# A Mandarin Chinese Diction Guide for Choral Conductors and Singers

Hana J. Cai

#### Abstract

Many choral conductors shy away from performing Chinese choral pieces because of the language barrier. Although linguistic resources exist for the pronunciation of Mandarin Chinese, they are generally written from the perspective of a first-language Chinese speaker or a first-language English speaker. The more comprehensive pronunciation guides are for linguistic purposes and not geared for practical use for conductors or singers. This article provides a diction guide using the International Phonetic Alphabet for Mandarin Chinese written by a conductor and singer who grew up speaking both languages.

**E** nglish speaking choirs are undeniably hesitant to sing in Chinese. Mandarin Chinese<sup>1</sup> is considered one of the most difficult languages for native English speakers to learn due to its written characters and the use of verbal tones. However, in singing Chinese choral music we will use neither characters nor tones, and although the *Pinyin* romanization system is not necessarily intuitive the rules for pronunciation of a relatively small set of syllable sounds are consistent.<sup>2</sup>

<sup>1</sup> For the purposes of this document, "Mandarin Chinese" will hereafter be referred to as "Chinese." The term "Chinese" in English generally encompasses all dialects of Chinese including Cantonese. However, because I will only be discussing Mandarin Chinese in this document, I will simply use the term "Chinese." Conductors and vocalists frequently ask, "If Chinese is a tonal language, how do we sing the tones?" Tones in Chinese have no effect on pronouncing words in pitched Chinese choral music. Because most choral and vocal music is notated and pitched, the tones are disregarded. In essence, the notated pitch of a word trumps the tone of the word.

The next question often is, "But if a word is stripped of its tone, how do we know what it



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<sup>&</sup>lt;sup>2</sup> *Pinyin* is the standard system of romanization used for transliterating Mandarin Chinese. It is used in mainland China and uses diacritic markings for the four tones.

means?" First, it is true that each word in Chinese has a specific tone and changing that tone can alter the meaning of the word. The most commonly used example to demonstrate this concept is the word "ma":

Mā (妈) means "mother." Má (麻) means "hemp." Mǎ (马) means "horse." Mà (吗) means "to scold."

Each of the words above is only one syllable and Chinese is often misconstrued as being a monosyllabic language. However, one of the first things a student of Chinese learns is that most words are actually two-syllables. The difference between European syllabic languages and Chinese is that in Chinese, each syllable is also its own word. For example, in the two-syllable word pingguo (苹果), pingguo (苹果) means "apple," but its syllabic parts can be broken down into the words ping (苹), which is a kind of sagebrush, and guo (果), which means fruit. Therefore, even if one is singing a melody with no regard for the tones, or speaking with the incorrect tones, the language can still be understood through context.

In any language every syllable is made up of one or more parts, an initial "beginning sound" and a final "ending sound."<sup>3</sup> In Chinese, syllables will at the least consist of an ending sound and most also have a beginning sound. There are a limited number of combinations of beginning and ending sounds. Table 1 (see page 5) shows all possible combinations of beginning and ending sounds complete with their corresponding International Phonetic Alphabet (IPA) symbols. Note that the words in the first column consist *only* of ending sounds.

<sup>3</sup> Lin Yen-Hwei, *The Sounds of Chinese* (Cambridge: Cambridge University Press, 2007), 107.

The words in the *Pinyin* romanization chart are the only words that appear in Mandarin Chinese. If a word encountered in a Chinese song is not one listed in the chart, either the piece is transliterated and not *Pinyin*, there is an error, or it is written in a dialect.

#### **Using IPA Symbols**

The International Phonetic Alphabet is used in singing for two primary reasons. First, Joan Wall notes that Americans sometimes do not have an awareness for the sounds of English and often confuse letters for sounds in words.<sup>4</sup> She uses the example of asking someone how many vowel sounds exist in English. They are likely to respond with "five," meaning "a," "e," "i," "o," and "u." However, Wall notes that there are actually twenty-two vowel sounds.<sup>5</sup> Each sound in the IPA is designated its own symbol. One symbol stands for one sound so there is no confusion as to how any given symbol is pronounced, unlike a letter in English that may change pronunciation depending on its place in a word or its etymology.

Second, because one symbol stands for one sound, IPA symbols are applicable to any language. There is no need to know how each language pronounces a letter, i.e. whether a "c" is hard or soft, whether a "p" is plosive or not. IPA symbols are universal: [k] will always sound like the letter "k," [p<sup>h</sup>] will always be a plosive "p," and so on.

With an English transliteration, an editor or composer equates every sound of another language to one with English, therefore the language will inherently sound less authentic than using *Pinyin* or IPA. One of the benefits of

<sup>&</sup>lt;sup>4</sup> Joan Wall, International Phonetic Alphabet for Singers: A manual for English and foreign language diction, (Dallas: Pst...Inc., 1989), 2.

<sup>&</sup>lt;sup>5</sup> Wall, International Phonetic Alphabet for Singers, 2.

