

INTERVOCALIC CONSONANTS IN CHINESE DIALECT WORD ROOTS AND THEIR OLD CHINESE ORIGINS

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ABSTRACT: The present study* observes the intervocalic consonants in Beijing and Northeastern Mandarin disyllabic monomorphemic word roots and suggests their Old Chinese (OC) origins. It has compared (etymologized) 40 Beijing and Northeastern Mandarin disyllabic monomorphemic word roots to Old Chinese word roots. The existence of these 40 etymological units are demonstrated in 5 sets of regular sound correspondences: (1) The correspondence -p- $\Leftrightarrow$ *-p contains 6 word roots. (2) The correspondence -k- $\Leftrightarrow$ *-k contains 6 word roots. (3) The correspondence -t- $\Leftrightarrow$ *-t contains 6 word roots. (4) The correspondence -ts- $\Leftrightarrow$ *-t and certain rhyme groups contain 6 word roots. (5) The correspondence -l- $\Leftrightarrow$ *-t contains 6 word roots. (6) The correspondence -l- $\Leftrightarrow$ *-l contains 10 word roots.

KEYWORDS: etymology; historical linguistics; regular sound correspondence; Sinitic; Old Chinese; Chinese dialects

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Introduction

The intervocalic consonant one can observe is, more precisely, a non-recombined intervocalic consonant that is a consonant in the intervocalic position ($C_1V_1C_2v_2$) within disyllabic monomorphemic word roots. It is not recombined (i.e., resyllabized) by two monosyllabic monomorphemic word roots ($C_1V_1+C_1V_1=C_1V_1C_{1|2}V_{1|2}$). More precisely, it should be termed ‘morphophonological C_2 ’ because it can also be postvocalic when the final unstressed vowel (v_2) is realized as null. The intervocalic consonant can also be found in Germanic etymology: Danish *gade* ‘street’; Swedish *gata* ‘street’; Old Norse *gata* ‘street’; Written and Middle English *gate* ‘gate’; German *Gasse* ‘alley’; Old High German *gazza* ‘lane’; Gothic *gatwō* ‘street’ (but *geat* ‘gate’ in Old English, [gert] ‘gate’ in Spoken and Modern English), and *gas* ‘unpaved street’ in Dutch are postvocalic).

The northernmost Chinese dialects¹ actually also have such non-recombined intervocalic consonants, since they also have disyllabic monomorphemic word roots. Native Chinese people use these disyllabic monomorphemic word roots in the spoken language actively, without knowing their correct history and written forms. In Contemporary Chinese texts, such words are written with two Sinograms that are not necessarily fixed (these words are heretofore orthographically and etymologically uncertain), e.g., the disyllabic monomorphemic word root *gūlu* ‘rotate’ is written as 骨碌 or 咕嚕. The same treatment is used for foreign words and names.

1 The phenomenon of -l- insertion reported (e.g., Wáng 1961; Zhào 1979; Liáng 1982; Pān 1994; Lǐ 2002; Dèng 2007) in the Chinese Jin 晉 and Min 閩 dialects is irrelevant to this issue. This -l- insertion is restricted to the liquid /l/. It is very likely to be explained as an additional morpheme. Xú (1981) suggested that it is the local version of the diminutive noun suffix -er of Mandarin. Sagart (1999: 117–118) suggested that it descends from OC infix *-r-. The intervocalic consonant one can observe may be any plosive in addition to the liquid /l/, similarly to its model in the Germanic languages. It must be a part of the original word root.

The etymological study of such word roots has been a hot topic in China. Since there are more such word roots in Northern China, many Chinese scholars without Chinese historical phonology orientation enjoy comparing them to some minority languages in Northern China, primarily Manchu and Mongolian, and claim that all such words may be part of the heritage from substratum languages (e.g., Ài-xīn-jué-luó 1993; Zhào 1993, 1996; Xǔ & Liú 1996; Huáng 1997; Ōu-yáng 2012). Zhào (1993) published a paper titled ‘A preliminary study on Manchu-Chinese convergence words in Beijing dialect’ where he claimed that there are 33 ‘Manchu-Chinese convergence words.’ For instance, he compared the word root *gūlu* ‘rotate’ to Jurchen “kuli ‘move’”. This line of thought may be termed the non-Sinitic substratum hypothesis. This hypothesis is very tricky, since it implies, even without Manchu or Mongolian comparisons, that such words may descend from some extinct “Altaic” languages in Northern China. This hypothesis has been refuted by specialists of both Chinese (Zhōu & Zhū 1994) and Manchu (Jì 2004) philology in China. Zhōu & Zhū (1994) refuted Zhào’s claim in the same journal and concluded: ‘Speaking of relatively credible Manchu words [i.e., etymologies] in the reviewed paper, we think there are only [the word] *sà-qí-mǎ* 萨其玛 and [the component] *dàng* 档 in [the word] *dàng-àn* 档案’².

Two Chinese scholars specializing in Chinese historical phonology have, independently of each other, studied such word roots and reached the same conclusion that such words have their diachronic origins in Old Chinese³ (OC). Yú (1988) identified just the intervocalic -p- in seven word roots in the Tianjin and Beijing dialects. Gao (2008: 15, 2013, 2014a) identified the full inventory, including the intervocalic -p-, -t-, -ʈ-, -k-, -m(p)- and -l- in the Shenyang and

2 Zhōu & Zhū 1994: 204: 《探微》中比较可信的满语词，我们认为只有“萨其玛”和“档案”的“档”。

3 We acknowledge that Old Chinese is an ambiguous term that covers an immensely long time period. It can be periodized as Early Old Chinese (the language of the Shang Oracle Bone Inscriptions), Middle Old Chinese (the language of the Bronze Inscriptions and the earliest literary texts), and Late Old Chinese (Qin-Han) (Beckwith 2002). The ambiguous term ‘Old Chinese’ is used here, as it is by the direct sources of Old Chinese reconstructions. The emphasis here is merely on the ancient origin in general.

Beijing dialects. We have recently found that Yú (1984 [1999: 20]) also identified the intervocalic -l- in three word roots in the Beijing dialect. This line of discovery may be termed the Sinitic diachronic hypothesis.

The Sinitic diachronic hypothesis has not been published outside Mainland China. In fact, this finding is very significant in Sinitic etymology and Chinese historical phonology. Along with the intervocalic consonants, it is also the first identification of the apocope (or epenthesis) of a morpheme-final unstressed vowel in Sinitic.

