

PHONOLOGY OF STANDARD CHINESE AND IGBO: IMPLICATIONS FOR IGBO STUDENTS LEARNING CHINESE

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Abstract

With the recent introduction of Chinese studies in the Department of African and Asian Studies of the Nnamdi Azikiwe University, Awka, during the 2006/2007 academic session, Igbo speaking students of the department take some courses in the Chinese language. The students are expected to learn basic Chinese, including how to express themselves using the language. Most of these students experience a lot of language learning problems, one of which is mother tongue interference bordering on pronunciation as a result of the differences between Chinese and Igbo phonology. The problem could make it difficult for the students to achieve success in learning the language and their chances of graduating with good grades would be slim. In order to help this category of students, this paper discusses, for a start, the consonant and tonal systems of both languages and their implications for the Igbo learners of Chinese.

1.0 Introduction

The variety of Chinese discussed in this paper is the standard variety. The standard variety of Chinese is Mandarin Chinese, popularly called ‘Putonghua’ literally meaning ‘common speech’. It was in 1955 that the Chinese government officially established Mandarin Chinese, based on the northern dialect, as the standard spoken form of modern Chinese, based on the northern dialect, as the standard spoken form of modern Chinese. About 900 million people that constitute almost three quarters of Chinese speakers speak Mandarin. It is mostly based on the pronunciation of Chinese speakers of Beijing (Katzner, 2002; Wikipedia, 2007).

The Chinese language belongs to a separate branch of the Sino-Tibetan language family. It is a contour tone language. It has many dialect groups. They include Mandarin, Wu, Min, Cantonese, Hsiang, Hakka. Each of these could be said to comprise many varieties. In their spoken form almost of the so-called dialects are mutually unintelligible. We have earlier said that Mandarin is the most widely spoken of all the other dialect

groups. It is, in fact, “a large and very diverse group of Chinese dialects spoken across northern and southwestern China”. (Wikipedia, 2007:1).

Chinese is written with many characters numbering from between 5,000 to 50,000. These distinctive characters are called ideographs. To draw a character, one may need as few as 2 strokes or as many as 33 strokes. It is interesting to note that despite their complexity, the Chinese characters do have the advantage of making written communication possible between people speaking mutually unintelligible dialects and languages. A given word may be quite different in Mandarin and Cantonese, but it would be written identically in the two dialects. Since the Chinese characters are also used in Japanese, each language, when written is partially understandable to a speaker of the other, despite the fact that the two languages are totally unrelated (Katzner, 2002:206).

Although several attempts have been made to simplify the Chinese characters and possibly devise a Chinese alphabet based on the Roman script, none of them seems to have yielded the expected result; maybe, because of the afore-mentioned advantage of the use of the Chinese characters and possibly devise a Chinese alphabet based on the Roman script, none of them seems to have yielded the expected result; maybe, because of the afore-mentioned advantage of the use of Chinese characters. Schmidt (2004:35), however, points out:

In order to provide phonetic notation for Chinese characters and to facilitate the consultation of dictionaries, phonologists drafted the ‘Scheme for the Chinese Phonetic Alphabet’, and in 1958 the Chinese government passed an act to promote the application of this scheme, commonly known as the pinyin (arranged sounds) system. Pinyin adopts the Latin alphabet... [and] is now widely used for the study of Chinese language, and has aided the popularization of standard Chinese (Putonghua).

More people than the people that speak any other language in the world speak the Chinese language, one of the official languages of the United Nations. This is to say that Chinese has more than any other language, including English. In fact, it is said to have more than twice the number of people that speak English; only that it lacks the universality which English has as it is spoken by only a few people that are not of Chinese origin (Katzner, 2002).

In this paper, we shall restrict ourselves, for want of space, to the treatment of the consonant and tonal systems of Igbo and Chinese and their implications for Igbo speakers learning Chinese.

2.1 A brief review of Igbo consonants

Igbo belongs to Kwa group of the Niger-Congo language family. It has many dialects, most of which are mutually intelligible. Standard Igbo has a total of twenty-eighty consonants. They are:

/p b t d k g kp gb kw gw m n ɲ ɳ f v s z ʃ ʎ fi tʃ dʒ l r j w/

We can conveniently specify the description of the production of the consonants in terms of the state of the glottis, the place of articulation and manner of articulation by placing them in a consonant chart. Remember that where segments appear in pair within a box, the segment to the left is voiceless while that to the right is voiced. Where only one segment is in a box, its position indicates its phonation status.