### *Table 1*: Pinyin *beginnings and endings chart with IPA*.

													Beginn	ings									
			b [b]	p [p <sup>h</sup> ]	m [m]	f [f]	d [d]	t [tʰ]	n [n]	1 [1]	g [g]	k [k <sup>h</sup> ]	h [x]	j [te]	q [te <sup>h</sup> ]	x [6]	z [dz]	c [ts <sup>h</sup> ]	s [s]	zh [dʒ]	ch [ts <sup>h</sup> ]	sh [s]	r [1]
	i (retroflex)		[*]	LF J	[]	[-]	[]			L-J	101	[ ]		[**]	[.~ ]	[~]	zi	ci	si	zhi	chi	shi	ri
	[1]	а	ha	na	ma	fa	da	ta	na	la	σa	ka	ha				[dzɪ]	[tsʰɟ]	[81]	[dʒɪ] zha	[tşʰɪ] cha	[§] sha	[.IJ.]
	[a]	[a]	[ba]	[p <sup>h</sup> a]	[ma]	[fa]	[da]	[t <sup>h</sup> a]	[na]	[la]	[ga]	[k <sup>h</sup> a]	[xa]				[dza]	[ts <sup>h</sup> a]	[sa]	[dʒa]	[tşʰa]	[şa]	
	ai [a:1]	ai [a:1]	bai [ba:1]	pai [p <sup>h</sup> a:1]	mai [ma:1]		dai [da:1]	tai [tʰaːɪ]	nai [na:1]	lai [la:1]	gai [ga:1]	kai [kʰaːɪ]	hai [xa:1]				zai [dza:1]	cai [ts <sup>h</sup> a:1]	sai [sa:1]	zhai [dʒa:1]	chai [tʂʰaːɪ]	shai [şa:1]	
	an	an	ban [ban]	pan [phan]	man	fan [fan]	dan [dan]	tan [than]	nan	lan [lan]	gan	kan [khan]	han				zan	can [tehan]	san	zhan	chan [tehan]	shan	ran
	ang	ang	bang	pang	mang	fang	dang	tang	nang	lang	gang	kang	hang				zang	cang	sang	zhang	chang	shang	rang
	[aŋ]	[aŋ]	[baŋ] bao	[p <sup>h</sup> aŋ]	[maŋ]	[faŋ]	[daŋ] dao	[t <sup>h</sup> aŋ]	[naŋ]	[laŋ] lao	[gaŋ]	[kʰaŋ] kao	[xaŋ] hao				[dzaŋ]	[ts <sup>h</sup> aŋ]	[saŋ] sao	[dʒaŋ] zhao	[tşʰaŋ] chao	[şaŋ] shao	[.taŋ]
	[a:v]	[a:v]	[ba:v	] [pʰɑːʊ	] [ma:v]	]	[da:v]	[t <sup>h</sup> a:v]	[na:v]	[la:v]	[ga:v]	[kha:v]	[xa:v]				[dza:v]	[tsha:v]	[sa:v]	[dʒɑːʊ]	[tşʰaːʊ]	[şa:v]	[.ta:v]
	e [٢:ə]	e [٢:ə]			me [mv:ə]		de [dr:ə]	te [t <sup>h</sup> x:ə]	ne [ny:ə]	le [ly:ə]	ge [gy:ə]	ke [kʰɤ:ə]	he [xy:ə]				ze [dzv:ə]	ce [ts <sup>h</sup> y:ə]	se [sv:ə]	zhe [dʒ٢:ə]	che [tʂʰɤ:ə]	she [ʂɤːə]	re [.[ɣ:ə]
	ei [e:1]	ei [e:1]	bei [be:1]	pei	mei [meːɪ]	fei [fe:1]	dei [de:1]		nei	lei [le:1]	gei		hei				zei [dze:1]			zhei [dze:1]		shei	
	en	en	ben	pen	men	fen	[40.1]		nen	[10.1]	gen	ken	hen				zen	cen	sen	zhen	chen	shen	ren
	[vn] eng	[vn] eng	[byn] beng	[p <sup>h</sup> yn] peng	[myn] meng	[fyn] feng	deng	teng	[nyn] neng	leng	[gyn] geng	[kʰɤn] keng	[xyn] heng				[dzyn] zeng	[ts <sup>h</sup> vn] ceng	[syn] seng	[dʒvn] zheng	[tşʰɣn] cheng	[svn] sheng	[.tvn] reng
	[xŋ]	[rŋ]	[brŋ]	[p <sup>h</sup> yŋ]	[mvŋ]	[frŋ]	[drŋ]	[t <sup>h</sup> xŋ]	[nvŋ]	[lvŋ]	[gxŋ]	[k <sup>h</sup> vŋ]	[xxŋ]				[dzvŋ]	[ts <sup>h</sup> vŋ]	[sxŋ]	[dʒʌŋ]	[tşʰɤŋ]	[ຣູຊາງ]	[.[xŋ]
	er [ar]	er [ar]																					
	i fil	yi [i]	bi [bi]	pi [p <sup>h</sup> i]	mi [mi]		di [di]	ti [tʰi]	ni [ni]	li [li]				ji [tci]	qi [tcʰi]	xi [ci]							
	ia	ya					dia			lia				jia	qia	xia							
	[ja] ian	[ja] van	bian	pian	mian		[dja] dian	tian	nian	[Ija] lian				[teja] jian	[tc <sup>n</sup> ja] gian	[cja] xian							
	[jɛn]	[jɛn]	[bjɛn]	[pʰjɛn]	[mjɛn]		[djɛn]	[tʰjɛn]	[njɛn]	[ljɛn]				[tejɛn]	[tcʰjɛn]	[¢jɛn]							
	[jaŋ]	jang							[njaŋ]	liang [ljaŋ]				jiang [tejaŋ]	[tc <sup>h</sup> jaŋ]	[cjan]							
dings	iao	yao	biao	piao	miao		diao	tiao	niao	liao				jiao	qiao	xiao							
En	[jɑ:ʊ]	[ja:v]	[bja:c bie	pie	j [mja:u mie	9] 	[dja:v] die	[tʰjɑːʊ] tie	[nja:v]	[lja:v] lie				[tɕjɑ:ʊ] iie	[tɕʰjɑːʊ]	[cja:v] vie							
	[jε]	je [jɛ]	[bjɛ]	[p <sup>h</sup> jε]	[mjɛ]		[djɛ]	[t <sup>h</sup> jε]	[njɛ]	[ljɛ]				[teje]	[tc <sup>h</sup> jε]	[cjɛ]							
	in [in]	yin [in]	bin [bin]	pin [pʰin]	min [min]				nin [nin]	lin [lin]				jin [t¢in]	qin [tcʰin]	xin [cin]							
	ing [in]	ying [in]	bing [bin]	ping [n <sup>h</sup> in]	ming [min]		ding [din]	ting [thin]	ning [nin]	ling [lin]				jing [tein]	qing [te <sup>h</sup> in]	xing [cin]							
	iong	yong	[01]	[19 - 7]	[		[41.]]	[[ 1]]	[]]	[,]]				jiong	qiong	xiong							
	[joŋ] iou	[Joŋ] you			miu		diu		niu	liu				[tejoŋ] jiu	[te <sup>n</sup> joŋ] giu	[ɛjoŋ] xiu							
	[jou]	[jou]	ha		[mjou]	f.,	[djou]		[njou]	[ljou]				[tejou]	[te <sup>h</sup> jou]	[¢jou]							
	0 [ɔ]	0 [ɔ]	[bwə]	po [p <sup>h</sup> wɔ]	[mwɔ]	[fwɔ]																	
	ong [oŋ]						dong [doŋ]	tong [t <sup>h</sup> oŋ]	nong [noŋ]	long [loŋ]	gong [goŋ]	kong [kʰoŋ]	hong [xoŋ]				zong [dzoŋ]	cong [tshoŋ]	song [soŋ]	zhong [dʒoŋ]	chong [tshoŋ]		rong [10ŋ]
	ou	ou		pou	mou	fou	dou	tou		lou	gou	kou	hou				zou	cou	sou	zhou	chou	shou	rou
	u	wu	bu	pu	mu	fu	du	tu	nu	lu	gu	ku	hu				zu	cu	su	zhu	chu	shu	ru
	[u] 11a	[u] wa	[bu]	[p <sup>h</sup> u]	[mu]	[fu]	[du]	[t <sup>h</sup> u]	[nu]	[lu]	[gu]	[kʰu] kua	[xu] hua				[dzu]	[ts <sup>h</sup> u]	[su]	[dʒu] zhua	[tşʰu]	[şu] shua	[.Įu]
	[wa]	[wa]									[gwa]	[k <sup>h</sup> wa]	[xwa]							[dʒwa]		[şwa]	
	uai [wa:i]	wai [wa:1]									guai [gwa:1	kuai [[kʰwa:ɪ]	huai [xwa:1]							zhuai [dʒwa:1]	chuai [tş <sup>h</sup> wa:1]	shuai [şwa:1]	
	uan [wan]	wan [wan]					duan [dwan]	tuan [tʰwan]	nuan [nwan]	luan [lwan]	guan	kuan [kʰwan]	huan [xwan]				zuan [dzwan]	cuan [tshwan]	suan [swan]	zhuan [dzwan]	chuan [tshwan]	shuan [swan]	ruan [wan]
	uang	wang					[unun]	[t mail]	[	[1.1, u.1]	guang	kuang	huang				[uz.mar]	[to waii]	[017411]	zhuang	chuang	shuang	[.(,, and
	[waŋ] uei	[waŋ] wei					dui	tui			[gwaŋ gui	[kʰwaŋ] kui	[xwaŋ] hui				zui	cui	sui	[dʒwaŋ] zhui	[tş <sup>h</sup> waŋ] chui	[şwaŋ] shui	rui
	[we:1]	[we:1]					[dwe:1]	[t <sup>h</sup> we:1]		1	[gwe:1	[k <sup>h</sup> we:1]	[xwe:1]				[dzwe:1]	[tshwe:1]	[swe:1]	[dʒwe:1]	[tşhwe:1]	[swe:1]	[.twe:1]
	[wsn]	[wsn]					[dwsn]	[t <sup>h</sup> wsn]		lwrn]	gun [gwvn]	[k <sup>h</sup> wvn]	[xwsn]				[dzwsn]	[tshwvn]	sun [swvn]	[dʒwsn]	[tş <sup>h</sup> wvn]	[şwvn]	[.[wyn]
	ueng [wyŋ]	weng [wyŋ]																					
	uo	W0					duo	tuo	nuo	luo	guo	kuo	huo				zuo	cuo [tehren]	suo	zhuo	chuo	shuo	ruo
	ü	yu					[uwɔ]	[t-wo]	nü	lü	[gwo]	[ĸ-wə]	[xwɔ]	ju	qu	xu	[uzwɔ]	[ts-wo]	[swo]	լսչաշյ	[ເຈົ.ທວ]	[§wɔ]	[-[wɔ]
	[y] üan	[y]							[ny]	[ly]				[tcy] iuan	[tc <sup>h</sup> y]	[cy]							
	[uan]	[yan]												[teqan]	[tchyan]	[cyan]							
	üe [yr]	yue [jyv]							nüe [nyx]	lüe [lyr]				jue [tcqx]	que [tc <sup>h</sup> qx]	xue [cyr]							
	ün [un]	yun [un]												jun [teun]	qun [teʰm]	xun [cun]							

the IPA is that it removes many of the sound equivalencies inherent to the speaker's native language and presents sounds in their universal form. For example, the Chinese word qi, meaning "air," might be transliterated as "chee" by a native English speaker. But with the IPA, one would see that the word qi is actually pronounced [te<sup>h</sup>i] and not the Anglicized "chee" ([tfi] in the IPA, as explained in detail later in this article. The consonants of the two versions of the word are actually slightly different and the IPA denotes that difference.

Although the IPA is one of the solutions to the pronunciation of a language, it still has its shortcomings. The best way to authentically represent Chinese in a choral work is through consultation with a native speaker, but if finding a native speaker is not possible, the IPA will be a significant improvement over any transliteration.<sup>6</sup> Every language uses a subset of IPA symbols and many of those symbols overlap with the IPA subsets of other languages. However, every language also has its own color to those subsets and the color of a language cannot be accurately reproduced through IPA alone. For example, both Chinese and English use the vowel [i] in their IPA subsets. Pronouncing the word "cheese" [tʃiz], the [i] vowel sits in the center of the speaker's mouth and the air is felt vibrating on the high point of the hard palate. But saying the Chinese word *qi*, "air" [tc<sup>h</sup>i], the [i] vowel vibrates closer to the alveolar ridge. This difference in vowel quality is due in part to the slightly different location of the articulators for the beginning consonant and in part due to Chinese closed vowels being generally more focused than those used in American English. In English, the words "cat," "shadow," and "thanks" all use the symbol [x] for their primary vowel sound, but the [x]

<sup>6</sup> If you are interested in learning more about the linguistic

aspects of spoken Chinese, *The Sounds of Chinese* (Cambridge University Press, 2007) by Lin Yen-Hwei or *The Phonology of Standard Chinese* (Oxford University Press, 2007) by San Duanmu are both excellent resources.

vowel for each of those words is pronounced slightly differently. These subtle differences cannot be expressed through IPA symbols alone. As a result, vocalists and conductors whose native language is English will still often compare the IPA of any language to how they pronounce the English IPA subset unless an IPA symbol is unique to another language.

The intent of this paper is not to compare Chinese sounds to English sounds or *vice versa*, because their respective pronunciation is distinctive. The guide that follows assumes that the reader has prior knowledge of the IPA and its application for English diction.<sup>7</sup> Our focus will be the sounds used in Mandarin Chinese, with pronunciation based on the Beijing dialect, which is considered "Standard Chinese."

Currently, there are only a few reputable sources on Chinese diction for singers. For sung Chinese there are many quick guides, particularly in published Chinese works that use Pinyin such as those by Reed Criddle, John Witzenberg, and Chen Yi. Another brief diction guide may be found in The Use of the International Phonetic Alphabet in the Choral Rehearsal, by Ball State University professor of voice Mei Zhong.8 The intent of these shorter guides is to provide a workable IPA or pronunciation system that will produce immediate results. The primary available resource for spoken Chinese diction is The Sounds of Chinese by linguist Yen-Hwei Lin published by Cambridge University Press.<sup>9</sup> In the diction portion of the book, Lin describes in great detail the articulatory processes and phonology of spoken Chinese.