The prior papers Yú (1984) and Yú (1988) are not thematic and contain too few word roots on this issue. However, the author Yú Mǐn 俞敏 (1916–1995) was a prominent Chinese linguist. This issue was not systematized. The prior paper by Gao (2013) is too short; it is rather a preliminary demonstration of correspondence tables. The prior paper by Gao (2014a) is too long; it is rather a rushed collection of materials and etymologizing attempts. The present study researches the intervocalic consonants in Chinese dialect word roots, and discusses their OC origins. Its aim is to contribute an accurate study on this issue.

Materials and methods

The present paper is a comparative and etymological study on Sinitic language varieties. It compares (i.e., etymologizes) certain Beijing and Northeast Mandarin word roots to OC word roots.

Beijing and Northeast Mandarin (represented by the Beijing and Shenyang dialects) contain many disyllabic monomorphemic words. Such words are called Vulgar vernacular word roots (土話) (henceforth denoted as ‘Vulgar Mandarin’), in contrast to monosyllabic Common vernacular word roots (白讀). Common literary word roots (文讀) are identical to monosyllabic Standard Mandarin word roots.

Vulgar Mandarin words are taken from previous Chinese studies (Yú 1984 [1999: 20]; 1988; Gao 2008: 15; 2013; 2014a. See these for example phrases). In general, these words can be found in databases of Chinese folk literature, including online databases. Some of them have entered Standard Mandarin and

can thus be found in standard dictionaries. Their English glosses are made in the present study.

OC words with original glosses are taken from the Chinese classical dictionaries *Shuowen* (denoted as ^{121-SW}) and/or *Yupian* (denoted as ^{543-YP}). The *Yupian* gloss is omitted when the *Shuowen* gloss is already certain and clear. Their English glosses are made in the present study according to the original glosses. Philologically attested OC rhymes, a.k.a. rhyme groups (denoted in tables as “r.g.”), are given according to Zhōu (1966), Wáng (1980), Chén & Hé (1987) and Guō (1986, 2010) (in case of inconsistency, see the category up to Wáng 1980, and the Sinogram allocation up to Zhōu 1966).

Three OC reconstructions are listed: 1) OC-BS according to Baxter & Sagart (2014); 2) OC-Z according to Zhèng-zhāng (2003 [2013]); 3) OC-W according to Wáng (1980, modifications up to Wáng 1985). For a better comparison, their signs for aspiration are unified with the sign /^h/; their signs for the long vowel are unified with the sign /:/. Pulleyblank’s partial OC reconstruction (1977–1978) is also considered (OC-Pulleyblank). In fact, OC is considered in calculable rhymes. Therefore, no single OC reconstruction is followed in full. Each OC reconstruction may have its strong aspect.

Etymological equivalents (compared words) are given in orthographies or transcriptions. Equivalents in Western (e.g., Roman and Cyrillic) alphabets are given in boldface if they are found in the official languages covered by ISO 639-1. Equivalents in Roman alphabets (including Hanyu Pinyin) are given in italics. IPA-based transcriptions are not given in italics. If a given equivalent word is longer than one morpheme, the targeted morpheme is underlined (if certain). In successive data, dialectal and authorial variants are separated by a forward slash (/) and grammatical variants are separated by a backslash (\), while lexical variants are separated by a comma (,).

Ancient and fully etymological Sinitic etyma are put in brackets 【】 and labeled as ㊦ in tables. A 【㊦】 is a spoken root written with its fixed Sinogram. Ordinary Chinese terms are put in brackets 〔〕 or written without brackets. A 〔字〕 is a spoken root written with a Sinogram that is not necessarily fixed. The sign ‡ indicates that its target is archaic and outdated. The sign ° indicates that its target is a dependent (bound) morpheme (only denoted for Contemporary Mandarin).

The comparative methods follow current conventions (cf. Hill 2014, Jacques 2015). The etymological methods follow traditional etymology (cf. Vossius 1662, Lemon 1783, Rask 1818; Gao 2008) and renewed etymology (cf. Gao 2012–3, 2014b, 2014c, 2017, 2018, 2019a, 2019b, 2020a, 2020b, 2021a, 2021b; Gao and Sômeone 2020).

Results

Comparative results of the intervocalic consonant position (C1V1C2v2)

1) $C_2 = /p/$

The plosive /p/ in the intervocalic position in Vulgar Mandarin corresponds to the coda *-p in OC (Table 1).

	OC-BS	OC-Z	OC-W	Vulgar Mandarin	Common Mandarin	Prior @Vulgar Mandarin
【插】 r.g.葉	*mā-[tsʰ]op	*sʰre:b	*tʰeap	<i>chāba</i> 插巴	<i>chā/chā</i>	Gao (2014a: 30: #17)
	121-SW:刺肉也('stick in meat')			'stick in, insert'	'stick in, insert'	
【攝】 r.g.葉	*kə.ŋep	*ne:b	*niap	<i>niēba</i> 捏巴	<i>niē</i> 捏	Gao (2014a: 30: #23)
	121-SW:引持也('draw and hold with fingers')			'pinch'	'pinch'	
【壓】 r.g.葉	*ʔrep	*qre:b	*eap	<i>yāba</i> 壓巴	<i>yā</i>	Gao (2014a: 31: #29)
	121-SW:懷也('crush')			'press, crush'	'press, crush'	
【眨】 r.g.葉	*mā-[ts]ʰr[a]p	*spro:b	*tʰeap	<i>zhāba</i> 眨巴	<i>zhā</i>	Yú (1988: 153: #4); Gao (2013: 50; 2014a: 30: #12)
	121-SW:動目也('eye act, blink')			'blink'	'blink'	
【沓】 r.g.緝	*m-rʰəp	*du:b	*dəp	<i>dēbo</i> 啞破	<i>tà</i>	Yú (1988: 153: #7); Gao (2014a: 30: #21)
	121-SW:語多沓沓也('wordy')			'be wordy'	'wordy'	
【拉】 r.g.緝	*[r]ʰəp	*ru:b	*ləp	<i>lābo</i> 拉拔	<i>lā</i>	Yú (1988: 152: #1); Gao (2014a: 31: #25)
	121-SW:摧也('drag')			'raise (a child)'	'drag'	

Table 1. Regular sound correspondence:

OC *-p (OC-Z *-b) ⇔ OC r.g. 葉 yè, 緝 jí ⇔ Vulgar Mandarin -b- (6 word roots)

2) $C_2 = /k/$

The plosive $/k/$ in the intervocalic position in Vulgar Mandarin corresponds to the coda $*-k$ in OC (Table 2).

