1. Forward

Hanyu is a type of language that is based on the Beijing phonetic system and has four distinguishable tones. As a result to date, the tool designed for the pronunciation of this Chinese language whether it is the past National Phonetic Alphabet or the contemporary Hanyu Pinyin, there is always the need to add the tone marks in order to distinguish the four tones. However, to add a symbol for the sake of pronunciation spells inconvenience, because Hanyu Pinyin is essentially composed of Latin alphabet. Unless there is a special facility, no ordinary English computer keyboard can manage to add tone marks together with typing at the same time. Hence, the tone marks can only be chosen from the symbols set in the computer (if any) or added manually after all typing has been completed. It is not only time consuming but also involves a lot of work and many a time, the tone mark is either wrongly added or omitted. If there is a way to write Hanyu Pinyin without the use of tone marks and yet be able to differentiate the four tones, it will save the trouble of having to add tone marks for the correct pronunciation. This new method may also help in making typing more convenient.

In fact, this form of phonetic notation with differentiation in tones has already been included as one of the secondary forms of Chinese Romanized Pronunciation Method pronounced earlier during the 21st year of the Republic of China (A.D. 1932). However, that set of Pinyin method presented a very complicated way of handling the differentiation of the four tones. So, it was unworkable. Here are some examples of the Romanized words with four tones:

<table>
<thead>
<tr>
<th>1st tone</th>
<th>2nd tone</th>
<th>3rd tone</th>
<th>4th tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 抛 (pau)</td>
<td>袍 (paur)</td>
<td>跑 (pao)</td>
<td>炮 (paw)</td>
</tr>
<tr>
<td>(2) 灰 (huei)</td>
<td>回 (hwei)</td>
<td>殴 (hoei)</td>
<td>会 (huey)</td>
</tr>
<tr>
<td>(3) 乎 (hu)</td>
<td>胡 (hwu)</td>
<td>虎 (huu)</td>
<td>户 (huh)</td>
</tr>
<tr>
<td>(4) 宣 (shuan)</td>
<td>玄 (shyuan)</td>
<td>选 (sheuan)</td>
<td>致 (shuan)</td>
</tr>
</tbody>
</table>

In comparison, the contemporary Hanyu Pinyin is rather terse and refined, but using it to type Chinese words in the computer is still a problem as there are a lot of words with the same tones.

Due to this, over twenty years ago, I had a rough concept forming in my mind of using the contemporary Hanyu Pinyin as the basis to study the differentiation of the four tones by using certain letters of the English alphabet. I present my idea as follows:

2. The Treatment of the Four Tones

(1) Clear off the tone marks on the top of any contemporary Hanyu Pinyin to symbolize the 1st tone.
E.g. ma. bo. qi. zhu. zhong and etc.…

(2) For syllables with vowels at the end (except nasal vowels), "h" and "l" are added behind to respectively symbolize the 2nd and 3rd tone.
E.g. 2nd tone: ah. yeh. duoh. shih and etc.…

3rd tone: meil. wol. yaol. tuil and etc.…

(3) For syllables with "a, o, e, ao, ia, ie, ua, uo, üe"and "iao" vowels at the end, "v" is added behind to symbolize the 4th tone.
E.g. shev, baov, xiaov, zuov and etc.

(4) If the terminal of a syllable is the vowel "i", a "y" is added behind as the 4th tone.
E.g. ziy, laiy, meiy, duiy and etc.

(5) If the terminal of a syllable is the vowel "u", a "w" is added behind as the 4th tone.
E.g. wuw, ouw, iuw and etc.

(6) For nasal vowels, an "h" is added in front of "n" to symbolize the 2nd tone.
E.g. qianh, tohng and etc.

(7) For nasal vowels, an "r" is added in front of "n" to symbolize the 3rd tone.
E.g. qianr, kann, zhenn and etc.

(8) For nasal vowels, another "n" is added at the end of "n" to symbolize the 4th tone.
E.g. qian, ne, dongxi, duiy, bu, and etc.