 $<sup>^{7}</sup>$  For an introduction to the IPA and the articulators, please

consult Wall's International Phonetic Alphabet for Singers, or John Moriarty's Diction Italian, Latin, French, German (Boston: EC Schirmer Music Co., 1975).

<sup>&</sup>lt;sup>8</sup> Mei Zhong, "Chinese Pronunciation Guide for Western Singers," in *The Use of the International Phonetic Alphabet in the Choral Rehearsal* (Lanham, MD: The Scarecrow Press, 2012), 135–139.

<sup>&</sup>lt;sup>9</sup> Lin Yen-Hwei, *The Sounds of Chinese* (Cambridge: Cambridge University Press, 2007).

There are a number of issues with the existing guides. In the "quick guides" that accompany musical scores, and that of Mei Zhong, the sounds of *Pinyin* are all assigned an English sound equivalent, and sometimes uses an almost identical IPA subset to the one used for English diction. Although Chinese shares some sounds with English, many of the sounds (and therefore the IPA symbols) are different from ones used to represent English sounds. A sound in Chinese that is assigned an English IPA equivalent is going to result in an inauthentic reproduction of Chinese.

Lin's book, The Sounds of Chinese, is approached from a linguistic perspective. Her intent is to describe the physical way the sounds are reproduced and, because her first language is Chinese, the sounds are completely removed from any English sound equivalencies. The result is an IPA subset that is more accurate to the true sounds of Chinese and one that has many differences from the English IPA subset. When applied to singing, however, using Lin's IPA system also has some problems. First, Lin's book is about spoken Chinese which, like English, is slightly different when sung. Second, Lin's consonant IPA subset, although accurate, is perhaps a little too specific for functional usage with English-speaking choirs. For example, Lin uses the symbol [t] (unaspirated [t]) for the beginning letter "d" in *Pinyin*. Mei, Chen, and Witzenberg all use [d] for the same sound. The [t] and [d] sounds are made with the exact same articulator placement, but the [d] is voiced. I would guess that Mei, Chen, and Witzenberg all use [d] in place of unaspirated [t] because in sung Chinese, the [d] is close enough to approximate the sound of the [t] and the [d] matches the appearance of beginning letter "d" on the page. For a conductor to use Lin's [t], they would have to take the time to explain the concept of aspiration, that [t] is not a sound that normally appears at the beginning of words in English, and still be able to differentiate it with [t<sup>h</sup>], a sound that also appears in Chinese.<sup>10</sup> Using [d] is close enough to the authentic sound and knowing how to produce the sound will be innate to an English-speaking choir. Third, the IPA Lin chooses for many of the Chinese vowel sounds will not yield the most accurate result for reproducing Chinese when sung.

#### **IPA for Mandarin Chinese**

Tables 2 and 3 (pages 8–10) compare *Pinyin* sounds with the two published IPA subsets for Chinese diction created by Lin and Mei. Alongside these two subsets is my own subset of suggested IPA symbols that are more efficient in authentically reproducing Chinese with English-speaking vocalists and choirs. Lin's IPA is mostly accurate for spoken Chinese. Some of the consonants have been adjusted for convenience, but will yield essentially the same result, and many of the vowel sounds have been adjusted either because they are better for singing.<sup>11</sup> Each symbol is explained in more detail on the following pages.

#### **IPA: Beginning Sounds**

Many beginning sounds in *Pinyin* are equivalent, or close, to their English counterparts. All beginnings are described in greater detail below. All sounds on this chart are organized according to where the sounds occur in the mouth, starting with the most forward and moving back.

 $<sup>^{10}</sup>$  French and Italian both use [t] at the beginnings of words, however, [t<sup>h</sup>] is never used, thereby removing the issue of having to differentiate the two sounds, only the correct pronunciation of [t].

<sup>&</sup>lt;sup>11</sup> Lin, *The Sounds of Chinese*, 283–292.

Pinyin	Lin's IPA	Mei's IPA	My Suggested IPA
b	[p]	[b]	[b]
р	[p <sup>h</sup> ]	[p]	[p <sup>h</sup> ]
m	[m]	[m]	[m]
f	[f]	[f]	[f]
d	[t]	[d]	[d]
t	[t <sup>h</sup> ]	[ts] (believed to be in error)	[t <sup>h</sup> ]
n	[n]	[n]	[n]
1	[1]	[1]	[1]
g	[k]	[g]	[g]
k	[k <sup>h</sup> ]	[k]	[k <sup>h</sup> ]
h	[x]	[h]	[X]
j	[tɕ]	[dʒ]	[tɕ]
q	[tc <sup>h</sup> ]	[tʃ:]	[tc <sup>h</sup> ]
X	[2]	[ʃ:]	[2]
Z	[ts]	[dz]	[dz]
С	[ts <sup>h</sup> ]	[ts]	[ts <sup>h</sup> ]
S	[s]	[s]	[s]
zh	[tş]	[dʒ:]	[dʒ]
ch	[tşʰ]	[tʃ]	[tʃʰ]
sh	[ş]	[ʃ]	[ş]
r	[1]	[r]	[1]

#### Table 2: A comparative chart of IPA options for Pinyin beginning sounds.

#### **IPA: Ending Sounds**

All Chinese words consist of at least an ending sound. The IPA for ending sounds tend to vary more than beginning sounds, depending on the author. I have chosen the IPA symbols that will produce the most accurate representation of the end sound, as well as the most optimal vowel for singing. The sounds on this chart are organized alphabetically (with the exception of the retroflex "i"). Note that some ending sounds appear differently depending on what beginning, if any, precedes it. Despite the spelling differences, the sounds are the same. These variations are listed parenthetically in the *Pinyin* column in Table 3 (pages 9–10). Each ending sound is described in more detail below.

Pinyin	Lin's IPA	Mei's IPA	My Suggested IPA
i (retroflex)	[J.]	[ih]	[L]
а	[a]	[a]	[a]
ai	[ai]	[ai]	[a:I]
an	[an]	[an]	[an]
ang	[aŋ]	[aŋ]	[aŋ]
ao	[au]	[au]	[a:ʊ]
e	[٢]	[ə]	[૪:ə]
ei	[ei]	[ei]	[e:I]
en	[ən]	[en]	[ <b>Y</b> n]
eng	[əŋ]	[eŋ]	[ <b>xŋ</b> ]
er	[Je]	None listed	[ar]
i	[i]	[i]	[i]
ia (ya)	[ja]	None listed	[ja]
ian (yan)	[jɛn]	[ian]	[jɛn]
iang (yang)	[jaŋ]	[iaŋ] [jaŋ]	[jaŋ]
iao (yao)	[jau]	[iau]	[ja:ʊ]
ie (ye)	[je]	None listed	[jɛ]
in (yin)	[in]	[in]	[in]
ing (ying)	[iŋ]	[iŋ]	[iŋ]
iong (yong)	[juŋ]	[iɔŋ]	[joŋ]
iou (you)	[jou]	[iu] [ju]	[jɔ:ʊ]
0	[ɔ]	[5]	[ɔ] [wɔ]
ong	[uŋ]	[ວŋ]	[oŋ]
ou	[ou]	[əu]	[o:ʊ]
u (wu)	[u]	[u]	[u]
ua (wa)	[wa]	[wa]	[wa]
uai (wai)	[wai]	[wai]	[wa:I]
uan (wan)	[wan]	[wan]	[wan]
uang (wang)	[waŋ]	[uaŋ]	[waŋ]
uei (wei) (ui)	[wei]	[uei]	[we:I]
uen (wen)	[wən]	[uen]	[wyn]

#### *Table 3: A comparative chart of IPA options for* Pinyin *ending sounds.*

ueng (weng)	[wəŋ]	[ueŋ]	[wxŋ]
uo (wo)	[wo]	[wo]	[wɔ]
ü (yu)	[4y]	[y]	[y]
üan (yuan)	[ųyɛn]	[yan]	[ųan]
üe (yue)	[ųe]	[yɛ]	[[[]]
ün (yun)	[ųyn]	[yn]	[ųyn]

#### **BEGINNING SOUNDS**

Following are in-depth descriptions for the pronunciation of each beginning sound in Mandarin Chinese, categorized in four sections:

- 1) Consonants similar to English b, d, f, g, k, l, m, n, p, t
- 2) Velar
  - h
- 3) Dental affricates and fricative c, s, z
- 4) Post-alveolar and alveolo-palatal consonants j, q, x, zh, ch, sh, r

**Consonants similar to English: b, d, f, g, k, l, m, n, p, t** These sounds appear in alphabetical order.

#### Lin's IPA: [p] Mei's IPA: [b]

Lin suggests [p] without aspiration as the IPA for this beginning sound, but because this sound does not appear at the beginning of an English word, English speakers often have difficulty differentiating [p] with [p<sup>h</sup>] (as in the word "pan" [p<sup>h</sup>æn]). For practical purposes, it is easier to think of this sound as the same as [b] as in "band" ([bænd]) in English. The [b] will yield essentially the same result as the unaspirated [p]. Mei Zhong's IPA also suggests [b] as the pronunciation for this letter.

Common tendencies: Because this sound is the same as in English, English speakers should have no problems with pronunciation.