Place → Manner ↓	Bilabial	Labia-dental	Alveolar	Post-alveolar	Palatal	Velar	Labial velar	Labialized velar	Glottal
Plosive	p b		t d			k g	kp gb	kw gw	
Nasal	m		n		ɲ	ŋ		ɳw	
Fricative		f v	s z	ʃ		ʎ			fi
Affricate				tʃ dʒ					
Lateral			l						
Trill			r						
Approximant					j				

There are, therefore ten plosives, five nasals, seven fricatives, two affricates, one lateral, one trill and two approximants in the standard Igbo consonant inventory. Most of these consonants could be found occurring word initially and word medially, but never word finally; except for the syllabic bilabial nasal /m/ which could also occur word finally. Moreover, consonant clusters are not permitted in Igbo. However, any of the syllabic nasal /m n ɳ/ could be followed by a homorganic consonant (Eme, 2007).

Instances where the consonants appear in Igbo words are shown below:

p /p/	pio ‘crawl under’, puo ‘go out’, àpà ‘scar’
b /b/	be ‘home’, bàa ‘enter’, àbùbà ‘fat’, èbù ‘wasp’
t /t/	taà ‘today’, tOo ‘praise’, aturu ‘sheep’, itè ‘pot’
d /d/	dèe ‘write’, kèdù ‘how’, aka ‘hand’, nkù ‘pomade’
k /k/	kèe ‘share’, kèdù ‘how’, aka ‘hand’, nkù ‘wing’
g /g/	gì ‘you’, gàa ‘go’, oḡu ‘hoe’, agù ‘tiger’, nga ‘prison’
kp /kp/	kpu ‘mould’, kpo ‘call’, àkpà ‘bag’, akpu ‘cassava’
gb /gb/	gbu ‘kill’, igbe ‘bou’, àgbà ‘jaw’, mgba ‘wrestling’
kw /kw/	kwe ‘agree’, kwu ‘say’, àkwa ‘egg’, ukwu ‘leg’
gw /gw/	gwa ‘tell’, gwe ‘grind’, igwu ‘lice’, igwè ‘iron’
m /m/	mbèm ‘chant’, m ‘I’, mbà ‘no’, mmanu ‘oil’, ùrìòm ‘chick’
n /n/	nne ‘mother’, nnà ‘father’, anu ‘meat’, nku ‘firewood’
ny /nyw/	nwa ‘child’, nwe ‘have’, anwu ‘sun’, onwa ‘moon’
f /f/	fè ‘worship’, fùo ‘get lost’, mfè ‘easy’, ifò ‘folktale’
v /v/	avì, Ùmùàvùlà, ivo ‘names of towns/people’
s /s/	sìe ‘cook’, sEe ‘draw’, isi ‘head’, ìse ‘five’, asusu ‘language’
z /z/	zòo ‘hide’, azu ‘fish’, azìza ‘broom’
sh /ʃ/	ìsha ‘crayfish’, ashà ‘weaver bird’
gh /ɣ/	ghe ‘fry’, agha ‘war’, aghu ‘alligator’
h /fi/	ha ‘they’, hu ‘see’, ahà ‘name’, àhu ‘body’
ch /tʃ/	chi ‘god’, cho ‘seek’, uchè ‘mind’, nchà ‘soap’
j /dʒ/	ji ‘yam’, ju ‘refuse (v)’, ijiji ‘housefly’, àjuju ‘question’
l /l/	lòo ‘swallow’, li ‘bury’, àlà ‘land’, ulò ‘house’
r /r/	riè ‘eat’, rèe ‘sell’, ire ‘tongue’, àgburu ‘tribe’
y /j/	ya ‘him/her/it’, oyo ‘rattle’, myo ‘sieve’
w /w/	were ‘take’, iwe ‘anger’, iwu ‘law’

2.2 Igbo tonal system

The Igbo language is a register tone language. It has three level tonemes. They are high tone, low tone, low tone and downstepped tone (sometimes called step tone). The tones could be marked on all the tone bearing units (TBUs) as follows:

Tone	Orthographic	Phonetic/Phonetic
High	´ (acute accent)	´ (acute accent)
Low	` (grave accent)	` (grave accent)
Downstep	ˉ (macron)	↓´ (down-pointing arrow plus acute accent)

Examples of Igbo words bearing the tones are shown below:

HH	isi	/isi/	‘head’
HL	isi	/isì/	‘smell’
LL	ìsì	/isì/	‘blindness’
HS	isi	/i↓si/	‘to cook’
HH	eke	/eke/	‘python’
HL	ekè	/ekè/	‘gizzard’
LH	èke	/èke/	‘a market day’
HH	echi	/etʃi/	‘tomorrow’
HH	ele	/ele/	‘antelope’
HS	ego	/e↓go/	‘money’
HS	ọ̀nụ	/o↓nʊ/	‘mouth’
LH	ise	/ise/	‘five’
LH	òke	/òke/	‘rat’
LL	ènyò	/ènjò/	‘mirror’
LL	àlà	/àlà/	‘land’

The high and low tonemes are not restricted in their environments of occurrence in words. This is unlike the downstepped toneme, which is constrained from occurring in certain environments. For example, it does not begin a sentence, or a word that comes in isolation; it does not immediately follow a low tone. This is to say that its environments of occurrence are after a high tone or after another downstepped tone.

3.1 A review of Chinese consonants

The consonants of Chinese comprise six plosives, two nasals, five fricatives, six affricates, one lateral approximant and one approximant. These sum up to twenty-one consonants. Using the symbols of the International Phonetic Association (Revised to 2005), we have the consonants as follows:

/p p^h t t^h k k^h m n f s ɕ ʂ
 h
 ts^h tɕ tɕ^h tʂ tʂ^h l ʎ/

Let us place the segments in a consonant chart.

Place →	Bilabial	Labia-dental	Alveolar	Post-alveolar	Palatal	Velar	Glottal
Manner ↓							
Plosive:							
Plain aspirated	p p ^h		t t ^h			k k ^h	
Nasal	m		n				
Fricative		f	s	ɕ	ʂ		h
Affricate:							
Plain aspirated			ts ts ^h	tɕ tɕ ^h	tʂ tʂ ^h		
Lateral approximant			l				
Approximant					ʎ		

Each of these consonants is shown below as it appears as it appears orthographically in Chinese words.

b /p/ bā ‘eight’, bù ‘no/not’, bǐ ‘dagger’, bīng ‘ice’, bàba ‘dad’

p /p^h/ péngyou ‘friend’, pingguǒ ‘apple’, pí ‘skin’

d /t/ dāo ‘knife’, dà ‘big’, dīng ‘nail’

t /t^h/ tā ‘he/him/she/her’, tǔ ‘earth’, tāmen ‘they/them’, túshū ‘books’

g /k/ gāo ‘cake’, guǒ ‘fruit’, gēn ‘to follow’, règǒu ‘hotdog’

k /k^h/ kàn ‘to see’, kǒu ‘mouth’, kāfēi ‘coffee’, chūkǒu ‘exit’, rùkǒu ‘entrance’

m /m/ mā ‘mom’, mù ‘wood’, mén ‘door’, mǎ ‘horse’, mài ‘to sell’

n /n/ nán ‘male’, nǐ ‘you’, nǚ ‘female’, nǎlǐ ‘there’, zěnmē ‘how’

f /f/ fā ‘flower’, fǎguó ‘France’, fù ‘father’, fāyīn ‘pronunciation’

s /s/ sā ‘sand’, sān ‘three’, sì ‘four’, sìshí ‘forty’

x /ɕ/ xié ‘shoes’, xìnfēng ‘envelope’, xìnzhi ‘writing paper’

sh /ʂ/ shēnti ‘body’, shā ‘fork’, shī ‘arrow’, shēng ‘to be born’

- h /h/ huìhuà ‘conversation’, hē ‘to drink’, hé ‘and’
 z /ts/ zaji ‘acrobatics’, zuànshí ‘diamond’, shànzi ‘fan’
 c /ts^h/ cí ‘words’, cèsuǒ ‘rest room’, cāntīng ‘dining hall’
 j /tɕ/ jiāo ‘to teach’, jīnglǐ ‘manager’, Beijing ‘Beijing’
 q /tɕ^h/ Qīyuè ‘July’, qǐng ‘please’, qībǎi ‘seven hundred’
 zh /tʂ/ zhòng ‘middle’, zhā ‘to hold’, zhè ‘person’, zhùsù ‘hotel’
 ch /tʂ^h/ chádíer ‘saucer’, chūntiān ‘spring’, chūkǒu ‘exit’
 l /l/ lì ‘stregth’, liù ‘six’, liúli ‘fluent’, lǜshī ‘lawyer’
 r /ʃ/ rè ‘hot’ rì ‘sun’, ròu ‘meat’, gongren ‘worker’, èr ‘two’

Observe that the letter b represents /p/, p/p^h/, d /t/, t /t^h/, g /k/, and k /k^h/. The phonemes /m n f s l h/ are orthographically represented by their corresponding letters, but the orthographic representation of /ts^h/ is ‘c’, /ts/ z, /tɕ/ j, /tɕ^h/ q, /tʂ/ zh and /tʂ^h/ ch (Schmidt, 2004).