	OC-BS	OC-Z	OC-W	Vulgar Yan	Common Yan	Prior ㊟ Vulgar Yan
【各】 r.g. 鐸	*kʰak	*kla:g	*kak	<i>gǎgu</i> 生古/嘎咕	<i>gè</i>	present revision of Gao (2013: 51; 2014a: 33: #54) 格
	121-SW:異辭也('each')			'strange'	'each'	
【詔】 r.g. 鐸	--	*ŋgra:g	*ŋeak	<i>lǎgu</i> 喇咕	<i>luò</i>	Gao (2013: 51; 2014a: 34: #64)
	121-SW:論訟也('negotiate')			'negotiate, talk'	ʃ'negotiate'	
【敕】 r.g. 職	--	*tʰuŋ	tʰjək	<i>jǐge</i> 即咯	<i>chì</i>	present revision of Gao (2013: 51; 2014a: 33: #56) 嘖
	121-SW:誡也('warn')			'quarrel'	ʃ'imperial order'	
【塞】 r.g. 職	*[s]ʰək	*slu:g	*sək	<i>sāigu</i> 塞咕	<i>sāi/sēi/sè</i>	Gao (2014a: 34: #57)
	121-SW:隔也('obstruct')			'obstruct'	'obstruct'	
【蝠】 r.g. 職	--	*puŋ	*pʰjək	<i>yàn-biégu</i> 燕型咕	<i>fú</i>	Gao (2013: 51; 2014a: 34: #63)
	121-SW:服翼也('bat')			'bat' in 'bird-bat'	'bat'	
【觸】 r.g. 屋	*tʰok	*tʰjog	*tʰjuok	<i>duigu</i> 对咕/惹咕	<i>chǔ/chù</i>	Gao (2013: 51; 2014a: 34: #62)
	121-SW:抵也('prop, resist')			'prop, resist'	'touch'	

Table 2. Regular sound correspondence:

OC $*-k$ (OC-Z $*-g$) ⇔ OC r.g. 鐸 *tuó*, 職 *zhí*, 屋 *wu* ㄨ ⇔ Vulgar Mandarin $-g$ - (6 word roots)

Interestingly, the $-gu$ $/-ku/$ ending of these Vulgar Mandarin word roots is identical to the $-ku$ ending of their Sino-Japanese etymological equivalents, cf.

【各】 *gǎgu* ~ *kaku* (Vulgar Mandarin ~ Sino-Japanese); 【詔】 *lǎgu* ~ *raku/ryaku/gaku/gyaku*; 【塞】 *sāigu* ~ *soku*; 【蝠】 *biégu* ~ *fuku*; 【觸】 *duigu* ~ *soku/shoku*.

3) $C_2 = /t/$

The plosive $/t/$ in the intervocalic position in Vulgar Mandarin corresponds to the coda $*-t$ in OC (Table 3).

	OC-BS	OC-Z	OC-W	Vulgar Mandarin	Common Mandarin	Prior ㄓ Vulgar Yan
【界】 r.g.月	*kʰr[e][t]-s	*kre:ds	*keat	<i>gāda</i> 嘎喀/嘎达	<i>jiè</i>	Gao (2013: 51; 2014a: 31: #31)
	121-SW:境也('territory')			'place'	"boundary"	amendment of Gao (2008: 15) 街
【挈】 r.g.月	—	*kʰe:d	*kʰiat	<i>kēda</i> 克喀/磕哒	<i>qiè</i>	Gao (2014a: 31: #36)
	121-SW:悬挂也('hang and hold')			'hang and hit'	≠ 'hang and hold'	
【蔑】 r.g.月	*mʰet	*me:d	*miat	<i>māda</i> 嘛喀/嘛哒	<i>miè</i>	Gao (2013: 51; 2014a: 32: #41)
	121-SW:旁目無精也('tired eye')			'disdain'	"disdain"	
【渥】 r.g.物	—	*glu:d	*yuo:t	<i>húdu</i> 糊涂	<i>gǔ</i>	Gao (2013: 51; 2014a: 32: #38)
	121-SW:濁也('turbid, muddy')			'muddled, silly'	≠ 'turbid, muddy'	
【結】 r.g.質	*kʰi[t]	*ki:d	*kiet	<i>gēde</i> 疙瘩 ⁽¹⁾	<i>jiē\jiě\jié</i>	Gao (2008: 15; 2013: 51; 2014a: 31: #33)
	121-SW:締也('tie')			'knot'	"to tie \ a tie"	
【叱】 r.g.質	—	*nʰjid	*tʰiet	<i>cīde</i> 叱得 ⁽²⁾	<i>chì</i>	Gao (2014a: 32: #39)
	121-SW:呵也('scold loudly')			'rebuke'	≠ 'rebuke'	
(1) also <i>gēda</i> 疙瘩 id.; (2) also <i>cīda</i> 叱哒 id.						

Table 3. Regular sound correspondence:

OC $*-t$ (OC-Z $*-d$) ⇔ OC r.g. 月 *yuè*, 物 *wù*, 質 *zhì* ⇔ Vulgar Mandarin $-d$ - (6 word roots)

4) $C_2 = /tʃ/$

The affricate $/tʃ/$ ⁴ in the intervocalic position in Vulgar Mandarin corresponds to the coda $*-t$ and the rhymes 月 *yuè*, 物 *wù*, 支 *zhī*, 脂 *zhī* in OC (Table 4).