Ь [b] Appears before -a, -ai, -an, -ang, -ao, -ei, -en, -eng, -i, -ian, -iao, -ie, -in, -ing, -o, -u

Possible *Pinyin* words: ba, bai, ban, bang, bao, bei, ben, beng, bi, bian, biao, bie, bin, bing, bo, bu

### Lin's IPA: [t<sup>h</sup>] Mei's IPA: [d]

Lin suggests [t] without aspiration as the IPA for this beginning sound, but because this sound does not appear at the beginning of an English word, English speakers often have difficulty differentiating [t] with [t<sup>h</sup>] (as in the word "tan" [t<sup>h</sup>æn]). For practical purposes, it is easier to think of this sound as the same as [d] as in "den" ([dɛn]) in English. The [d] will yield essentially the same result as the unaspirated [t]. Mei Zhong's IPA also suggests [d] as the pronunciation for this letter.

Common tendencies: Because this sound is the same as in English, English speakers should have no problems with pronunciation.

# d [d]

Appears before -a, -ai, -an, -ang, -ao, -e, -ei, -eng, -i, -ia, -ian, -iao, -ie, -ing, -iu, -ong, -ou, -u, -uan, -ui, -un, -uo Possible *Pinyin* words: da, dai, dan, dang, dao, de, dei, deng, di, dia, dian, diao, die, ding, diu, dong, dou, du, duan, dui, dun, duo

#### Lin's IPA: [f] Mei's IPA: [f]

Pronounced the same as [f] in English.

Common tendencies: Because this sound is the same in English, English-speakers should have no problems with pronunciation.

f [f] Appears before -a, -an, -ang, -ei, -en, -eng, -o, -ou, -u

Possible Pinyin words: fa, fan, fang, fei, fen, feng, fo, fou, fu

### Lin's IPA: [k] Mei's IPA: [g]

Lin suggests [k] without aspiration as the IPA for this beginning sound, but because this sound does not appear at the beginning of an English word, English speakers often have difficulty differentiating [k] with [k<sup>h</sup>] (as in the word "can" [k<sup>h</sup>æn]). For practical purposes, it is easier to think of this sound as the same as [g] as in "give" ([gɪv]) in English. The [g] will yield essentially the same result as the unaspirated [k]. Mei Zhong's IPA also suggests [g] as the pronunciation for this letter.

Common tendencies: Because this sound is the same in English, English-speakers should have no problems with pronunciation.



Appears before -a, -ai, -an, -ang, -ao, -e, -ei, -en, -eng, -ong, -ou, -u, -ua, -uai, -uan, -uang, -ui, -un, -uo Possible *Pinyin* words: ga, gai, gan, gang, gao, ge, gei, gen, geng, gong, gou, gu, gua, guai, guan, guang, gui, gun, guo

#### Lin's IPA: [k<sup>h</sup>] Mei's IPA: [k]

Pronounced the same as the beginning hard "k" sound in English, as in the word "can" ([k<sup>h</sup>an]).

Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.



Appears before -a, -ai, -an, -ang, -ao, -e, -en, -eng, -ong, -ou, -u, -ua, -uai, -uan, -uang, -ui, -un, -uo Possible *Pinyin* words: ka, kai, kan, kang, kao, ke, ken, keng, kong, kou, ku, kua, kuai, kuan, kuang, kui, kun, kuo

### Lin's IPA: [1] Mei's IPA: [1]

Pronounced more like the sung English [l] than the dentalized Italian [l].

Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.

1 [1] Appears before -a, -ai, -an, -ang, -ao, -e, -ei, -eng, -i, -ia, -ian, -iao, -ie, -in, -ing, -iu, -ong, -ou, -u, -uan, -un, -uo, ü, üe

Possible *Pinyin* words: la, lai, lan, lang, lao, le, lei, leng, li, lia, lian, liao, lie, lin, ling, liu, long, lou, lu, luan, lun, luo, lü, lue

Lin's IPA: [m] Mei's IPA: [m]

Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.

Pronounced the same as [m] in English.

Appears before -a, -ai, -an, -ang, -ao, -e, -ei, -en, -eng, -i, -ian, -iao, -ie, -in, -ing, -iu, -o, -ou, -u

m [m]

Possible *Pinyin* words: ma, mai, man, mang, mao, me, mei, men, meng, mi, mian, miao, mie, min, ming, miu, mo, mou, mu

Lin's IPA: Mei's IPA:	[n] [n]	Common tendencies: Because this sound is the same in English, English speakers should have no
Pronounce	d the same as English [n].	problems with pronunciation.
n [n]	Appears before -a, -ai, -an, -ang, -ao, -e, -ong, -u, -uan, -uo, ü, üe Possible <i>Pinyin</i> words: na, nai, nan, nang nin, ning, niu, nong, nu, nuan, nuo, nü,	-ei, -en, -eng, -i, -ian, -iao, -ie, -in, -ing, -iu, g, nao, ne, nei, nen, neng, ni, nian, niao, nie, nue

### Lin's IPA: [p<sup>h</sup>] Mei's IPA: [p]

Pronounced the same as "p" as in "pan" ([p<sup>h</sup>æn]), "p" as it appears at the beginning of anEnglish word. Common tendencies: Because this sound is the same as in English, English speakers should have no problems with pronunciation.

р [р<sup>հ</sup>] Appears before -a, -ai, -an, -ang, -ao, -ei, -en, -eng, -i, -ian, -iao, -ie, -in, -ing, -o, -ou, u

Possible *Pinyin* words: pa, pai, pan, pang, pao, pei, pen, peng, pi, pian, piao, pie, pin, ping, po, pou, pu

#### Lin's IPA: [t<sup>h</sup>] Mei's IPA: [t]

t

[t<sup>h</sup>]

Pronounced the same as "t" as in "tan" ([ $t^h$ æn]), "t" as it appears at the beginning of an English word. Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.

Appears before -a, -ai, -an, -ang, -ao, -e, -eng, -i, -ian, -iao, -ie, -ing, -ong, -ou, -u, -uan, -ui, -un, -uo

Possible *Pinyin* words: ta, tai, tan, tang, tao, te, teng, ti, tian, tiao, tie, ting, tong, tou, tu, tuan, tui, tun, tuo

Lin's IPA: [x] Mei's IPA: [h]

The IPA symbol [x] is the same for the German ach-laut and the Hebrew "chet" (n). The Mandarin Chinese version is pronounced similarly to the German ach-laut, but the Mandarin [x] is significantly less guttural and more akin to a heavily pronounced [h] in the back of the throat. Common tendencies: Native English speakers will either leave out the fricative aspect of this sound in favor of an English [h] (as suggested in Mei's IPA) or will over-compensate by pronouncing the fricative too far back.



Appears before -a, -ai, -an, -ang, -ao, -e, -ei, -en, -eng, -ong, -ou, -u, -ua, -uai, -uan, -uang, -ui, -un, -uo

Possible *Pinyin* words: ha, hai, han, hang, hao, he, hei, hen, heng, hong, hou, hu, hua, huai, huan, huang, hui, hun, huo

**Dental affricates and fricative: c, s, z** These sounds appear in alphabetical order.

The "c," "s," and "z" beginning sounds in *Pinyin* are articulated with the teeth and the tip of the tongue, as in the English [s] sound. Only the [s] sound appears at the beginning of words in English, but it might help native English speakers to note the following instruction from Lin:

It is important to note that the upper and lower teeth are very close to each other when these consonants are pronounced, so the tip of the tongue may also end up in the middle of the front teeth between the upper and lower teeth.<sup>12</sup>

Descriptions begin on next page.

<sup>&</sup>lt;sup>12</sup> Lin, *The Sounds of Chinese*, 44.

### Lin's IPA: [ts<sup>h</sup>] Mei's IPA: [ts]

This sound appears in English but never at the beginning of the word. It is pronounced the same as the end sound in the word "cats" [k<sup>h</sup>æts] or the beginning "z" sound in German, as in the word "Zeit" ([ts<sup>h</sup>ait]).

Common tendencies: Native English speakers who have not sung in or studied German will often reduce the [ts<sup>h</sup>] to either [t<sup>h</sup>] or [s]. In this case, it helps to have them pronounce the word "pizza" [p<sup>h</sup>itsa] and then isolate the second half of the word ([ts<sup>h</sup>a]) until they can properly produce the sound in isolation.



Appears before -i, -a, -ai, -an, -ang, -ao, -e, -en, -eng, -ong, -ou, -u, -uan, -ui, -un, -uo

Possible *Pinyin* words: ci, ca, cai, can, cang, cao, ce, cen, ceng, cong, cou, cu, cuan, cui, cun, cuo

Lin's IPA: [s] Mei's IPA: [s]

Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.

Pronounced the same as English [s].

s [s] Appears before -i, -a, -ai, -an, -ang, -ao, -e, -en, -eng, -ong, -ou, -u, -uan, -ui, -un, -uo

Possible *Pinyin* words: si, sa, sai, san, sang, sao, se, sen, seng, song, sou, su, suan, sui, sun, suo

#### Lin's IPA: [ts] Mei's IPA: [dz]

With Lin's IPA, it is often too difficult for English speakers to differentiate the [ts] from the [ts<sup>h</sup>]. Although the "z" is technically unvoiced, using [dz] with an English-speaking choir will generally produce the correct sound. The [dz] is

pronounced as a combination of [d] and [z], as in the end of the word "beds" [bɛdz].

