijing: Zhonghua Shu Ju, 1993. {Harvard Yenching Library Number: 5120 4414; ISBN 7-101-01198-5/H.103.} 8,865 char. readings in 3 historical periods and 7 modern dialects. This work employs [ʈ, ɖ, ɳ, ɕ, ʑ] in reconstructions of Old Chinese (上古); [ʈ, ɖ, ɕ, ʑ] in transcriptions of Middle Chinese (中古); [ɳ, ɕ, ʑ] for the modern Wu dialect (吳語); [ɳ, ɕ] for the modern Gan dialect (贛語); [ɳ] for the modern Kejia (客家話) dialect. Many of LI and ZHOU's historical forms were also cited in RSC-ECC (COOK 1995).

• **LIANG Min** 梁民 (sp?) and **ZHANG Junru**

1996 《侗台語族概論》 <Dong-Tai yuzu gailun> [Intro to Kam-Tai languages]. Beijing: Zhongguo shehui kexue chubanshe. Cf. pp. 972-973. {UCB TEMP98 3754 EAST.}

• **MA Xueliang** 馬學良

1981 《語言學概要》 <Yuyanxue gailun> [Elements of Linguistics]. Beijing: Huazhong gongxueyuan chubanshe. Cf. pp. 32,51. {UCB P121 .M3 EAST.}

• **NIEDERER, Barbara**

1998 *Les langues Hmong-Mjen (Miao-Yao):phonologie historique*. Munchen : Lincom Europa. {ISBN: 3-89586-211-8; UCB PL 4070 N543 1998 MAIN.} This text uses serif forms of [ɭ].

• **PULLUM, Geoffrey K.** and William A. LADUSAW.

1996 *Phonetic Symbol Guide*, Second Edition. Chicago, London: University of Chicago Press. {ISBN 0-226-68536-5.}

• **QIAN Nairong** 錢乃榮

1992 《當代吳語研究》 <Dangdai Wuyu yanjiu> [Contemporary Wu Dialect Studies]. Shanghai: Shanghai jiaoyu chubanshe. 1121 pp. {UCB PL1931 EAST.C45 1992.} Cf. p. 60.

- **Unknown Committee** 中國大百科全書編輯委員
- 1988** 《中国大百科全书》 <Zhongguo dabaike quanshu> [Great Chinese Encyclopedia]. Beijing: Zhongguo dabaike quanshu chubanshe. Cf. Yuyan-Wenzi vol., p.118 (IPA).
- **WANG Fushi** 王輔世 and **MAO Zongwu** 毛宗武
- 1995** 《苗瑤語古音構擬》，王輔世,毛宗武 著。北京: 中國社會科學出版社. <Miao-yao Yu Gu Yin Gou Ni> [Reconstruction of Proto-Miao-Yao language]. Beijing: Chinese Social Sciences Press. {ISBN 7-5004-1383-1; UCB PL 4070 W36 1995 EAST.} This text uses serif forms of [ɭ].
- **WANG Fushi** 王輔世
- 1985** 苗語古音構擬/王輔世 著。東京: ILCAA. *Reconstruction of Proto-Miao [Proto-Hmong] language*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), [1994]. {UCB PL3311.M5 W35 1994 EAST.} This text uses sans-serif forms of [ɭ].
- **WU Zongji** 吳宗濟
- 1992** 《现代汉语语音概要》，吳宗濟 主编。北京: 华语教学出版社. <Xiandai Hanyu - Yuyin Gaiyao> [Elements of Modern Chinese Phonetics]. Beijing: Sinolingua, 1992. {ISBN 7-80052-137-0.} A general handbook of Modern Standard (Beijing) Chinese phonetics, this work contains an IPA-style "Phonetic Symbol Table" (apparently derived from YUAN 1960) on page 196 (see attached copy) which includes the [t, d, n, c, ʒ] curly-tail symbols.
- **YUAN Jiahua** 袁家驊
- 1960** 《汉语方言概要》，袁家驊等著。北京: 文字改革出版社。< Hanyu Fangyan Gaiyao> [Outline of Chinese Dialects]. Beijing: Wenzi Gaige Chubanshe. 2nd edition, 1989. (See the IPA-style chart on page 7, whence derives the chart in WU Zongji 1992).
- **YU Nae-wing** 余迺永 (YU Naiyong)
- 1993** 《新校互註·宋本廣韻》香港: 香港中文大學。 <Xin Jiao Hu Zhu - Song Ben Guang Yun> [A New Revision of the Sung Edition of the Kuang-yun Rhyming Dictionary]. Hong Kong: Chinese University of Hong Kong. 2nd Ed. (3rd Ed., 2000). 1vol., ~900pp., hardcover, Chinese, indices and English appendices. {ISBN: 962-201-413-5.} Cf. the table, p. 82.

