ILLUSTRATIONS OF THE IPA

Standard Chinese (Beijing)

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The style of speech illustrated is that typical of the educated younger generation in Beijing. The recording is that of a 25-year-old female graduate student who has lived all her life in Beijing.

**Consonants**

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Post-alveolar</th>
<th>Palatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p pʰ</td>
<td>t tʰ</td>
<td></td>
<td></td>
<td></td>
<td>k kʰ</td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td>ts tsʰ</td>
<td>tʃ tʃʰ</td>
<td>tʃʰ</td>
<td></td>
<td></td>
<td>tɕ tɕʰ</td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td>ɲ</td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f s ŋ</td>
<td>ŋ c x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ɭ j</td>
<td></td>
</tr>
<tr>
<td>Lateral Approximant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ɭ j</td>
<td>l</td>
</tr>
</tbody>
</table>

| p | pə́́ | ‘eight’ |
| pʰ| pʰə́́ | ‘to lie prone’ |
| m | mə́ | ‘mother’ |
| f | fə́ | ‘to send’ |
| t | tə́ | ‘to build’ |
| tʰ| tʰə́ | ‘he/she’ |
| n | nə́ | ‘to include’ |
| s | sə́ | ‘to cast’ |
| ts | tsə́ | ‘to circle’ |
| tsʰ| tsʰə́ | ‘to wipe’ |
| w | wə́ | ‘frog’ |

| f | fə́ | ‘sand’ |
| tʃ | tʃə́ | ‘residue’ |
| tʃʰ| tʃʰə́ | ‘to insert’ |
| c | cə́ | ‘shrimp’ |
| tɕ | tɕə́ | ‘to add’ |
| tɕʰ| tɕʰə́ | ‘to nip off’ |
| j | jə́ | ‘person’ |
| jə́ | ‘duck’ |

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Syllabic consonants

\[
\begin{align*}
\text{ʃ} & \quad \text{ʃ \textquoteleft\textquoteleft to think'}
\end{align*}
\]

\[
\begin{align*}
\text{ʃ} & \quad \text{ʃ \textquoteleft\textquoteleft poem'}
\end{align*}
\]

Vowels

\[
\begin{align*}
i & \quad \text{i \textquoteright\textquoteright clothes'}
i & \quad \text{in\textquoteleft\textquoteleft sound'}
i & \quad \text{y \textquoteright\textquoteright fish'}
i & \quad \text{yn\textquoteleft\textquoteleft dizzy'}
i & \quad \text{a \textquoteright\textquoteright to send'}
i & \quad \text{an\textquoteleft\textquoteleft safe'}
i & \quad \text{ə \textquoteright\textquoteright son'}
i & \quad \text{ən\textquoteleft\textquoteleft favour'}
i & \quad \text{u \textquoteright\textquoteright house'}
i & \quad \text{xuə\textquoteleft\textquoteleft bombing'}
i & \quad \text{y \textquoteright\textquoteright goose'}
\end{align*}
\]

Diphthongs

\[
\begin{align*}
\text{ai} & \quad \text{ai\textquoteleft\textquoteleft sorrow'}
\text{au} & \quad \text{au\textquoteleft\textquoteleft hollow'}
\text{ou} & \quad \text{ou\textquoteleft\textquoteleft Europe'}
\text{uo} & \quad \text{uo\textquoteleft\textquoteleft to speak'}
\text{ei} & \quad \text{xei\textquoteleft\textquoteleft black'}
\text{ye} & \quad \text{ye\textquoteleft\textquoteleft boot'}
\text{ie} & \quad \text{cie\textquoteleft\textquoteleft some'}
\text{ia} & \quad \text{cia\textquoteleft\textquoteleft shrimp'}
\text{ua} & \quad \text{xia\textquoteleft\textquoteleft flower'}
\text{ua} & \quad \text{xuan\textquoteleft\textquoteleft merry'}
\text{iu} & \quad \text{ciu\textquoteleft\textquoteleft chest'}
\end{align*}
\]

Triphthongs

\[
\begin{align*}
\text{iau} & \quad \text{ciau\textquoteleft\textquoteleft to disappear'}
\text{uai} & \quad \text{juai\textquoteleft\textquoteleft to fall down'}
\text{iou} & \quad \text{ciou\textquoteleft\textquoteleft to rest'}
\text{uei} & \quad \text{xuei\textquoteleft\textquoteleft ash'}
\end{align*}
\]

Tones (citation forms)

\[
\begin{align*}
\text{[\textasciitilde]} & \quad \text{\textquoteleft\textquoteleft eight'}
\text{[\textasciitilde\textasciitilde]} & \quad \text{\textquoteleft\textquoteleft to pull out'}
\text{[\textasciitilde\textasciitilde\textasciitilde]} & \quad \text{\textquoteleft\textquoteleft to hold'}
\text{[\textasciitilde\textasciitilde\textasciitilde\textasciitilde]} & \quad \text{\textquoteleft\textquoteleft father'}
\end{align*}
\]

Conventions

Consonants, syllabic consonants, vowels, diphthongs, and triphthongs

Syllable-initial [t, tʰ, n] and syllable-final [n] are apico-laminal denti-alveolar; syllable-initial [s, ts, tʃʰ] are apico-laminal or laminal denti-alveolar; syllable-initial [ʃ, ʃʃ] are apical post-alveolar; syllable-initial [c] is lamino-anterodorsal post-alveolar or pre-palatal; syllable-initial [tʃ, tʃʰ] are apico-anterodorsal or lamino-anterodorsal alveolo-palatal; and
syllable-initial [l] is apical denti-alveolar or apical alveolar. [c, tc, t,c] occur only before [i] or [y]. Voiceless syllable-initial obstruents often become voiced when the following rhyme is associated with the neutral tone. [m] occurs only in syllable-initial position; [n] occurs in both syllable-initial and syllable-final positions; and [ŋ] occurs only in syllable-final position. [w] has a free variant form of [u].