Common tendencies: Native English speakers will tend to eliminate the [d] sound of the [dz] and over pronounce the [z], in part because of the "z" of the Pinyin. It is important to break down the sound into its component parts, both [d] and [z], to ensure proper pronunciation.

z [dz] Appears before -i, -a, -ai, -an, -ang, -ao, -e, -ei, -en, -eng, -ong, -ou, -u, -uan, -ui, -un, -uo

Possible *Pinyin* words: zi, za, zai, zan, zang, zao, ze, zei, zen, zeng, zong, zou, zu, zuan, zui, zun, zuo

#### Post-alveolar and alveolo-palatal consonants: j, q, x, zh, ch, sh, r

The overly simplistic explanation of the spelled beginnings "zh" and "j," "ch" and "q," and "sh" and "x" is that they are equivalent to the English sounds [dʒ] (as in "justice"), [tʃ] (as in "China"), and [ʃ] (as in "shore"), respectively. However, "zh," "ch," and "sh" occur in a slightly different place in the mouth than "j," "q," and "x." Correct mouth placement for each of these sounds will also help ensure that the vowel is colored properly when singing in Mandarin. The correct pronunciation of the "j," "q," and "x" consonants will enable the vowels to be more closed and have a more focused sound which will sound more authentically Chinese. The following in-depth descriptions of the sounds are arranged in similar-sound pairs.

Lin describes the "zh," "ch," and "sh" sounds as "post-alveolars," noting that the primary difference between post-alveolar affricates and fricatives is that the blade of the tongue is used instead of the tip.<sup>13</sup> One can practice these sounds by holding the tongue position of English sound [ʃ], raising the tip of the tongue to post-alveolar position, and then flattening the tip of the tongue. The result should be more forceful air expelled from the mouth and a higher pitched fricative sound.

Lin suggests that in practicing alveolo-palatal "j," "q," and "x" sounds, one should practice the English [ʃ] in combination with the [i] vowel (as in the word "she" [ʃi]) and intentionally spread the lips.<sup>14</sup> Doing so will force the articulators into the approximately correct position. This process can also be repeated for [dʒ] and [tʃ]. In my experience, this lip-spreading will not always be necessary to produce the correct sound (and when followed by the [y] vowel, one will need to round the lips), but it will help an English-speaker feel where the articulators should be when producing the sounds and properly brighten and focus the [i] vowel.

<sup>&</sup>lt;sup>13</sup> Lin, *The Sounds of Chinese*, 46.

<sup>&</sup>lt;sup>14</sup> Lin, *The Sounds of Chinese*, 47.

### Lin's IPA: [tɕ] Mei's IPA: [dʒ]

Similar to an English [dʒ] (like "j" as in "joint"). However, I chose to use Lin's [tc] because the placement of the English [dʒ] and [tc] are different: [dʒ] occurs towards the center of the mouth and [tc] occurs behind the front teeth. The tip of the tongue is behind the bottom row of teeth while the top of the tongue creates the plosive against the alveolar ridge.

Common tendencies: Native English speakers will tend to articulate this sound too far back in the mouth, like an English [dʒ]. When pronounced correctly, the [tc] will feel like an extremely forward version of [dʒ].



Appears before -i, -ia, -ian, -iang, -iao, -ie, -in, -ing, -iong, -iu, -u, -uan, -ue, -un

Possible Pinyin words: ji, jia, jian, jiang, jiao, jie, jin, jing, jiong, jiu, ju, juan, jue, jun

Lin's IPA: [tş] Mei's IPA: [dʒ:] will produce an accurate result if the end sound is also pronounced correctly.

Essentially the same as [dʒ] as in "justice" ([dʒʌstɪs]). The "zh" sound is technically unvoiced, but using the [dʒ] with an English speaking choir

Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.

zh [dʒ] Appears before -i, -a, -ai, -an, -ang, -ao, -e, -ei, -en, -eng, -ong, -ou, -u, -ua, -uai, -uan, -uang, -ui, -un, -uo

Possible *Pinyin* words: zhi, zha, zhai, zhan, zhang, zhao, zhe, zhei, zhen, zheng, zhong, zhou, zhu, zhua, zhuai, zhuan, zhuang, zhui, zhun, zhuo

#### Lin's IPA: [tc<sup>h</sup>] Mei's IPA: [tʃ:]

Similar to but should not be substituted with an English [tf] like "ch" as in "China." (See the description of "ch" below.) The primary difference between the two sounds is that [tf] occurs towards the center of the mouth, and  $[tc^h]$  occurs behind the front teeth. The tip of the tongue is behind the bottom row of teeth while the top of the tongue creates the plosive against the alveolar ridge. This placement is the exact same as the [tc] above but without the aspiration.

Common tendencies: Native English speakers will tend to articulate this sound too far back in the mouth, like an English [tf]. When pronounced correctly, the  $[tc^h]$  will feel like an extremely forward version of [tf].



Appears before -i, -ia, -ian, -iang, -iao, -ie, -in, -ing, -iong, -iu, -u, -uan, -ue, -un

Possible *Pinyin* words: qi, qia, qian, qiang, qiao, qie, qin, qing, qiong, qiu, qu, quan, que, qun

Lin's IPA: [tsʰ] Mei's IPA: [tʃ] enough result using an IPA with which Englishspeaking singers are familiar.

Essentially the same as  $[t \int^h]$  as in "China" ([tfainə]). The Chinese "ch" is slightly more forward and focused, but  $[tf^h]$  will get a close

Common tendencies: Because this sound is the same in English, English speakers should have no problems with pronunciation.

ch [t∫ʰ] Appears before -i, -a, -ai, -an, -ang, -ao, -e, -en, -eng, -ong, -ou, -u, -uai, -uan, -uang, -ui, -un, -uo Possible *Pinyin* words: chi, cha, chai, chan, chang, chao, che, chen, cheng, chong, chou,

chu, chuai, chuan, chuang, chui, chun, chuo

#### Lin's IPA: [ɕ] Mei's IPA: [ʃ:]

Similar to but should not be substituted with an English  $[\int]$  like "sh" as in "shine." (An English  $[\int]$  is not used in Chinese.) The primary difference between the two sounds is that [c] occurs towards the center of the mouth, and  $[\int]$  occurs behind the front teeth. The tip of the tongue is behind the

bottom row of teeth while the top of the tongue creates the fricative against the alveolar ridge.

Common tendencies: Native English speakers will tend to articulate this sound too far back in the mouth, like an English [ʃ]. When pronounced correctly, the [c] will feel like an extremely forward version of [ʃ]

x [ɕ] Appears before -i, -ia, -ian, -iang, -iao, -ie, -in, -ing, -iong, -iu, -u, -uan, -ue, -un

Possible Pinyin words: xi, xia, xian, xiang, xiao, xie, xin, xing, xiong, xiu, xu, xuan, xue, xun

Lin's IPA: [ş] Mei's IPA: [∫]

elongated fricative of the [s] will be slightly higher pitched than the English [f].

Similar to but should not be substituted with an English  $[\int]$  like "sh" as in "shine," but while the fricative of the English  $[\int]$  tends to occur on the molars, the Chinese [s] will occur behind the front teeth. When pronounced correctly, the air of the

Common tendencies: Native English speakers will tend to turn the Chinese [ $\mathfrak{s}$ ] into the English [ $\int$ ], which will affect the pronunciation of the subsequent vowel sound.

**sh**Appears before -i, -a, -ai, -an, -ang, -ao, -e, -ei, -en, -eng, -ou, -u, -ua, -uai, -uan, -uang,<br/>-ui, -un, -uo**[ş]**Possible *Pinyin* words: shi, sha, shai, shan, shang, shao, she, shei, shen, sheng, shou, shu,<br/>shua, shuai, shuan, shuang, shui, shun, shuo

*Lin also classifies the* [.*t*] *as a post-alveolar consonant.* 

Lin's IPA: [J] Mei's IPA: [r]

This is the most difficult consonant sound for Native English speakers to pronounce. Some Chinese choirs also have trouble singing this sound! The most successful way of teaching this sound that I have found is by telling the choir to form a burred [r] with the tongue while simultaneously pronouncing a [3] (as in the word "garage" [garaʒ]). The resulting sound is quite different from an [r] and the distinction should be made even when sung. The "r" in Chinese should not be sung as a rolled or flipped [r].

Common tendencies: In my experience, because of the sound's unfamiliarity, native English speakers are unable to hear what the [4] sound is at all and therefore cannot begin to reproduce it correctly. Generally, they will tend to cling to the Pinyin, and pronounce an American burred or rolled [r] instead. It helps to demonstrate the sound first, followed by describing the above process for creating the [4].

Appears before -i, -an, -ang, -ao, -e, -en, -eng, -ong, -ou, -u, -uan, -ui, -un, -uo

Possible Pinyin words: ri, ran, rang, rao, re, ren, reng, rong, rou, ru, ruan, rui, run, ruo

#### **END SOUNDS**

r

[1]

Problems that native English speakers commonly encounter when producing Chinese endings are:

- Not producing an accurate vowel color for the vowels by either equating them with an English vowel or by creating a caricature of what they believe Chinese sounds like.
- 2) Struggling with moving quickly through the glides and diphthongs of certain endings.

The colors of the vowels are described in detail below. When a choir sings in Chinese having only heard the sounds compared to English they will sound more English or American than Chinese. Most Chinese vowels for singing are actually more similar to those used in Italian, German, or French than those used in English. The understanding of the color of Chinese vowels as distinct from English will greatly assist teaching with this diction guide.

All consonants and glides ([j], [w], and [ų]) in sung Chinese should be moved through as quickly as possible. In the case of a diphthongs -ai, -ao, -ei, iao, iou, -ou, and -uei/-ui/-wei, the ending [i] and [u] sounds have been altered to their counterparts [I] and [u] in accordance with Madeleine Marshall and Joan Wall's rules of English diction. Although this subtle change in the vanishing vowel of a diphthong subscribes to the ideals of Western singing, there are practical applications to using these altered vowels. Marshall notes that using [i] and [u] at the ends of diphthongs distorts the words too much, giving the effect of "singing through a mouth full of food."<sup>15</sup> Wall argues that closing to [i] and [u] at the ends of diphthongs require too much movement in the jaw.<sup>16</sup> Kathryn LaBouff, professor of voice at the Manhattan School of Music, states that using [I] and [v] as the secondary vowels in diphthongs, "facilitate[s] less movement of the lips and jaws when singing."<sup>17</sup> The vanishing vowel sound is sung only at the last possible moment. These adjustments will also be useful for the clarity and efficiency of singing Chinese diction as well.