	OC-BS	OC-Z	OC-W	Vulgar Man- darin	Common Mandarin	Prior ⑤ Vulgar Yan
【割】 r.g.月	*Cə-k'at	*ka:d	*kat	<i>kācha</i> 喀嚓(1)	<i>gē</i>	Gao (2014a: 32: #45)
	121-SW:剥也('peel')			'peel'	'cut'	
【漚】 r.g.月	--	*ma:d	*muat	<i>mācha</i> 抹擦/ 吗嚓(2)	<i>mā/mǎ/mò</i> 抹	Gao (2014a: 33: #52)
	121-SW:拭滅兒('mop')			'mop'	'mop'	
【碎】 r.g.物	*[s-tsʰ]u[t]-s	*su:ds	*suət	<i>suiji</i> 碎叽	<i>sui</i>	Gao (2014a: 33: #47)
	121-SW:礪也('smash')			'smashed, wordy'	'smash'	
【喟】 r.g.物	*[k]ʰrə[t]-s	*kʰru:ds	*kʰjuət	<i>hūchi</i> 呼唏	<i>kuì</i>	Gao (2014a: 32: #46)
	121-SW:大息也('breathe heavily')			'breathe heavily'	'breathe heavily'	
【肢】 r.g.支	*ke	*kje	*tje	<i>gēzhi-wō</i> 戈吱窩	<i>zhī</i>	present amendment of Gao (2014a: 32: #44) ⁴ 指
	121-SW:[肢]體四肢也('limb')			'arm' in 'arm-pit'	'limb'	
【指】 r.g.脂	*mə.kijʔ	*kjiʔ	*tjei	<i>géji</i> 咯叽	<i>zhǐ</i>	Gao (2014a: 32: #44)
	121-SW:手指也('finger')			'to tickle with fingers'	'finger'	

(1) also *kāchi* /*katsi* /喀唏id.; (2) also *māchi* /*matsi* /抹唏id.;

Table 4. Regular sound correspondence:

OC $*-t$ (OC-Z $*-d$) $\Leftrightarrow$ OC r.g. 月 *yuè*, 物 *wù*, 支 *zhī*, 脂 *zhī* $\Leftrightarrow$ Vulgar Mandarin $-ch/-zh/-j-$
(6 word roots)

Interestingly, the $-chi$ / $-tʃi$ / ending of these Vulgar Mandarin word roots is identical to the $-chi$ / $-tsu$ ending of their Sino-Japanese etymological equivalents, cf. 【割】 *kācha/kāchi* ~ *kachi/katsu* (Vulgar Mandarin ~ Sino-Japanese); 【漚】 *mācha/māchi* ~ *matsu/machi/batsu* 抹. The Sino-Japanese etymological

4 It is realized as $[tʃ]$ before $[i]$ or $[y]$, and as $[tʃ̥]$ or $[tʃ̥]$ (free variant) before other vowels. This affricate cannot be separated and recombined (i.e., resyllabized) into two syllables (inseparable /*matsa*/ [ma.tʃ̥a] > separable /*matsa*/ [mat.sa]).

equivalents descend from Middle Chinese. Thus, the root words without codas in Middle Chinese have no equivalents: 【碎】 *sai*; 【喟】 *ki*; 【肢】 *shi*; 【指】 *shi*.

Caveat: So far, it is uncertain why the affricate /tʃ/ is sometimes aspirated. In these six examples, three cases are aspirated and three cases are unaspirated. The only clear thing is that the contrast between [tʃ^h] and [tʃ^h] is insensitive in this position. The reason for the differences in these cases may be explained in the future.

5) $C_2 = /l/ (\Leftrightarrow OC \text{ } ^*t)$

The liquid -l- in the intervocalic position in Vulgar Mandarin corresponds also to the coda *-t of the rhymes 月 *yuè* and 物 *wù* in OC (Table 5).

	OC-BS	OC-Z	OC-W	Vulgar Mandarin	Common Mandarin	Prior ㊥ Vulgar Mandarin
【餿】 r.g.月	--	*hŋa:ds	*xat	<i>hāla</i> 哈喇	<i>hài</i>	Gao (2014a: 36: #87)
	121-SW:食臭也('food be rotten')			'(food) be rotten'	*'food be rotten'	
【蛻】 r.g.月	*tʰot-s	*tʰo:ds	*tʰuat	<i>tūlu</i> 秃噜	<i>tui</i>	Gao (2014a: 37: #101) revision of Gao (2013: 51)隤
	121-SW:蛇蟬所解皮也('exuviate')			'shed off, cast off'	*'exuviate'	
【撮】 r.g.月	*[tsʰ]ʰot	*sʰo:d	*tsʰuat	<i>chuāla</i> ⁻⁽¹⁾	<i>chuō/cuō</i>	Gao (2014a: 37: #93)
	121-SW:兩指撮也('take up with two fingers')			'gather and take up'	'gather and take up'	
【撥】 r.g.月	*pʰat	*pa:d	*pat	<i>bāla</i> 扒拉	<i>bō</i>	Yú (1984: [1999: 20]); present correction of Gao (2014a: 37: #102)
	121-SW:治也('regulate')			'stir'	*'stir'	
【扞】 r.g.物	--	*gu:d	*ɣuət	<i>húle</i> 胡勒(2)	<i>gu</i>	Yú (1984: [1999: 20])
	543-YP:摩也取也('rub, obtain')			'rub, agitate'	*'rub'	
【拂】 r.g.物	*pʰ[u]t	*pʰwɔd	*pʰɿuat	<i>púle</i> 仆勒/嘆勒	<i>fú</i>	Gao (2014a: 37: #104)
	121-SW:過擊也('whisk')			'whisk'	*'whisk'	

(1) also *chuōle* 搗勒 id. (2) Yú (1984: [1999: 20]) gave the form "*húlu*". However, in our native language, the word *húlu* 葫蘆 has to mean 'cucurbit', the word for 'rub, agitate' has to be *húle*.

Table 5. Regular sound correspondence:

OC *-t (OC-Z *-d) $\Leftrightarrow$ OC r.g. 月 *yuè*, 物 *wù* $\Leftrightarrow$ Vulgar Mandarin -l- (6 word roots)

6) $C_2 = /l/$ ($\Leftrightarrow$ OC-Pulleyblank / OC-Z *-l)

The liquid -l- in the intervocalic position in Vulgar Mandarin corresponds to the coda *-l in OC-Pulleyblank / OC-Z (but OC-BS *-j; OC-W *-i) (Table 6). Since the coda *-l is not universally approved, four more word roots may be demonstrated in this section.