(9) For nasal vowels, "ng" is changed to "nk" to symbolize the 2nd tone.
E.g. zhen, toh, shou, zi, tian, peng

(10) A dot " . " is added before the syllable to represent a neutral tone.
E.g. ma, ne, dongxi, duiy, bu, and etc.

(11) The retroflex ending "r" is handled in the same manner as the contemporary Hanyu Pinyin.
E.g. zhevr, liaoh, chankger and etc.

Note: Items 10 & 11 are only applied in conversational Chinese and no concern of typing Chinese words in the computer.

The abovementioned rules are not really complicated. To help you get a clear understanding of them, a simple table summarising the four tones is shown as follows:

<table>
<thead>
<tr>
<th>Tone Mark</th>
<th>Pinyin Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>ma, shou, zi, tian, peng</td>
</tr>
<tr>
<td>(2)</td>
<td>mah, shouz, zhi, tian, pehng</td>
</tr>
<tr>
<td>(3)</td>
<td>mal, shou, zhi, tian, peng</td>
</tr>
<tr>
<td>(4)</td>
<td>maw, shouw, zhi, tian, pehuk</td>
</tr>
</tbody>
</table>

3. The Advantages of Typing by Using the Above Pinyin

3.1 Using an English Computer Keyboard for Typing Chinese Words

As the abovementioned Pinyin system is comprised of lettered tone marks, no sign marks are to be placed on the top of Hanyu Pinyin. When you write them out, you do it just as if you are writing English words. Even when you spell each Pinyin verbally, it is also not necessary to tell what the tone is. As the letters of h, l, and v are mainly used to symbolize the tone marks, I simply call this new Pinyin System the "HLV Pinyin System". (Interestingly, the letters "HLV" may also stand for High Logic Vision). At present it can be used as an audio-visual method of typing Chinese words in the computer just like Hanyu Pinyin, but with greater accuracy.

Suppose you type the Hanyu Pinyin "ma". You will have 17 Chinese words to choose as follows:

ma: 妈,抹,蚂,摩,吗,麻,蟆,马,杩,杩,杩,杩,杩,杩,杩,杩,杩,杩,杩

If you type an HLV Pinyin, you will have fewer words to choose.

ma (妈,抹,蚂,摩) — 4 words
mah (吗,麻,蟆) — 3 words
mal (杩,杩,杩,杩,杩) — 6 words
mav (杩,杩,杩,杩) — 4 words

As HLV Pinyin inherently contains a tone, this greatly reduces the choices by as much as 75%!

If HLV Pinyin is typed as a group of words, it is mostly accurate enough to directly convert into the Chinese phrases. See the following examples:

<table>
<thead>
<tr>
<th>Pinyin</th>
<th>Simplified Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yizhih</td>
<td>一直</td>
</tr>
<tr>
<td>Yizhij</td>
<td>一致,医治</td>
</tr>
<tr>
<td>Yilzhih</td>
<td>移植</td>
</tr>
<tr>
<td>Yizhil</td>
<td>地址</td>
</tr>
<tr>
<td>Yizhijy</td>
<td>遵志</td>
</tr>
<tr>
<td>Yizhii</td>
<td>以致,以至</td>
</tr>
<tr>
<td>Yizhiji</td>
<td>意旨,抑止</td>
</tr>
<tr>
<td>Yizhiji</td>
<td>意志,抑制</td>
</tr>
</tbody>
</table>

In comparison, if Hanyu Pinyin is used to key in "yizhi", it will present all the above Chinese phrases for choice.

3.2 Using HLV Pinyin in Conversational Chinese Teaching

The HLV Pinyin System can be treated as Latinized words instead of using Chinese words in teaching conversational Chinese. This is a bold attempt.

(1) To compile teaching material for teaching foreigners, the target group of learners are English-educated people inclusive of westerners who want to learn to speak Putonghua (Conversational Chinese) only in a short period of time.
(2) Directly as an internet communicative language and
handphone messaging without having to convert into Chi-
inese words.