In the guide that follows, the ending sounds are organized according to the dominant vowel when singing, meaning the vowel that should be sustained when singing a syllable. Further explanation is given for each individual sound, but the primary vowel will be essentially the same for the endings in each section. Note that in the descriptions below, the umlaut is mostly used as a specific sign to help differentiate pronunciations in *Pinyin* and rarely do they show up in the *Pinyin* itself. Take for example, the difference between "nü/nu" and "lü/lu." "Nü" and "lü" in *Pinyin* are pronounced as [ny] and [ly] respectively, while "nu" and "lu" are pronounced as [nu] and [lu]. In the cases of these words, umlauts will appear over the "u" in order to differentiate these two endings. "Yu," "qu," "ju," and "xu" are only pronounced with an [y] ending and never a pure [u], therefore an umlaut is not needed to distinguish these endings.

Descriptions begin on next page.

<sup>&</sup>lt;sup>15</sup> Madeleine Marshall, *The Singer's Manual of English Diction* (New York: G. Schirmer, 1953), 172.

<sup>&</sup>lt;sup>16</sup> Wall, International Phonetic Alphabet for Singers, 111.

<sup>&</sup>lt;sup>17</sup> Kathryn LaBouff, *Singing and Communicating in English: A Singer's Guide to English Diction* (New York: Oxford University Press, 2008), 80.

#### Lin's IPA: [4] Mei's IPA: [ih]

Pronounced like an extremely closed [I] vowel. The tongue should be slightly curved, the edges of the tongue should lightly touch the insides of the molars, and the front of the tongue is flat. The lips will also stay open at the end of the sound. Practice by intoning a closed [I] vowel and slowly shifting the tongue to a burred [r] position.

Lin's representation above of the [1] vowel is the most accurate. It is likely that Mei's [ih] is probably pronounced as [1], but [ih] is not an accurate representation of either [1] or [1]. Regardless, [1] is the most accurate sound for the "i" vowel.

Common tendencies: The [ $\downarrow$ ] vowel is the most difficult for English speakers because there is nothing in English that can quite approximate this sound. English speakers will tend to turn the [ $\downarrow$ ] vowel into an [i] or an [I]. For example, the word chi [ $ts^{h} \downarrow$ ] will become [tfi] or [tfI].

i	Appears after z-, c-, s-, zh-, ch-, sh-, r-
(retroflex)	Possible <i>Pinyin</i> words: zi, ci, si, zhi, chi, shi, ri

#### [a] dominant endings

The following endings are [a] dominant, meaning that the elongated vowel is [a]. The Mandarin [a] is similar to the French or German [a]. It is a brighter vowel than the English [a]. In an attempt to equivocate the Chinese [a] vowel to an English one, native English speakers will often turn it into an [a], as in the word "father" ([faðər]) or an [æ], as in the word "man" ([mæn]).

Lin's IPA: [a] Mei's IPA: [a] Common tendencies: Native English speakers will tend to over darken the [a] vowel.

a [a] Appears after b-, p-, m-, f-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-

Possible Pinyin words: a, ba, pa, ma, fa, da, ta, na, la, ga, ka, ha, za, ca, sa, zha, cha, sha

Lin's IPA: [ja] Mei's IPA: None listed.

One should move through the [j] glide as quickly as possible.

Common tendencies: Native English speakers tend to not move quickly enough through the [j] glide, inadvertently adding an [i] or turning a one-syllable word into two syllables. For example, the word "jia" ([tcja]) in Chinese might become [tcija], a similar problem with "gia-" or "gio-" syllables in Italian.



Appears after d-, l-, j-, q-, x-

Possible Pinyin words: ya, dia, lia, jia, qia, xia

Lin's IPA: [wa] Mei's IPA: [wa] One should move through the [w] glide as quickly as possible.		Common tendencies: Native English speakers tend to not move quickly enough through the [w] glide, inadvertently adding an [u] or turning a one-syllable word into two syllables. For example, the Chinese word "gua" [kwa] might turn into [kuwa]. Native English speakers will also tend to over darken the [a] vowel.		
ua	Appears after g-, k-, h-, zh-, sh-			
WaPossible Pinyin words: wa, gua, kua, hua, zhua, shua		a, zhua, shua		

#### Lin's IPA: [ai] Mei's IPA: [ai]

The [i] vowel comes at the last possible moment of a sung note. This is an imperfect example, but the concept is the same as how one would sing the word "I" ([aɪ]). Common tendencies: Native English speakers will tend to over darken the [a] vowel or to overdo the diphthong, elongating and over exaggerating the [i].

ai [a:1] Appears after b-, p-, m-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-

Possible *Pinyin* words: ai, bai, pai, mai, dai, tai, nai, lai, gai, kai, hai, zai, cai, sai, zhai, chai, shai

### Lin's IPA: [wai] Mei's IPA: [wai]

One should move through the [w] glide as quickly as possible.

Common tendencies: Native English speakers will tend to over darken the [a] vowel, elongate the [i] vowel, or to not move quickly enough through the [w] glide, inadvertently adding an [u] vowel.

uai [wa:1] Appears after g-, k-, h-, zh-, ch-, sh-

Possible *Pinyin* words: wai, guai, kuai, huai, zhuai, chuai, shuai

#### Lin's IPA: [an] Mei's IPA: [an]

Common tendencies: Native English speakers will either tend to over darken the vowel, turning [an] into [a], or they will attempt to equivocate it with the English [æ] as in the word "man" ([mæn]).

an [an] Appears after b-, p-, m-, f-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: an, ban, pan, man, fan, dan, tan, nan, lan, gan, kan, han, zan, can, san, zhan, chan, shan, ran

#### Lin's IPA: [wan] Mei's IPA: [wan]

One should move through the [w] glide as quickly as possible.

Common tendencies: Native English speakers will either tend to over darken the vowel, turning [an] into [a], or they will attempt to equivocate it with the English [æ] as in the word "man" ([mæn]).

uan [wan]

Appears after d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: wan, duan, tuan, nuan, luan, guan, kuan, huan, zuan, cuan, suan, zhuan, chuan, shuan, ruan

#### Lin's IPA: [ųyɛn] Mei's IPA: [yan]

In the case of [ $\eta$ an], Lin's [ $\eta$ yɛn] and Mei's [ $\eta$ an] are not quite accurate. The [ $\epsilon$ ] is not a bright enough vowel for singing this particular ending and a singer will hardly spend any time on the [ $\eta$ ] vowel, therefore [ $\eta$ an] will yield the most accurate result.

The Chinese [y] is pronounced the same as the German ü as in the Pinyin words "nü" [ny] or "lü" [ly]. In the case of the ending [uan], one should move as quickly through the [u] as possible, in a

similar manner to the [j] and [w] glides. This is to avoid mispronouncing the [ų] as a [y].

In order to rehearse this sound with a choir, it is best to practice separating the sound into [y] and [an]. Next, turn the [y] into a grace note followed by [an]. Finally, add the beginning sound to the word.

Common tendencies: English speakers will tend to turn the [y] vowel into an [u], over darken the [a] vowel, and add a [w] glide. For example, the word yuan [jyɛn] might become [juwɑn].

üan [yan] Appears after j-, q-, x-

Possible Pinyin words: yuan, juan, quan, xuan

### Lin's IPA: [əɹ] Mei's IPA: None listed.

This ending only appears as is without a beginning sound. The words that use this ending sound (ěr ear, èr two, ér son, etc.) are common words but do not appear very frequently in choral music, although they are often used in children's songs.

This sound is pronounced slightly differently when spoken than sung. Lin's IPA suggests a darker vowel than what should actually be sustained when singing. When singing, er is pronounced almost as if one were saying the letter "r" in American English. The [a] vowel is slightly less bright than a German, French, or Italian bright [a] and is almost always short, moving to the [r] sound more quickly than when singing in English.

Common tendencies: As in English words, English speakers will tend to chew on the final [r] sound too much. The final [r] should sound as late and as fast as possible.

er [ar] Appears after

Possible Pinyin words: er

Mei uses [a] as the primary vowel for the following endings, in addition to the [a] dominant endings of the previous section.<sup>18</sup> Although the Chinese [a] is brighter than it is in German, English, French, or Italian and lives in close proximity to the bright [a], the [a] dominant endings are a slightly different vowel than the brighter [a]. For this reason, I agree with Lin's choice of IPA for these endings.

The Chinese [a] is a darker vowel than the English [a], as in the word "father" ([faðər]). However,

native English speakers will either see the *Pinyin* and incorrectly pronounce the sound as [æŋ] (as in the English word "bang" [bæŋ]) or will over darken the vowel to [ɔ] (as in the English word "tong" [tɔŋ]). For example, the Chinese pianist Lang Lang's name is often incorrectly pronounced by Americans as [læŋ læŋ], but nor is it pronounced "Long Long" ([lɔŋ lɔŋ]). The correct vowel pronunciation lies between those two vowels.

Lin's IPA: [au] Mei's IPA: [au]

Mei's [au] is slightly too bright to represent this ending accurately. The end [u] sound is very quick and does not quite close to a true [u] sound, even at the very end of a sung note. The end [u] is more open, similar to the German [au] of "Bauer" [baue]. Common tendencies: Native English speakers will tend to over exaggerate the [u] of the diphthong, closing the vowel too much or elongating it.