	OC-BS	OC-Z	OC-W	Vulgar Yan	Common Yan	Prior 正 Vulgar Yan
【垂】 r.g. 歌	*[d]o[i]	*djol	*zɿuai	<i>dāla</i> 垂拉/垂啦	<i>chuí</i>	Gao (2014a: 37: #96)
	121-SW:遠邊也('far end'); 'act downwards' 詩·小雅·垂帶而厲			'act downwards'	'act downwards'	
【拖】 r.g. 歌	*tʰaj	*tʰa:l	*tʰai	<i>tāla-bānr</i> 踏拉板儿	<i>tuō</i>	Gao (2014a: 37: #99)
	121-SW:拖曳也('drag')			'drag' in 'slipper'	'drag'	
【唆】 r.g. 歌	--	*slo:l	*suai	<i>suōla</i> 唆拉/唆啦	<i>suō</i>	Gao (2014a: 37: #95)
	543-YP:嗔唆小兒相應也('an act of infant')			'suck'	'suck'	
【灘】 r.g. 歌	--	*rel	*lɿai	<i>līla</i> 滴啦/滴拉	<i>lī</i>	Gao (2014a: 37: #105)
	543-YP:水滲入地也('seep into earth')			'trickle, drip'	'seep into earth'	
【披】 r.g. 歌	*pʰ(r)aj	*pʰral	*pʰɿai	<i>pāla</i> 爬拉/爬啦	<i>pī</i>	present correction of Gao (2014a: 37: #103)
	121-SW:从旁持曰披('hold by side'); 543-YP:開也('open')			'push aside'	'wear, push aside'	
【鎧】 r.g. 微	*C.qʰəj?	*ŋʰu:l?	*kʰəi	<i>gēle</i> 革勒	<i>kāi</i>	Gao (2013: 51; 2014a: 36: #84)
	121-SW:甲也('turtle shell')			'shell'	'armor'	
【回】 r.g. 微	*[g]ʰəj	*gu:l	*γuəi	<i>gūlu</i> 骨碌/咕嚕(1)	<i>huí</i>	Gao (2013: 51; 2014a: 36: #85)
	121-SW:轉也('turn, rotate')			'rotate'	'return, a turn'	
【圪】 r.g. 微	*[kʰ]ʰuj-s	*kʰu:l-s	*kʰuəi	<i>tī-kēle</i> 土碓勒(2)	<i>kuài</i> (塊)	Gao (2013: 51; 2014a: 36: #86)
	121-SW:環也('earth cube, clod')			'clod' in 'earth-clod'	'clod'	
【堆】 r.g. 微	*C.tʰuj	*tu:l	*tuəi	<i>dūlu</i> 哪噲	<i>duī</i>	Gao (2014a: 37: #98)
	121-SW:堆 台 小阜也('heap')			'compact string'	'heap'	
【頽】 r.g. 微	*N-rʰuj (隤)	*lʰu:l	*duəi	<i>těle</i> 特勒	<i>tuí</i>	Gao (2014a: 37: #100)
	121-SW:秃兒('bald')			'decadent'	'decadent'	

(1) *gūlu* 結轆 'a wheel' (2) also *tī-kāla* 土喀拉 id..

Table 6. Regular sound correspondence:

OC-Z *-l (OC-BS *-j, OC-W *-i) $\Leftrightarrow$ OC r.g. 歌 *gē*, 微 *wēi* $\Leftrightarrow$ Vulgar Mandarin -l- (10 word roots)

This correspondence supports the hypothesis of the liquid coda in OC (see the discussion section 4.3).

Comparative results of the unstressed vowel position v_2 ($C_1V_1C_2\underline{v_2}$)

Gao (2014a: 38) suggests that: ‘In general, the vowel /a/ in the unstressed position in Vulgar Yan 燕 [Mandarin] corresponds to OC 弇 yǎn [extrovert] rhyme groups, while the vowel /ə/ in the same position corresponds to OC 侈 chǐ [introvert] rhyme groups’. Now, If one removes all the doubtful etymologizing attempts and observes only the most plausible etymologies in the present study, this correspondence is seen to be accurate.

1) $v_2 = /a/$

The vowel /a/ in the unstressed position in Vulgar Mandarin corresponds to the extrovert 𢇛 *yǎn* rhyme groups and means the vowel *a in OC-W and OC-Pulleyblank (Table 7).

㊦	OC-BS	OC-Z	OC-W	Vulgar Mandarin	Common Mandarin	Prior ㊦ Vulgar Mandarin
【攝】 r.g. 葉	*kə.ɲep 121-SW:引持也('draw and hold with fingers')	*ne:b	*niap	<i>niēba</i> 捏巴 'pinch'	<i>niē</i> (捏) 'pinch'	Gao (2014a: 30: #23)
【眨】 r.g. 葉	*mə-[ts]ʳ[r]ap 121-SW:動目也('eye act, blink')	*spro:b	*tʃeap	<i>zhāba</i> 眨巴 'blink'	<i>zhā</i> "blink"	Yú (1988: 153: #4); Gao (2013: 50; 2014a: 30: #12)
【界】 r.g. 月	*kʳ[e]l[t]-s 121-SW:境也('territory')	*kre:ds	*keat	<i>gāda</i> 嘎咯/嘎达 'place'	<i>jiè</i> "boundary"	Gao (2013: 51; 2014a:) amendment of Gao (2008: 15)街
【蔑】 r.g. 月	*mʰet 121-SW:勞目無精也('tired eye')	*me:d	*miat	<i>māda</i> 嘛咯/嘛哒 'disdain'	<i>miè</i> "disdain"	Gao (2013: 51; 2014a: 32: #41)
【撥】 r.g. 月	*pʰat 121-SW:治也('regulate')	*pa:d	*pat	<i>bāla</i> 扒拉 'stir'	<i>bō</i> "stir"	Yú (1984: [1999: 20]); present correction of Gao (2014a: 37: #102)
【披】 r.g. 月	*pʰ(r)aj 121-SW:从旁持曰披('hold by side'); 543-YP:開也('open')	*pʰral	*pʰjai	<i>pāla</i> 爬拉/爬啦 'push aside'	<i>pī</i> "wear, push aside"	Yú (1984: [1999: 20]); present correction of Gao (2014a: 37: #102)
【垂】 r.g. 歌	*[d]o[j] "121-SW:遠邊也('far end'); 'act downwards' 《詩·小雅》垂帶而厲	*djol	*zjuai	<i>dāla</i> 登拉/登啦 'act downwards'	<i>chuí</i> "act downwards"	Gao (2014a: 37: #96)
【拖】 r.g. 歌	*ʃaj 121-SW:〔挖〕曳也('drag')	*ʰa:l	*tʰai	<i>tāla-bānr</i> 踏拉板儿 "drag" in 'slipper'	<i>tuō</i> "drag"	Gao (2014a: 37: #99)

Table 7. Regular sound correspondence:

OC-W/OC-Pulleyblank *a ⇔ OC r.g. 葉 *yè*, 月 *yuè*, 歌 *gē* ⇔ Vulgar Mandarin -a
(8 word roots)

2) $v_2 = /ə/$

The vowel /ə/ in the unstressed position in Vulgar Mandarin corresponds to the introvert 侈 *chǐ* rhyme groups and means the vowel *ə or *e in OC-W or just *ə in OC-Pulleyblank (see Table 8).

