



AUSTRALIAN BRAILLE AUTHORITY

A subcommittee of the Round Table on
Information Access for People with Print Disabilities Inc.
www.brailleaustralia.org
email: aba@printdisability.org

Chinese (Mandarin) and UEB

Introduction

These guidelines can be read in conjunction with the relevant sections of *The Rules for Unified English Braille* and the *ABA Guidelines for Foreign Language Material, 2019* which can be found on the brailleaustralia.org website.

Chinese braille, promoted throughout China since 1953, is now widely studied in Australian schools. This document has been written to assist those who are asked to transcribe Chinese into braille in that context.

Chinese braille transcription for higher education or for a native speaker requires a greater knowledge of the rules surrounding the Chinese braille code than that given in this document. Ideally, access to both a fluent Chinese reader and someone who understands all the rules for Chinese braille is required.

As with all other braille codes, Chinese braille is read from left to right, regardless of the direction of any print original.

May 2024

Acknowledgements

The following people have made an invaluable contribution to the formation of this document:

Zhi Jin, Emma Hall, Sarah Kelly and Deb Lewis
(Statewide Vision Resource Centre, VIC)

Doreen Liew and Sonali Marathe (NextSense, NSW)

Kathy Riessen (South Australian School & Services for Vision Impaired, SA)

Chinese print

The Chinese national language, known in China as Putonghua, is based on the northern dialect and Beijing pronunciation. Chinese writing indicates meaning, unlike English for example, which is based on letters representing sounds. There are no braille signs for individual Chinese characters. Chinese braille is based on a phonetic representation or pronunciation of the sounds/tones of Putonghua. In order to transcribe Chinese characters into braille, they must first be converted to a romanised phonetic representation, also known as Pinyin.

The braille code is based on Pinyin with 18 initials (consonants) and 34 vowels. The four tones indicated within the Pinyin determine the meaning of the word.

Preparing Chinese text for transcription into braille

The following steps have been written to give basic instructions to an appropriately qualified/experienced Chinese-reading person who will assist in the preparation of the Chinese text before transcription into braille.

In an educational setting where a transcriber does not have sufficient Chinese knowledge, an appropriate person could be the student's Chinese teacher.

For braille transcription, Chinese characters are first converted to Pinyin, including tones. One syllable of Chinese will then be written in braille with one, two or three of the following signs:

- initials: the consonants that are only found at the beginning of a syllable.
- finals: vowels (**n**, **ng** and **r** at the end of a syllable are not seen as consonants).
- tones: signs that indicate the tone of the word (there are four tones in Mandarin).

Add spacing

A word consists of one or more syllables. In Chinese print, the characters follow one another without any space between them. Thus the word boundaries aren't immediately apparent. In braille, however, a space is inserted between words for clarity. This is necessary as the braille signs only represent the phonetic sounds/tones to convey the meaning of the word, whereas the Chinese print characters provide information about the meaning of a syllable or word.

In the context of the other sounds of a word, the meaning is almost always instantly clear — provided, of course, that the reader understands the spoken language.

To assist with the braille transcription, correct spacing of the Pinyin characters should be marked.

Example:

chuíjù

- **chuī** can mean "cook", "blow", "brag" and more.
- **jù** can mean "distance", "utensil", "complete", "sentence" and more.

Each of these meanings is written with a different Chinese print character. If **chuíjù** was separated by a space as **chuī jù**, the meaning of the word would be less clear. In Pinyin and braille, it is therefore important to indicate word boundaries using spaces. Just the two syllables together **chuíjù** can be immediately recognised as meaning "kitchen utensil".

The Chinese-reading person can easily indicate where a space should be inserted using a pencil to show a stroke on the printed page or adding spaces in a Word document.

Chinese braille transcription system

The official Chinese (Mandarin) braille transcription system is set out in the five tables below.

The five tables are:

1. Initials/Consonants
2. Finals/Vowels
3. Contractions
4. Tones
5. Punctuation

1. Initials/Consonants

| | | | | | | | | |
|---|--------|---|------|--------|---|----|---------|---|
| b | (12) | ⠠ | n | (1345) | ⠠ | ch | (12345) | ⠠ |
| p | (1234) | ⠠ | l | (123) | ⠠ | sh | (156) | ⠠ |
| m | (134) | ⠠ | g, j | (1245) | ⠠ | r | (245) | ⠠ |
| f | (124) | ⠠ | k, q | (13) | ⠠ | z | (1356) | ⠠ |
| d | (145) | ⠠ | h, x | (125) | ⠠ | c | (14) | ⠠ |
| t | (2345) | ⠠ | zh | (34) | ⠠ | s | (234) | ⠠ |

The letters often indicate different sounds than in English. For example, the letter **x** represents a sound roughly similar to the pronunciation of **sh** in the English word "sheep".