# ao [ɑ:ʊ]

Appears after b-, p-, m-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: ao, bao, pao, mao, dao, tao, nao, lao, gao, kao, hao, zao, cao, sao, zhao, chao, shao, rao

<sup>&</sup>lt;sup>18</sup> Zhong, "Chinese Pronunciation," 136.

Lin's IPA: [jɑ Mei's IPA: [a	uu] uu]	does not quite close to a true [u] sound, even	
A [j] glide dif -ao ending.	ferentiates the -iao ending from the	the very end of a sung note. The end [ʊ] is more open, similar to the German [ɑu].	
One should m as possible. T	hove through the [j] glide as quickly The end [ʊ] sound is very quick and	Common tendencies: Native English speakers will tend to over exaggerate the [u] of the diphthong, closing the vowel too much or elongating it.	
iao yao	Appears after b-, p-, m-, d-, t-, n-, l-, j-, q-	, Х-	
[jā:ʊ] <sup>-</sup>	Possible <i>Pinyin</i> words: yao, biao, piao, mi	ao, diao, tiao, niao, liao, jiao, qiao, xiao	

Lin's IPA: [aŋ] Mei's IPA: [aŋ]

Mei's choice of [aŋ] is slightly too bright for this ending sound. The final [ŋ] should be treated as if it were an ending consonant. Common tendencies: Native English speakers will tend to over darken the vowel towards [ɔŋ].

ang [aŋ] Appears after b-, p-, m-, f-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: ang, bang, pang, mang, fang, dang, tang, nang, lang, gang, kang, hang, zang, cang, sang, zhang, chang, shang, rang

#### Lin's IPA: [wɑŋ] Mei's IPA: [uaŋ]

Mei's choice of [uaŋ] is slightly too bright for this ending. Additionally, the "u" vowel of this ending functions as a [w] glide, not as an actual vowel. A singer should not spend any time on the [u] vowel of this ending. One should move through the [w] glide as quickly as possible. The final [ŋ] should be treated as if it were an ending consonant.

Common tendencies: Native English speakers tend to not move quickly enough through the [w] glide, inadvertently adding an [u] or turning a one-syllable word into two syllables. For example, the word "guang" ([gwaŋ]) in Chinese might become [guaŋ].

# uang wang [waŋ]

Appears after g-, k-, h-, zh- ch-, sh-

Possible Pinyin words: wang, guang, kuang, huang, zhuang, chuang, shuang

Lin's IPA: [jɑŋ] Mei's IPA: [iaŋ], [jaŋ]

All of the possible *Pinyin* words above should be pronounced as one syllable. One should move through the [j] glide as quickly as possible. The final [ŋ] should be treated as if it were an ending consonant.

Common tendencies: Native English speakers tend to not move quickly enough through the [j] glide, inadvertently adding an [i] or turning a one-syllable word into two syllables. For example, the word "niang" ([njaŋ]) in Chinese might become [niyaŋ].

# iang yang [jɑŋ]

Appears after n-, l-, j-, q-, x-

Possible *Pinyin* words: yang, niang, liang, jiang, qiang, xiang

The Chinese [e] is pronounced similarly to the Italian [e]. It is a more open [e] than the German [e]. John Moriarty uses [e<sup>2</sup>] for this sound, describing it as the "equivalent to closed Italian

**e** (relaxed closed **e**) as in **vero**."<sup>19</sup> Native English speakers will tend to not close the Chinese [e] enough, turning it into an  $[\varepsilon]$ .

Lin's IPA: [ei] Mei's IPA: [ei]

This ending is pronounced similarly to the German [e] but slightly more open with a quick [I] vowel at the end.

Common tendencies: Native English speakers will tend to over-exaggerate the diphthong, turning [I] into [i].

ei [e:1] Appears after b-, p-, m-, f-, d-, n-, l-, g-, h-, z-, zh-, sh-

Possible Pinyin words: ei, bei, pei, mei, fei, dei, nei, lei, gei, hei, zei, zhei, shei

#### Lin's IPA: [wei] Mei's IPA: [uei]

The Pinyin for this ending is slightly misleading, as it never appears as "uei" and only appears as "ei" when preceded by "w." This ending most often appears as "-ui," where the "u" functions as a [w] glide and the "i" functions as the diphthong [ei]. Mei's [uei] is misleading, as none of the Pinyin words that use this ending will ever sustain the [u] vowel in singing.

Common tendencies: Native English speakers tend to not move quickly enough through the [w] glide, inadvertently adding an [u] or turning a one-syllable word into two syllables. For example, the word "gui" ([gweɪ]) in Chinese might become [gueɪ]. They will also tend to over-exaggerate the diphthong, turning [I] into [i].

wei	Appears after d-, t-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-
ui (uei)	Possible <i>Pinyin</i> words: wei, dui, tui, gui, kui, hui, zui, cui, sui, zhui, chui, shui, rui
[we:1]	

<sup>&</sup>lt;sup>19</sup> Moriarty, Diction Italian, Latin, French, German, 227. Emphasis added by Moriarty.

Yen-Hwei Lin in *The Sounds of Chinese* uses an [ə] in the IPA of most of these endings, but some Chinese conductors advocate for [r], essentially an "open schwa."<sup>20</sup> The "open schwa" will yield a better result when elongated in singing than an [ə], which can tend to be too dark of a vowel and

#### Lin's IPA: [γ] Mei's IPA: [ə]

This sound is another one of the most difficult endings for English speakers to make. The [r]is not as neutral as the English [a] sound and occurs closer to the back of the mouth. The key to recreating this sound is to practice singing the [i] vowel and then lower the tongue in the back. The teeth, lips, and jaw should not move. The lips should not round. It also helps to practice saying this sound with a [g] or [x] preceding the vowel to feel the correct back placement of the vowel.

There is no equivalent vowel sound in English. Lin's IPA symbol [r] is the closest, but native will not produce upper harmonics and thus will tend to fall under pitch. In English, there are many variations of the [ə] vowel. To recreate the [r], try speaking the English word "open" ([əupən]), isolate the syllable "-pen," and open it *slightly* towards [ $\epsilon$ ].

speakers of American English will need to practice the steps described above in order to fully and accurately recreate the sound.

Common tendencies: American English speakers might try to round the lips, not tense the tongue, or not make the sound far enough back in the mouth, creating a sound that is too neutral, as in the [ə].

Exceptions: The article "韵" often appears as "de" in *Pinyin*. This word is actually pronounced as [də] with a very short vowel rather than  $[dx:a]^{21}$ Sometimes, "韵" also appears as "di" in *Pinyin*, in which case, the word is pronounced [di].

e [ຯ:ə] Appears after m-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r

Possible Pinyin words: e, me, de, te, ne, le, ge, ke, he, ze, ce, se, zhe, che, she, re

 $<sup>^{20}</sup>$  Unfortunately, the presenter's name was not on the handout that he distributed at the presentation at the conference and I am unable to find any record of what the presentation was called.

 $<sup>^{21}</sup>$  This word appears in context in several of the songs in the next section.

#### Lin's IPA: [ye] Mei's IPA: [yɛ]

Mei's  $[\varepsilon]$  is close, however, when singing a word with the "-üe" ending, one will almost never spend time on the [u] vowel. The IPA [ux] best represents both the glide and the sustained vowel of this ending sound.

Because the *Pinyin* ending "-ue" is always pronounced as [ux] (and never as [ux]), the umlaut will never appear over this ending in *Pinyin*. One should move through the [y] glide as quickly as possible.

Common tendencies: English speakers will tend to turn the [ $\eta$ ] glide into an [u] or over exaggerate the final [ $\epsilon$ ] sound. For example, the word "xue" ([ $\epsilon$ yr]) might become [shuw $\epsilon$ ] or [shuwei].

üe yue [ųɣ] Appears after n-, l-, j-, q-, x-

Possible Pinyin words: yue, nue, lue, jue, que, xue

#### Lin's IPA: [ən] Mei's IPA: [en]

Common tendencies: Native English speakers will tend to over darken this ending sound to match the English [ən] as in the word "bun" [bən] or to over-brighten this ending sound as in the name "Ben" [bɛn] (to match the *Pinyin*). It helps to think of the vowel as somewhere in between the [a] and the  $[\epsilon]$ .

en [ɣn] Appears after b-, p-, m-, f-, n-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: en, ben, pen, men, fen, nen, gen, ken, hen, zen, cen, sen, zhen, chen, shen, ren

### Lin's IPA: [wən] Mei's IPA: [uen]

The ending "-uen" is very misleading, as the *Pinyin* ending will never appear in this form. All words that use this ending will either appear as "wen" or "-un" when preceded by another consonant.

When singing this ending, one will never sustain an [u] vowel and the [e] is simply incorrect. One should move through the [w] glide as quickly as possible.

Common tendencies: Native English speakers will tend to over darken this ending sound to match the English [ən] as in the word "bun" [bən] or to over-brighten this ending sound as in the name "Ben" [bɛn] (to match the *Pinyin*). It helps to think of the vowel as somewhere in between the [ə] and the [ $\varepsilon$ ].

uen (wen) [wyn] Appears after d-, t-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: wen, dun, tun, lun, gun, kun, hun, zun, cun, sun, zhun, chun, shun, run

#### Lin's IPA: [əŋ] Mei's IPA: [eŋ]

The [r] vowel is pronounced the same as the previous endings. The  $[\eta]$  is pronounced the same as in English.