From the following conversation, you can appreciate
its clarity of vision:

| Nil haol .ma? | How are you? | (你好吗?) |
| Wol hern haol. Nil .ne? | I am fine. And you? | (我很好，你呢?) |
| Wol yel hern haol. | I'm fine too. | (我也很好) |
| Xiev.xiev. | Thank you. | (谢谢) |
| Buw kev.qiy. | Don't mention it. | (不客气) |
| Nil mahng.ma? | Are you busy? | (你忙吗?) |
| Wol buw mahng. | I'm not busy. | (我不忙) |

In general, those who know Hanyu Pinyin would re-
quire only 20 to 30 minutes to master the tones of the
HLV Pinyin System.

Following the first success of Pinyin with English let-
tered tone marks, further research should be continued.
Up to this point, it has not been developed to represent
each Chinese word by each Pinyin, but I am sure it has
great potential to be developed into Latinized Chinese. If
we develop the system further, it is quite possible to make
Latinized Chinese become realistic. Conceptually, it re-
quires a special code, called "radical", to be added to each
HLV Pinyin. Thus, it enables the following features:

3.3 Characteristics of HLV Pinyin

When you type a Pinyin with the special code, it will di-
rectly convert to a Chinese word. And there will be almost
no words with the same tones for choice.

I present an example for illustration:

(1) "ta" is the 1st tone in Hanyu Pinyin for the ten Chinese
words (他，她，它，祂，铊，踏，塌，遢，溻，溻) with same
tones.

(2) "ta" is also the 1st tone in HLV Pinyin like Hanyu Pin-
yin. The radical codes for the first three words (他，她，它)
are specially designed to be placed at the front of "ta" for con-
venience, that is, rta (他) (r to represent 人), nta (女)
(n to represent 女), gta (它) (g to represent 宀).

(3) As for the rest of the other words shown above, radical
codes are designed to be placed at the end of the Pinyin
"ta", such as tsp (祂) (sp to represent 佘旁), jsp (铊) (jp
to represent 金旁), tsp (踏) (zp to represent 足旁) and
etc….

(4) As for the different tones of Chinese words, if a word
itself is a radical such as: 车，革，火，斤，口，力，米，
木，牛，日，月，手，页，舟， and etc…, you only
type the HLV Pinyin with the right tone, it will convert to
a Chinese word that you want. For examples: che 车，geh
革，huol 火，koul 口，liy 力，muw 木，riy 日，zuh 足.

As a matter of fact, it is an educational input method
for it will ensure your accuracy of Chinese pronunciation
and also strengthen your knowledge on Chinese words via
familiarising with correct radicals. As to the "radicals",
students who study in school have already learned them
for the purpose of looking up new words in the dictionary
for their meaning and pronunciation.

As an effective and audio-visual Chinese input method,
it is certainly the equal if not the superior of any make at
present on the market. In this sense, it is really a great
revolution in the domain of Chinese input method.

In future, if this theoretical System is accepted to be
developed further by the Government of China, it can be
taken as real Latinized words placed side by side of the
Chinese words in the textbooks. But the major premise is
that it must be done through education in schools. I esti-
mate that after 1 to 2 decades, when this form of Pinyin is
fully developed and widely accepted by the general pub-
lic, users can type Chinese words fluently without needing
to stop and choose every time. It will be as simple as just
like typing English words. By that time, we would view
Chinese characters and Pinyin as complementary of each
other, just like father and son.

4. Conclusion

The application of the aforesaid Pinyin with lettered
tone marks will help more foreigners to learn Putonghua
(Conversational Chinese) without first learning Chinese
characters. This will be a big stride forward towards mak-
ning Putonghua becoming widely accepted by the interna-
tional community. At the same time, it will make typing
Chinese text on an English keyboard become so easy and
straight-forward!

Singapore
Prof. Tham Wai Houng
July 2018