Shared sounds

Some braille signs represent two different sounds. This technique is necessary because there are more Chinese sounds than different braille signs. However, it causes no problems because certain combinations of sounds never occur.

- **g** and **j** are written with the same sign. **g** is never found before an **i**; **j** is never found before an **a**. Thus **g/j** followed by **iong** must mean **jiong** and **g/j** followed by **ao** must mean **gao**.

3. Contractions

| | | |
|----------------|--------------|-------------|
| zhi (34) ⠠⠠ | ri (245) ⠠⠠ | si (234) ⠠⠠ |
| chi (12345) ⠠⠠ | zi (1356) ⠠⠠ | de (145) ⠠⠠ |
| shi (156) ⠠⠠ | ci (14) ⠠⠠ | |

4. Tones

| | | | |
|------------|------------|------------|-------------|
| 1. ¯ (1) ⠠ | 2. ´ (2) ⠠ | 3. ˇ (3) ⠠ | 4. ` (23) ⠠ |
|------------|------------|------------|-------------|

The four Mandarin tones are important, as they are used to clarify the meaning of words. Pinyin should therefore be written with tone marks to ensure accuracy. Tones are indicated in Pinyin with either numbers or tone marks (accents).

Example:

tāmēn zài xiàqí

ta1men1 zai4 xia4qi2

The four Mandarin tones are represented in braille by dot 1, dot 2, dot 3 and dots 23, as indicated in the Chinese braille code above and in the examples below.

The braille signs for tones come **after** the letter/consonant, final/vowel or contraction.

Tone examples

- ⠠ (dot 1) [macron ā]. Flat tone. mā ⠠⠠⠠
- ⠠ (dot 2) [acute accent á]. Rising tone. má ⠠⠠⠠
- ⠠ (dot 3) [caron ǎ]. Falling rising tone. mǎ ⠠⠠⠠
- ⠠ (dots 23) [grave accent à]. Falling tone. mà ⠠⠠⠠

Punctuation

When transcribing Chinese characters into braille, in addition to adding tone markings and spaces, appropriate punctuation must also be added, including the Chinese "pause" or **dùnhào**.

When transcribing foreign language textbooks for use in Australian/English schools, the guidelines indicate the use of foreign braille code for letters and words whilst maintaining UEB punctuation. However a distinction must be made between foreign languages based on a Roman script (e.g. French or Italian) and foreign languages based on another script (e.g. Chinese or Japanese).

As Chinese is not based on the Roman script, UEB punctuation is not used. Chinese punctuation, as outlined in the Chinese braille code, is used for all Chinese words, sentences and paragraphs. This is to prevent confusion between the marking of, for example, the second Chinese tone, and the UEB comma, which are both represented by dot 2.

Chinese punctuation includes a "pause" mark, called "**dùnhào**" which is quite similar to the comma. It is used to separate items in a list, usually nouns, belonging to the same category. It is common in Pinyin transcription to use a comma to represent the **dùnhào**, however when preparing text for braille transcription, it is important to specifically mark the **dùnhào** differently from the comma, as they are represented by different braille cells in the Chinese braille code.

comma: ⠠ (dot 5)

dùnhào: ⠨ (dot 4)

Example: father, mother, [父亲、 母亲、]
apples, oranges, [苹果、 橙子、]

5. Punctuation

| | | |
|---------------------|-------------------|------|
| , comma | (5) | ⠠ |
| \ pause | (4) | ⠠ |
| ; semicolon | (56) | ⠠ |
| : colon | (36) | ⠠ |
| . period, full stop | (5, 23) | ⠠⠠ |
| ? question mark | (5, 3) | ⠠⠠ |
| ! exclamation | (56, 2) | ⠠⠠ |
| "..." quote | (45...45) | ⠠⠠⠠ |
| '...' single quote | (45, 45...45, 45) | ⠠⠠⠠⠠ |
| (...) parentheses | (56, 3...6, 23) | ⠠⠠⠠⠠ |
| [...] brackets | (56, 23...56, 23) | ⠠⠠⠠⠠ |
| ... ellipsis | (5, 5, 5) | ⠠⠠⠠ |
| - hyphen | (36) | ⠠ |
| — dash | (6, 36) | ⠠⠠ |
| capital | (6) | ⠠ |
| «...» title | (5, 36...36, 2) | ⠠⠠⠠⠠ |
| numeric prefix | (3456) | ⠠ |

Using the Duxbury Braille Translator (DBT)

This information is current for DBT 12.6 using the **English (UEB) – Australian Formatting** template. Earlier versions may also be compatible.