Common tendencies: Native English speakers will tend to over darken this ending sound to match the English [ $\Rightarrow$ n] as in the word "bun" [ $b\Rightarrow$ n] (to match the IPA) or to over-brighten this ending sound as in the name "Ben" [ $b\epsilon$ n] (to match the *Pinyin*). The vowel should feel more forward in the mouth than the [ $\Rightarrow$ ]. It helps to think of the vowel as somewhere in between the [ $\Rightarrow$ ] and the [ $\epsilon$ ].

# eng [૪ŋ]

Appears after b-, p-, m-, f-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: eng, beng, peng, meng, feng, deng, teng, neng, leng, geng, keng, heng, zeng, ceng, seng, zheng, cheng, sheng, reng

### Lin's IPA: [wəŋ] Mei's IPA: [ueŋ]

One should move through the [w] glide as quickly as possible.

ueng (weng) [wəŋ] This word only appears in one form: "weng."

Possible Pinyin words: weng

#### [*ɛ*] dominant endings

The [ $\epsilon$ ] in Chinese is akin to the Italian [ $\epsilon$ ] vowel but very slightly more closed. It is not quite as closed as Moriarty's [ $e^2$ ].

Lin's IPA: [je] Mei's IPA: None listed.

One should move through the [j] glide as quickly as possible.

Common tendencies: Native English speakers tend to not move quickly enough through the [j] glide, inadvertently adding an [i] or turning a one-syllable word into two syllables. For example, the Chinese word "bie" ([bjɛ]) might become [bijɛ]. Native English speakers also have a tendency to open up the [ɛ] vowel too much (as in "eh"), giving it the wrong color.

# ie (ye) [jε]

Appears after b-, p-, m-, d-, t-, n-, l-, j-, q-, x-

Possible Pinyin words: ye, bie, pie, mie, die, tie, nie, lie, jie, qie, xie

#### Lin's IPA: [jɛn] Mei's IPA: [ian]

One should move as quickly through the [j] glide as possible. Note that although this ending is spelled "-ian" in Pinyin, the dominant vowel in singing is actually an  $[\epsilon]$  instead of an [a] or [a]as in the other endings with a similar spelling ("ang," "-iang," "-a," etc.). Common tendencies: Native English speakers tend to not move quickly enough through the [j] glide, inadvertently adding an [i] or turning a one-syllable word into two syllables. Native English speakers also have a tendency to open up the [ɛ] vowel too much. For example, the word "nian" ([njɛn]) in Chinese might become either [nijɛn] or [njan].

ian (yan) [jɛn]

Appears after b-, p-, m-, d-, t-, n-, l-, j-, q-, x-

Possible Pinyin words: yan, bian, pian, mian, dian, tian, nian, lian, jian, qian, xian

#### [i] dominant endings

The [i] in Chinese is essentially the same as the [i] in English or Italian but with less rounded lips. In the cases of [i] followed by [n] or [ŋ], many native English speakers will try to read the

*Pinyin* like English and turn the [i] vowel into an [1]. The [i] vowel is always closed. English speakers rarely struggle with these sounds after being reminded to pronounce this as a closed [i].

Lin's IPA:	: [i]
Mei's IPA	.: [i]
i	Appears after b-, p-, m-, d-, t-, n-, l-, j-, q-, x-
[i]	Possible <i>Pinyin</i> words: yi, bi, pi, mi, di, ti, ni, li, ji, qi, xi

Lin's IPA:	[in]
Mei's IPA:	[in]
in (yin) [in]	Appears after b-, p-, m-, n-, l-, j-, q-, x- Possible <i>Pinyin</i> words: yin, bin, pin, min, nin, lin, jin, qin, xin

Lin's IPA:	[iŋ]
Mei's IPA:	[iŋ]
ing (ying) [iŋ]	Appears after b-, p-, m-, d-, t-, n-, l-, j-, q-, x- Possible <i>Pinyin</i> words: ying, bing, ping, ming, ding, ting, ning, ling, jing, qing, xing

#### [ɔ] dominant endings

The endings below are pronounced the same but appear different in *Pinyin*, depending on the consonant that precedes them.

Descriptions begin on next page.

### Lin's IPA: [ɔ] Mei's IPA: [ɔ]

The word *o* in *Pinyin* sounds as an [ɔ], but when a consonant precedes it, there is a very slight [w] glide between but the beginning consonant and the [ɔ] vowel. The end of the vowel is more closed than the [ɔ] in English or Italian. Common tendencies: Native English speakers will tend to close to an [o] instead of ending on the [ɔ]. For example, "bo" ([bwɔ]) might become [buwo].

o [ɔ] [wɔ] Appears after b-, p-, m-, f-

Possible Pinyin words: o, bo, po, mo, fo

Lin's IPA: [wo] Mei's IPA: [wo]

This ending is pronounced the same as the previous ending when preceded by a consonant.

Common tendencies: Native English speakers will tend to close to an [o] instead of ending on the [ɔ]. For example, "shuo" ([swɔ]) might become [ʃuwo].

uo (wo) [wɔ] Appears after d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-

Possible *Pinyin* words: wo, duo, tuo, nuo, luo, guo, kuo, huo, zuo, cuo, suo, zhuo, chuo, shuo

The Chinese [o] vowel is pronounced similarly to the German [o] vowel but slightly more open. Native English speakers will tend to turn the [o] vowel into the vowel found in the English word "coat" [k<sup>h</sup>out]. When said correctly, the lips will be much more rounded when saying the Mandarin [0] than in the English [0].

#### Lin's IPA: [ou] Mei's IPA: [əu]

The  $[\upsilon]$  vowel at the end should be placed at the last possible second of a held note.

Common tendencies: Native English speakers will tend to over exaggerate the [ $\upsilon$ ] of the diphthong, closing the vowel to a [u] or elongating it.

οu [ο:ʊ] Appears after p-, m-, f-, d-, t-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-

Possible *Pinyin* words: ou, pou, mou, fou, dou, tou, lou, gou, kou, hou, zou, cou, sou, zhou, chou, shou, rou

### Lin's IPA: [jou] Mei's IPA: [iu], [ju]

This sound never appears as "-iou" in *Pinyin*. It most often appears as "-iu" or as the word you.

The [j] glide should not become an [i] vowel with this ending. The [u] vowel at the end should be placed at the last possible second of a held note. Common tendencies: Native English speakers will tend to over exaggerate the [ $\upsilon$ ] of the diphthong, closing the vowel to a [u] or elongating it.

iou (you) [jo:ʊ]

Appears after m-, d-, n-, l-, j-, q-, x-

Possible Pinyin words: you, miu, diu, niu, liu, jiu, qiu, xiu

#### Lin's IPA: [uŋ] Mei's IPA: [ɔŋ]

Lin's [u] vowel is too closed and Mei's [ɔ] vowel is too open. The [o] vowel splits the difference between those two and is the most accurate representation of this ending. Common tendencies: Native English speakers when seeing the spelling of these Pinyin words will tend to pronounce them with the [ɔ] vowel sound.

# ong [oŋ]

Appears after d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, r-

Possible *Pinyin* words: dong, tong, nong, long, gong, kong, hong, zong, cong, song, zhong, chong, rong

Lin's IPA: [uŋ] Mei's IPA: [ɔŋ]

Lin's [u] vowel is too closed and Mei's [ɔ] vowel is too open. The [o] vowel splits the difference between those two and is the most accurate representation of this ending.

when seeing the spelling of these *Pinyin* words will tend to pronounce them with the [ɔ] vowel sound. If the [j] glide is not quick, one syllable words tend to become two.

Common tendencies: Native English speakers

One should move through the [j] glide as quickly as possible.



Appears after j-, q-, x-

Possible Pinyin words: yong, jiong, qiong, xiong

This ending is pronounced similarly to the German [u] vowel. Native English speakers will tend to not round the lips enough to produce the Mandarin version of this vowel.

Lin's IPA: [u] Mei's IPA: [u]	
u [u]	Appears after b-, p-, m-, f-, d-, t-, n-, l-, g-, k-, h-, z-, c-, s-, zh-, ch-, sh-, r-
	Possible <i>Pinyin</i> words: wu, bu, pu, mu, fu, du, tu, nu, lu, gu, ku, hu, zu, cu, su, zhu, chu, shu, ru

#### [y] dominant endings

This ending is pronounced similarly to the German [y] (ü) vowel. Native English speakers will tend to not round the lips enough to produce the Mandarin version of this vowel. Additionally, they might tend to turn the [y] vowel into a pure [u] or add a [w] glide and an [i] vowel. For example, the Chinese word "jun" ([tcyn]) might become [dʒun] or [dʒuwin].

Note that when "y-," "j-," "q-," or "x-" precedes "-u" or "-un," the "u" vowel will always be pronounced as [y]. When any other consonant precedes "-u" or "-un," the "u" vowel is pronounced as a pure [u] or an [xn], respectively.

Descriptions begin on next page.

### Lin's IPA: [ųy] Mei's IPA: [y]

I chose to use Mei's IPA because the [u] glide is only present in the case of the word "yu." When preceded by [n], [l], [j], [q], or [x], the "ü" or "u" becomes simply [y].

ü (yu) [y]

Appears after n-, l-, j-, q-, x-

Possible Pinyin words: yu, nü, lü, ju, qu, xu

Lin's IPA: [ųyn] Mei's IPA: [yn]

As above, "yun," "qun," "jun," and "xun" are only pronounced with an [yn] ending and never a pure [u], therefore an umlaut is not needed to distinguish the endings. Pronounced like a German ü ([y]) with a slight [i] before the [n] consonant. At the onset, the lips form an [u] and the tongue is shaped like an [i]. Before the [n], the vowel shifts very slightly to an [i].

ün (yun) [ųyn] Appears after j-, q-, x-

Possible Pinyin words: yun, jun, qun, xun

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