ㄓ	OC-BS	OC-Z	OC-W	Vulgar Mandarin	Common Mandarin	Prior ㄓ/Vulgar Yan
【省】 r.g.緝	*m-rʰəp	*du:b	*dəp	<i>dēbo</i> 明啞	<i>tà</i>	Yú (1988: 153: #7); Gao (2014a: 30: #21)
	121-SW:語多音音也('wordy')			'be wordy'	'wordy'	
【拉】 r.g.緝	*[r]ʰəp	*ru:b	*ləp	<i>lābo</i> 拉拔	<i>lā</i>	Yú (1988: 152: #1); Gao (2014a: 31: #25)
	121-SW:推也('drag')			'raise (a child)'	'drag'	
【救】 r.g.職	--	*tʰuŋ	tʰiək	<i>jige</i> 即咯	<i>chì</i>	present revision of Gao (2013: 51; 2014a: 33: #56)噴
	121-SW:誠也('warn')			'quarrel'	'imperial order'	
【結】 r.g.質	*kʰi[t]	*ki:d	*kiet	<i>gēde</i> 圪塔	<i>jiè/jiě/jié</i>	Gao (2008: 15; 2013: 51; 2014a: 31: #33)
	121-SW:締也('tie')			'knot'	"to tie \ a tie"	
【叱】 r.g.質	--	*nʰjid	*tʰiɛt	<i>cide</i> 叱得	<i>chì</i>	present amendment of Gao (2014a: 32: #39)
	121-SW:訶也('scold loudly')			'rebuke'	'rebuke'	
【拂】 r.g.物	*pʰ[u]t	*pʰuɔd	*pʰiɔt	<i>púle</i> 仆勒/嘆勒	<i>fú</i>	Gao (2014a: 37: #104)
	121-SW:過擊也('whisk')			'whisk'	'whisk'	
【鎧】 r.g.微	*C.qʰəjʔ	*ŋʰu:lʔ	*kʰəi	<i>gěle</i> 革勒	<i>kái</i>	Gao (2013: 51; 2014a: 36: #84)
	121-SW:甲也('turtle shell')			'shell'	'armor'	
【垺】 r.g.微	*[kʰ]ʰuj-s	*kʰu:ls	*kʰuəi	<i>tǔ-kēle</i> 土碓勒	<i>kuài</i> (塊)	Gao (2013: 51; 2014a: 36: #86)
	121-SW:塊也('earth cube, clod')			"clod" in 'earth-clod'	"clod"	
【頽】 r.g.微	*N-rʰuj (隤)	*l'u:l	*duəi	<i>těle</i> 特勒	<i>tuí</i>	Gao (2014a: 37: #100)
	121-SW:秃兒('bald')			'decadent'	'decadent'	

Table 8. Regular sound correspondence:

OC-Pulleyblank *ə ⇔ OC rhymes 緝 *jí*, 職 *zhí*, 質 *zhì*, 物 *wù*, 微 *wēi* ⇔ Vulgar Mandarin -e (8 word roots)

3) $v_2 = /u/$

A non-recombined⁵ /-pu/ has not been detected in Vulgar Mandarin. There are a few word roots with /-tu/ and /-lu/. The vowel /u/ as v_2 exists mostly in the combination /-ku/. Behind the intervocalic -k-, it tends to give only /u/ in present usage (see again Table 2). Accordingly, the vowel /u/ is secondary after a labialization ^w. The distinction between /a/ and /ə/ is lost when ^w exists in the root: ^wa > ^wua > u < ^wuə < ^wə.

3) $v_2 = /i/$

The combinations /-pi/, /-ki/, /-ti/ and /-li/ are impossible in Vulgar Mandarin, as is the case in Common Mandarin. The vowel /i/ as v_2 exists only in the combination /-ti/. Behind the intervocalic -ts-, it tends to give only /i/ and /i/ in present usage (see again Table 4). Accordingly, -ts- is concomitantly added to the vowel /i/. The distinction between /a/ and /ə/ is lost when the vowel /i/ is added in the root: ^wtsa > ^wtsia > tsɿ < ^wtsiə < ^wtsiə.

4) $v_2 = /i/$

The combination /-ki/ is impossible in Vulgar Mandarin, like it is in Common Mandarin. Non-recombined /-pi/, /-ti/ and /-li/ have not been detected in Vulgar Mandarin. The vowel /i/ as v_2 exists only in the combination /-ti/. Behind intervocalic -ts-, it tends to give only /i/ and /i/ nowadays (see again Table 4). Accordingly, the vowel /i/ is secondary after the combination ^wtsi (^wtsi > tsɿ).

The results have to incline us to OC-Pulleyblank, that contains only two vowels ^wa and ^wə. Independent of Pulleyblank, Gao (2014b: 79) also reconstructed only the vowels ^wa and ^wə for the v_2 position in OC. Gao (2020b: 35; 2021b: 68) just changed ^wə to ^wo.

5 Such unstressed syllables do exist in Mandarin, but they are recombined of other full monomorphemic word roots (pu > -pu).

Remarks on the stressed vowel position ($C_1V_1C_2V_2$)

The vowel in the stressed position in Vulgar Mandarin is sometimes identical to the vowel in its Common Mandarin equivalent. This solves the old question of why the vowels in many Common Mandarin forms differ dramatically from all the existing OC reconstructions. For example,

【拉】 Common Mandarin *lā*, Vulgar Mandarin *lābo*, but OC-BS $*[r]^{ʕ}əp$, OC-Z $*ru:b$, OC-W $*ləp$.

【灘】 Common Mandarin *lí*, Vulgar Mandarin *lila*, but OC-Z $*rel$, OC-W $*liai$.