Chinese characters cannot be input or pasted directly into DBT. When a Word document containing Chinese characters is opened into DBT, the characters are automatically converted to Pinyin, including tones. This conversion however sometimes results in different spacing and tones to those shown in a textbook or marked by a Chinese reader. It is therefore recommended that Chinese characters are converted to their Pinyin equivalents BEFORE importing the Word file into DBT. To type an accented letter in Word, type the Unicode (refer to list at the back of this document) then press alt+x.

It is also possible to type Pinyin with tones as accents directly into a DXP file. To type an accented letter in a Duxbury print file, press ctrl+] then enter the Unicode (refer to list at the back of this document). DBT Codes (see below) then need to be added around the Chinese to ensure correct translation into braille when you press ctrl+t.

Remember: Chinese characters in the original print text are transcribed as Chinese braille. Pinyin in the original text is transcribed as uncontracted UEB.

DBT codes

[Inb~cmn][vrn~t3] These two codes together initiate Chinese translation mode with tones.

[Inb] This code returns to UEB.

[g1] This code begins uncontracted UEB. Use this for Pinyin shown in the original print.

[g2] Use this code to return to contracted UEB.

There are no specific DBT codes for the UEB code switching indicators. Where code switching is required, the following direct braille codes can be used.

Note: A word is defined as a string of characters between spaces. A passage is 3 or more words.

- use [q~^()] for the word code switch indicator.
- use [q~"()] for the passage code switch indicator.
- use [q~,")] for the code switch terminator which is positioned at the end of the last Chinese word, following any punctuation. The [Inb] code follows the terminator.

Other Transcription Examples

Two more transcription examples showing the 4 step process.

What time do you get up in the morning?

你早上几点起床?

1. nizaoshangjidianqichuang?
2. ni zaoshang jidian qichuang?
3. ní zǎoshàng jídiǎn qǐchuáng? OR
ni2 zao3shang4 ji2dian3 qi3chuang2?
4. ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠

Wang Li has a big dog and two little birds.

王利有一只大狗和两只小鸟。

wangliyoyizhidagouheliangzhixiaoniao.

1. wangli you yizhi dagou he liangzhi xiaoniao.
2. wánglì yǒu yīzhī dàgǒu hé liǎngzhī xiǎoniǎo. OR
wang2li4 you3 yi1zhi1 da4gou3 he2 liang3zhi1 xiao3niao3.
3. ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠

List of Unicodes

(Type in Unicode then hold alt and press x)

| Name, alias, or category | Symbol | Unicode |
|--|--------|---------|
| a with macron, Latin small letter | ā | 0101 |
| a with acute, Latin small letter | á | 00e1 |
| a with caron, Latin small letter | ǎ | 01ce |
| a with grave, Latin small letter | à | 00e0 |
| o with macron, Latin small letter | ō | 014d |
| o with acute, Latin small letter | ó | 00f3 |
| o with caron, Latin small letter | ǒ | 01d2 |
| o with grave, Latin small letter | ò | 00f2 |
| e with macron, Latin small letter | ē | 0113 |
| e with acute, Latin small letter | é | 00e9 |
| e with caron, Latin small letter | ě | 011b |
| e with grave, Latin small letter | è | 00e8 |
| i with macron, Latin small letter | ī | 012b |
| i with acute, Latin small letter | í | 00ed |
| i with caron, Latin small letter | ǐ | 01d0 |
| i with grave, Latin small letter | ì | 00ec |
| u with macron, Latin small letter | ū | 016b |
| u with acute, Latin small letter | ú | 00fa |
| u with caron, Latin small letter | ů | 01d4 |
| u with grave, Latin small letter | ù | 00f9 |
| u with diaeresis, Latin small letter | ü | 00fc |
| u with diaeresis with macron, Latin small letter | ṻ | 01d6 |
| u with diaeresis with acute, Latin small letter | ú̇ | 01d8 |
| u with diaeresis with caron, Latin small letter | ů̇ | 01da |
| u with diaeresis with grave, Latin small letter | ù̇ | 01dc |

Sources

<http://www.braille.ch/pschin-e.htm>

https://en.wikipedia.org/wiki/Mainland_Chinese_Braille

https://www.researchgate.net/publication/314273280_Chinese-Braille_Translation_Based_on_Braille_Corpus

<https://support.microsoft.com/en-us/office/insert-ascii-or-unicode-latin-based-symbols-and-characters-d13f58d3-7bcb-44a7-a4d5-972ee12e50e0>