STEDT *Source Bibliography* ABBREVIATIONS

The Sino-Tibetan Etymological Dictionary and Thesaurus (STEDT) Project *Source Bibliography* abbreviations cited above are as follows (numbers at the end of each entry indicate the total number of records in the STEDT databases from each source):

- | | | | |
|-------------------|-------------------|---------------------|--------------|
| • AW-TBT | = WEIDERT, 1987. | • RSC-ECC | = COOK. |
| • CSL-YIzd | = CHEN, 1979. | • SHK-Sulung | = SUN, 1993. |
| • DHFRL | = DAI, 1991. | • SLZO-MLD | = SUN 1980. |
| • JP-Idu | = PULU, 1978. | • TBL | = DAI, 1992. |
| • LTBA | = MATISOFF 1974-. | • ZMYYC | = SUN 1991. |

CHEN Shilin

- 1979** 《彝漢字典》 <Yihan zidian> [Yi-Chinese dictionary]. CHEN Shilin, LI Min, et al., eds. Sichuan: Yi Language Work Unit, People's Committee of Sichuan.

COOK, Richard S. 曲理察

- 1995** *The Etymology of Chinese 辰 Chén*. Monograph volume of LTBA, Vol. 18.2/Fall 1995. Berkeley: University of California. 1vol., 278pp. 《‘辰’字的原始義》。藏緬語言學報·卷18.2。貝克萊市：美國加利福尼亞州大學在貝克萊市語言學部，1995。

DAI Qingxia

- 1992** 《藏緬語族語言詞彙》 <Zang Mian Yu Zu Yu Yan Ci Hui> [A Tibeto-Burman lexicon]. DAI Qingxia et al. Beijing: Central Institute of Minorities. {ISBN 7-81001-347-5/H}
- 1991** 《藏緬語十五種》 <Zangmianyu shiwuzhong> [Fifteen Tibeto-Burman languages]. DAI Qingxia et al., eds. Beijing: Yanshan Chubanshe. DHFRL, authors: DAI, HUANG, FU, RENZENG, LIU.

MATISOFF, James A.

- 1974-** The Biannual Journal *Linguistics of the Tibeto-Burman Area*. The University of California at Berkeley, James A. MATISOFF, editor. {LOC 82-640813, ISSN 0731-3500, OCLC: 4790670.} <<http://stedt.berkeley.edu/ltba/>>

PULU, Jatan.

- 1978** *Idu phrase book*. Shillong: The Director of Information and Public Relations, Arunachal Pradesh.

SUN Hongkai

- 1993** Questionnaire (Sulong). Unpublished.
- 1991** <Zangmianyu yuyin he cihui> [Tibeto-Burman phonology and lexicon]. SUN Hongkai et al. Beijing: Chinese Social Sciences Press. {ISBN 7-5004-0797-1/H.}
- 1980** <Menba, Luoba, Dengren de yuyan> [The languages of the Menba, Luoba and Deng peoples]. SUN Hongkai, LU Shaozun, ZHANG Jichuan and OUYANG Jueya, eds. Beijing: Social Sciences Press.

WEIDERT, Alfons K.

- 1987** *Tibeto-Burman tonology: A comparative account*. (Current Issues in Linguistic Theory, Vol. 54.) Amsterdam and Philadelphia: John Benjamins Publishing Co. (5426)

ACKNOWLEDGEMENTS

This document was prepared by Richard S. COOK <rscook@socrates.berkeley.edu> of the STEDT Project <<http://stedt.berkeley.edu/>>, in association with Michael EVERSON <everson@indigo.ie> and Kenneth WHISTLER <kenw@sybase.com>.

STEDT Project research is supported in part by grants from:

- The National Science Foundation (NSF), Division of Behavioral & Cognitive Sciences, Linguistics, Grant Nos. BNS-86-17726, BNS-90-11918, DBS-92 09481, FD-95-11034, SBR-9808952 and BCS-9904950;
- The National Endowment for the Humanities (NEH), Preservation and Access, Grant Nos. RT-20789-87, RT-21203-90, RT-21420-92, PA-22843 96 and PA-23353-99.

Thanks are due to: Martin HEIJDRÁ <mheijdra@princeton.edu> of the Gest Oriental Library at Princeton University, for his kind assistance in researching several of the bibliographic references; David MORTENSEN <dmort@socrates.berkeley.edu> of the UC Berkeley Linguistics Dept., for his suggestions and assistance with the sources and scans relating to [𐎒].