[i] occurs only in isolation or after [s, ts, ts,c], [t, tf, tf,c]. [i] in isolation or when following [f, tf, tf,c] is a syllabic apical post-alveolar approximant; when following [s, ts, ts,c] it is a syllabic apico-laminal or laminal denti-alveolar approximant. Syllabic apico-laminal or laminal denti-alveolar and syllabic apical post-alveolar approximants, often called apical vowels, occur only in open syllables.

Vowels [i, y, a, u] occur in open syllables as well as syllables closed by a nasal; [y] occurs only in open syllables. In open syllables, [i, y, u] are about cardinal, [a] = [a], and [y] is slightly diphthongized from [y] to [a]. In syllables closed by a nasal, [i, y] are about cardinal, [a] = [a], and [u] = [u]. [a] is a plain mid-central schwa in syllables closed by a nasal; in open syllables [a] is rhotacized, i.e. [æ].

Diphthongs [ai, au, ou, ei] occur only in open syllables; [ie, ia, ye, ua] occur in open syllables and syllables closed by a nasal; and [uo, uo] occur only in syllables closed by a nasal.

[i] = [ai], [au] = [au], [ou] = [uo], [oi] = [ei], [ie] = [ie], [ye] = [ye], [ua] = [ua], and [iu] = [iu].

All triphthongs occur only in open syllables. In [iau, iau, iou, iou], [a] = [a], [o] = [o], and [e] = [e].

A rhyme which may be a monophthong, diphthong, triphthong, ‘vowel+nasal’, or ‘diphthong+nasal’ may undergo er-hua. er-hua refers to suffixation of a rhotacized subsyllabic [ə] to a rhyme, or to rhotacization of a vowel or a sequence of two vowels in a rhyme. In the cases where the rhyme ends with [o], [y] or [u], the vowel is rhotacized, i.e. [o], [y] or [u], instead of the rhyme being suffixed with [ə]; and in the cases where the diphthong or triphthong ends with [i] or [e], [i] or [e] is deleted. Thus, [i, y, j, a, u, y] → [iə, yə, jə, aə, ur, y], respectively; [ie, ye, ai, ei, ia, ua, ou, au] → [iə, yə, aə, eə, uə, uə, ou, au], respectively; and [uai, uie, iau] → [uai, uie, iau], respectively. In the cases where the rhyme ends with [n], the nasal ending is deleted. Thus, [in, yn, an, an] → [iə, yə, aə, aə], respectively; and [ien, yen, uan, uan] → [iəə, yəə, uəə, uəə], respectively.

And, in the cases where the rhyme ends with [ŋ], the nasal ending is deleted and the rhyme is nasalized. Thus, [iŋ, eŋ, an, uŋ] → [iŋ, eŋ, an, uŋ], respectively; and [ian, uan, iun] → [iən, eən, an, uŋ], respectively.

Tones
[-i] on monosyllables may realize as [-i] or [-i]+silence[+i]. On compounds, [-i] → [i] before another [-i], and [-i] → [i] before [i, a, v] or the neutral tone; and optionally, [i] → [i] after [i] or [i] and before any tone, and [i] → [i] or [i] before another [v]. On a component syllable of a compound, [-i], [-i], [-i] or [v] may lose its citation form and become the neutral tone. The pitch value for the neutral tone varies, depending mainly on the preceding citation tone. The general rules are: (i) when following [i], (v) when following [v], (i) when following [i], or (i) when following [v].

Transcription of recorded passage

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Transcription of recorded passage

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Notes

1. The palatographic and linguagraphic data collected by the authors of this study from the native speakers of Beijing, male and female, in their early twenties show that there are no retroflex sounds in their speech.

2. [ʃ], an apical post-alveolar approximant, in this study was transcribed as [ʂ], representing a voiced apical pre-palatal fricative in Karlgren (1915–1926) and as [ʂ], representing a retroflex approximant in Chao (1968).

3. [ʃ], [ʃ], [ʃ], apical post-alveolar fricative and affricates, in this study were transcribed as [ʂ, ts, tsʰ], representing apical pre-palatal fricative and affricates in Karlgren (1915–1926) and as [ʂ, ts, tsʰ], representing retroflex fricative and affricates in Chao (1968).

4. [ʃ], a syllabic apico-laminal or laminal denti-alveolar approximant when following [s, ts, tʃ], in this study was transcribed as [ʃ], representing an apical alveolar vowel in Karlgren (1915–1926) and as [ʂ], representing a syllabic voiced dental fricative in Chao (1968).

5. [ʃ], a syllabic apical post-alveolar approximant when following [ʃ, ts, tʃ] or in isolation, in this study was transcribed as [ʃ], representing an apical post-alveolar vowel in Karlgren (1915–1926) and as [ʃ], representing a syllabic retroflex approximant in Chao (1968).

6. The non-IPA symbols, [ʃ] and [ʃ], representing the ‘apical vowels’ in the Peking (Beijing) dialect first appeared in Karlgren (1915–1926) and are widely used by the linguists in China.

References