Some extensive vowel shifts ($ə > a$; $e > i$) could be considered. However, it does not explain why Common Mandarin does not read them as the expected forms /lə/ and /lej/. Now, with the Vulgar Mandarin data, we suggest that such vowels in Common Mandarin descend simply from V_1 instead of the only V in a CVC syllable. For instance,

【拉】 Common Mandarin *lā* $< *lapə$ (rhymed with $-pə$) $>$ Vulgar Mandarin *lābo*

【灘】 Common Mandarin *lí* $< *lila$ (rhymed with $-la$) $>$ Vulgar Mandarin *lila*

Discussion

The monomorphemic status of these disyllabic words

These disyllabic words are definitely monomorphemic. The second syllables are not separate morphemes or suffixes, as some radical commenters have claimed. There are three main reasons for this:

(1) The second syllables *-ba*, *-be*, *-ga*, *-gu*, *-ge*, *-da*, *-du*, *-de*, *-cha*, *-chi*, *-zhi*, *-ji*, *-la*, *-lu*, and *-le* have no separate meaning. If one must attempt to attribute a separate meaning to them, one would find that a rarely postulated meaning, such as ‘making a somewhat different verb’, may apply to most of them. Therefore, they are certainly not some morpheme or suffix with their own meaning.

(2) Most of these disyllabic word roots without their second syllables do not make the same sense as they do with them. This is a clear indicator that

they are disyllabic monomorphemic words. A few disyllabic word roots without their second syllables coincide with some monosyllabic word roots that are their etymological equivalents in Common Mandarin. These monosyllabic word roots descend from Middle Chinese via Standard Mandarin. The disyllabic word roots are not derived from these Standard Mandarin word roots.

(3) The intervocalic consonants belong to a systematic inventory and correspond regularly to different OC codas, such as *-p, *-k, *-t. Similar cases are attested in Sino-Japanese **-pu*, *-ku/-ki*, **-ti* > *-chi* / **-tu* > *-tsu*. Since one cannot argue that the OC codas and the second syllables in Sino-Japanese are morphemes or suffixes, it is definitely incorrect to argue that the second syllables in Vulgar Mandarin are separate morphemes or suffixes.

The problem of coronal rhymes

It is problematic that OC-BS/OC-W *-t (OC-Z *-d) corresponds to three coronal consonants concurrently: -t-, -ts- and -l-. In a mapping or function, no element in the domain (set of departure) may be paired with more than one element in the codomain (set of destination); while multiple elements in the domain may be paired with one element in the codomain. This indicates that the Vulgar Mandarin intervocalic consonants are in the domain (set of departure), which implies that the Vulgar Mandarin intervocalic consonants can be diachronically more primitive. This picture has clues if one researches the correlations from the OC rhyme groups with lesser word roots.

Since the OC rhyme 脂 *zhī* corresponds exclusively to -ts- (see again Table 4), while the rhyme 微 *wēi* corresponds exclusively to -l- (see again Table 6), we suggest that the tidy difference between the OC rhyme 脂 *zhī* and the OC rhyme 微 *wēi* is the coda contrast (*ǎ/ǎǎ >> *lǎ/lǎ), instead of the vowel contrast (*ei >> *əi, as OC-W).

In parallel, since the OC rhyme 支 *zhī* corresponds exclusively to -ts- (see again Table 4), while the rhyme 歌 *gē* corresponds exclusively to -l- (see again Table 6), we suggest that the tidy difference between the OC rhyme 支 *zhī* and the OC rhyme 歌 *gē* is the coda contrast (*ǎa/ǎǎ >> *la/al) (like OC-Pulley-blank *aj >> *al).

Multiple elements in the domain are paired with one element in the codomain due to the enlargement of the OC rhymes 月 *yuè* and 物 *wù* that contain the simpler and unmarked *-t. This means that some parts of the OC rhymes 支 *zhī* and 歌 *gē* merged into 月 *yuè*, while some parts of the OC rhymes 脂 *zhī* and 微 *wēi* merged into 物 *wù*. This enlargement is illustrated in Table 9.

Vulgar Mandarin	-ta	-la		-tsa		-tə	-lə		-tsə	
Ideal OC rhymes	月*-ta	歌*-la		支*-ḏa		物*-tə	微*-lə		脂*-ḏə	
Current OC rhymes	月	月	歌	月	支	物	物	微	物	脂

Table 9. Correspondences of coronal rhymes

It may be possible to find some clues for this enlargement in OC verses and Sinograms in further studies on OC raw materials. If it does not work, one has to admit that OC rhymes, at least in this part of coronal rhymes, are not diachronically more primitive than Vulgar Mandarin. The more balanced allocation of these rhymes in Vulgar Mandarin reflects Proto-Sinitic. It is worth mentioning that Vulgar Mandarin disyllabic monomorphemic word roots contain no homophone.

The hypothesis of the liquid coda in OC

The hypothesis of the liquid coda for the OC rhymes 歌 *gē* and 微 *wēi* may go back to Karlgren (1934; 1954; 1957), who reconstructed the coda *-r for the OC rhyme 微 *wēi* plus 脂 *zhī* (considered as one rhyme category) and a part of the OC rhyme 歌 *gē*. Lǐ (1971) reconstructed the coda *-r for the OC rhyme 歌 *gē* and a very small part of the OC rhyme 微 *wēi*. Schuessler (1974) amended Karlgren's *-r to *-l. Pulleyblank (1977–1978) reconstructed *-l for the OC rhyme 歌 and the OC rhyme 微 *wēi* plus 脂 *zhī* (considered as one rhyme category). Yú (1984 [1999: 41]) supported the liquid coda for the OC rhyme 歌 *gē* with evidence from Sanskrit-Chinese transliterations made in the Later Han 後漢 era. He listed five pairs of such transliterations: (1) Sanskrit syllable gal : Chinese transliteration 迦; (2) tar : 陀; (3) par : 波; (4) var : 禰; (5) (v)pāl : 和. Although he listed more *-r than *-l, he opted for *-l. Zhèng-zhāng (1992)

allocated the coda *-l to the OC rhymes 歌 gē and 微 wēi and mentioned the OC rhyme 脂. Zhèng-zhāng (2003) expanded the coda *-l to a part of the OC rhyme 脂 zhī. Gao (2014a, 2014b, 2020b, 2021b) restricted it to the OC rhymes 歌 gē and 微 wēi. We accept this hypothesis as the liquid coda *-l for the OC rhymes 歌 gē and 微 wēi.