3.2 Chinese tonal system

Chinese language is a contour tone language. It has four tonemes. They are the high-level, rising, falling-rising and falling tones. These are shown in the following table.

Table 1: Table of Chinese tonal system

Tone	Tone mark	Description	Example
First tone High-level	-	High-level tone	tī ‘kick’, mā ‘mother’
Second tone rising	ˊ	Starting high and rising	tí ‘lift’, má ‘hemp’
Third tone falling-rising	ˇ	falling first, then rising	tǐ ‘body’, mǎ ‘horse’
Fourth tone falling	ˋ	starting high and falling	tì ‘replace’, mà ‘curse/scold’

- The high-level tone (first tone): The pitch is high and level; so it is called high level tone. It is seen in such Chinese words as:
 dōng fāng ‘oriental’ bōtāo ‘great waves’

fēijī ‘plane’ chūntiān ‘spring’

- The rising tone (second tone): The pitch rises from middle level to high; so it is also called the middle-rising tone. For example:

chúnjié ‘pure’ chúoliú ‘fashion’

fúkóng ‘cotton-rose’ értóng ‘children’

- The falling-rising tone (third tone): The pitch falls from middle-low to low and then rises to middle-high; so it is called falling-rising tone. Examples:

biǎoyǎn ‘performance’ fěubǐ ‘chalk’

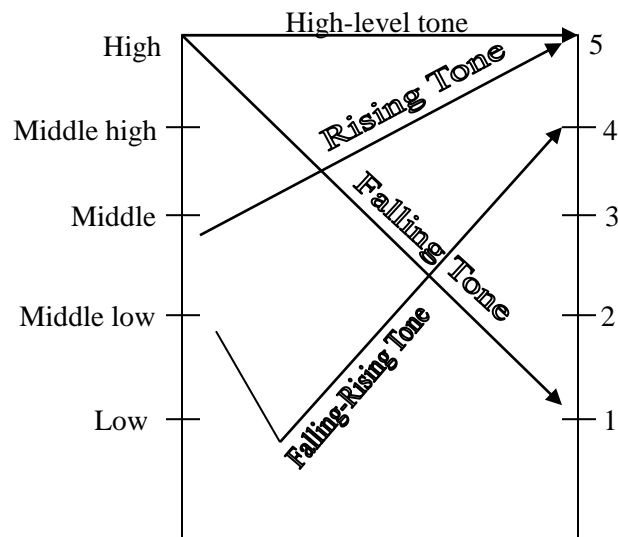
zhǔyǔ ‘subject’ hǎidǎo ‘island’

- The falling tone (fourth tone): The pitch falls from the highest to the lowest; so it is also termed high-falling tone. For example:

bèikè ‘to prepare lessons’ bèisòng ‘to recite’

bìyè ‘to graduate’ fùshì ‘to reexamine’

Table 2: Chinese tonal value diagram (adapted from Schmidt, 2004)



The tone category represents the types of tone. It is established by classifying the characters of the same tone into one category. The production of the characters basically

falls into four categories: high-level tone, middle-rising tone, falling-rising tone and high-falling tone.

4.0 Implications for Igbo speakers learning Chinese

Our study demonstrates the differences between Chinese and Igbo consonant and tonal systems. Chinese has 21 consonants while Igbo has 28. They are reproduced here for easy reference:

Chinese Consonant sounds

/p	p ^h	t	t ^h	k	k ^h	m	n	f	s	ɕ	ʂ
	h										
ts	ts ^h	tɕ	tɕ ^h	tʂ	tʂ ^h	l	ʎ				

Igbo Consonant sounds

/p	b	t	d	k	g	kp	gb	kw	gw	m	n
	ɲ										
ŋ	ŋw	f	v	s	z	ʃ	ɣ	fi	tʃ	dʒ	l
	r										
j	w/										

we observe that there are certain phonemes in Igbo that are lacking in Chinese, and vice versa. For instance, whereas Igbo has, among others, /ɣ dʒ ɲ ŋ ŋw j w kp gb kw gw/ which Chinese lacks, Chinese has aspirated segments /p^h t^h k^h ts^h tɕ^h tʂ^h/ and retroflex segments /ʂ tʂ tʂ^h ʎ/ and retroflex segments /ɕ tɕ tɕ^h ʎ/ which do not occur in Igbo. These Chinese phonemes would definitely constitute pronunciation problem for the Igbo learners of Chinese, as they would negatively transfer the habit they formed for Igbo into Chinese, often by substituting the ‘unfamiliar’ Chinese phonemes with some ‘familiar’ Igbo phonemes that do not correspond with the Chinese sounds. This results in pronunciation errors on the part of the Chinese learners.

For them to get over this problem, they must appreciate the fact that every language is unique. They, therefore, must learn to produce Chinese sounds, as the owners of the language would pronounce them. For instance, in the production of any of the retroflex sounds, they should curl back the tip of the tongue to articulate with that part of the hard palate just behind the alveolar ridge (Gimson, 1980). This must be accompanied

by an appropriate manner of articulation for fricatives or approximants, as the case may be (Anagbogu et al, 2001; Eme, 2005). For example, retroflex fricatives must be articulated in a way that there is a little opening between the articulators to allow airstream move out with friction.

For the retroflex affricates, the airstream is trapped following the complete closure of the vocal tract by the articulators; the articulators are more gradually released when compared with the release of the closure for plosives. For the production of the aspirated segments whose plain variants occur in Igbo. The Chinese learners should produce the segments with more strongly expelled breath between the release of the sound and the onset of a following voiced segment (Laver, 1994; Clark et al, 2007).

The production of such phonemes as /p b t d k m n f s l/ would not be a problem for the learners as these sounds have their correspondences in Igbo. They only have to positively transfer the habit of the production of these sounds into the target language. They, however, must remember not to confuse Chinese letter pronunciation with that of Igbo since most Chinese words, unlike Igbo words, are not pronounced as written. We have, therefore, shown the letters and their corresponding pronunciation in section 3.1. For example: b /p/, d /t/, g /k/, r/l/. We are of the view that Chinese teachers should be attentive enough to perceive, and immediately correct their students' pronunciation errors. Where necessary, they have to explain to their students the articulatory processes involved in the production of the 'unfamiliar' sounds and drill them on those processes. This, we believe, would make it easier for the students to produce the sounds correctly.

On the issue of tones, whereas Igbo is a register tone language with three level tonemes, Chinese is a contour tone language with four tonemes, three of which are glides. In table 2, we see how the pitch of the tonemes glides from one level to the other. This differs from Igbo where the pitch is level for the tonemes. An Igbo learning Chinese must learn the tones and how they glide through, especially, listening to their teachers/Chinese speakers. For instance, for producing a falling tone (fourth tone), the learner must ensure that he starts with a high pitch and glide gradually to low. This means starting high, and falling. For the production of the other tones, we use: high-level pitch for the first tone; starting high pitch and rising for the second tone; falling pitch first, then rising for the

third tone. The Chinese teachers need to emphasize how the Chinese tones glide so that the students would learn the tones without much difficulty.

Note that some diacritics may be dropped while tone marking in Chinese. The dot on the letter ‘i’ is never retained if the letter bears the tone. Moreover, only one vowel is tone-marked in a syllable, for example, biǎo, shǎo, shuō. The vowel that bears the tone mark must be that which is widest in the openness of the mouth during its pronunciation. The openness of the mouth for the vowels from widest opening to smallest opening is as follows: a o e i u ü

Therefore, a syllable that has more than one of these vowels would have its tone mark placed on the vowel during whose production the mouth is widest.

5.0 Conclusion

We have gone this far in solving the stated problem of this paper by, among other things, discussing and comparing the consonant and tonal systems of Chinese and Igbo and finding out their implications for Igbo learners of Chinese. We advocate, for the learners, articulation drill and listening to the Chinese teachers/speakers. These would enable them to improve on their pronunciation and listening skills in Chinese. Chinese teachers, on their part, should teach their students how to correctly produce Chinese sounds and tones, especially those not found in Igbo. Moreover, the teachers should promptly correct any pronunciation error by the students.

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