This hypothesis is not universally approved. Baxter & Sagart (2014) and Hill (2019) have not mentioned it. Páng (2011) attempted to refute it. He opposed this hypothesis with four arguments: “#1) The term 盍 is a fusion of the terms 何 and 不. If the term 何 contains *-r (or *-l), the whole phonetic value would contain *-rp (or *-lp), which is unacceptable. #2) In transliterations made in the OC era, exonyms involving -r were mostly transliterated with Sinograms with *-n and *-t in OC, not with the OC rhyme 歌 Sinograms. #3) The terms 我 and 吾 are of the same word family. If the term 我 was read as *-ar or *-al while the term 吾 was read as *-ag, they were not similar. #4) The OC rhymes 歌 and 魚 could occasionally rhyme in OC verses. If the OC rhyme 歌 was read *-ar, while the OC rhyme 魚 was read *-ag, they could hardly rhyme.” (translated from Chinese)

Páng (2011) opposed the Lǐ (1971) version of this hypothesis, without mentioning the versions between 1971 and 2011. He therefore had *-r as his main target, and did not include the rhyme group 微 wēi in his discussion. His first argument can be refuted, since a fusion word of two terms does not have to preserve any full syllable of the two terms, as can be seen via the example of the active fusion word 甬 *béng* = 不 *bú* + 用 *yòng*. The coda -t of 不 is not preserved in the fusion word. His second argument can be refuted, since this coda has been amended to *-l. It is logical, then, that exonyms involving -r were not transliterated with the Sinograms with *-l. His third and fourth arguments can be refuted, since OC rhymes 歌 gē and 魚 yú have been reconstructed (Zhèng-zhāng 2003) as *-al and *-a (importantly, not *-ag), respectively. They are thus similar and can occasionally rhyme. In the present study, this hypothesis has been supported by Sinitic internal comparative evidence; see the results section 3.1.(6).

Regarding our etymological comparisons, e.g., the equation from Vulgar Mandarin *gūlu* \ *gúlu* ‘to rotate \ a wheel’ to 回 ^{121-SW:轉也(‘turn, rotate’)} (OC-BS *[g]^wəj; OC-Z *gu:l; OC-W *yuəi), an anonymous referee has argued: “Why [...] 回,

instead of with, say, 圓? The proposed etymologies omit equally good or better ones involving *-n, which is recognized as a regular reflex of OC *-r.”

The word root *gūlu*/*gúlu* ‘to rotate \ a wheel’ cannot be compared to 【圓】^{121-SW:圓全也(‘full circle’)} (OC-BS *G^wen; OC-Z *gon; OC-W *ȝ^huan), because the phoneme /n/ is possible in the coda position in Mandarin. There is no reason to change *-n to /l/.

Another anonymous referee has reminded that “the proposal first made by Starostin, and later adopted by Baxter and Sagart, that some words in Middle Chinese -j and -n go back to Old Chinese *-r. It regularly changed to -n in mainstream Chinese but dialectally to -j. An example is Baxter & Sagart *t^sor > twan 端. One could hypothesize that a Vulgar Yan word with the form CV.IV is a survival in spoken language of *CVr, and that *CVr later became *CVn. This is logically consistent.”

This reminder is very logical. We have sought Vulgar Mandarin words with intervocalic -l- that are comparable to the OC word roots that Starostin and Baxter & Sagart have really reconstructed as *-r, but have found no match.

The coda (*)-n in Common Mandarin, Middle Chinese, OC-Z, and OC-W corresponds to intervocalic -nt- in Vulgar Mandarin⁶, cf.:

【恨】^{121-SW:怨也(‘hate’)} *hèn* ‘hate’ ~ *hēnde* (/hēnda) 恨嗟 ‘blame’ E.g. 他恨嗟我 *Tā hēnde wǒ* ‘He blames me’.

【顛】^{121-SW:頂也(‘top’)} *diān* ‘to head up and down, °top’ ~ *diānda* 顛嗟 ‘shake’ E.g. 他顛嗟腿 *Tā diānda tuǐ* ‘He shakes his legs’.

【損】^{121-SW:減也(‘diminish’)} *shǔn* ‘evil’ ~ *shǔnde* (/shǔnda) 損嗟 ‘dispraise’ E.g. 他損嗟我 *Tā shǔnde wǒ* ‘He dispraises me’.

There are very few Vulgar Mandarin words with the intervocalic -nt-, because the coda -n is possible. It is preserved only when the monosyllabic variant does not exist (as of *hēnde* 恨嗟, *hēn* does not exist) or has to mean something else in the natural language (as of *diānda* 顛嗟, *diān* 顛 is an active verb ‘to head up and down, e.g., a ball’; of *shǔnde* 損嗟, *shǔn* 損 is an active adjective ‘evil’). In addition, the unstressed vowel after the intervocalic -nt- can be neutralized to

6 In parallel, the coda (*)-m in Middle Chinese, OC-Z, and OC-W corresponds to the intervocalic -mp- in Vulgar Mandarin (Gao 2014a: 34–36: #65, #67, #68, #70, #73–75; #77–83).

/a/, since the contrast between a and ə in this position is unnecessary due to the limitation of words.

Attempting to accept this hypothesis gives one pause, but our OC reconstruction has no coda -j/-i left. One has to postulate that the coda -j/-i is always secondary, e.g., *-l > -j/-i < *-k. On the other hand, if the coda -j/-i is reconstructed in OC, one must question why it is lost when the same combination is possible in the target dialect. For instance, for 拖/挖 (OC-BS *l̥ʰaj; OC-W *tʰai), the same combination /tʰaj/ is possible in the dialects. So /tʰaj/ *tāi* is the expected form in the dialects, but Common Mandarin dramatically yields /tʰwə/ *tuō*. If the coda *-l is reconstructed in OC, it can additionally explain the labialization ^w. Cf. From Proto-Sinitic 拖/挖 ^{121-SW:曳也('drag')} *tʰɔ̌la

1) to Old Chinese: *tʰɔ̌la > *tʰɔ̌la (rhymed with -la) / *tʰaal (rhymed with -al)

2) to Vulgar Mandarin: *tʰɔ̌la > tʰala *tāla*.

3) to Vernacular Minnan: *tʰɔ̌la > *tʰlɔ̌a > *tʰlɔ̌a > *tʰwɔ̌a > tʰwa *thua*.

4) to Middle Chinese: *tʰɔ̌la > *tʰlɔ̌a > *tʰlɔ̌a > ☆tʰwɔ̌ə (Yùn jìng 韻鏡) and from Middle Chinese to other dialects:

4.1) > tʰwə (Common Mandarin *tuō*, Jinan, Xi'an, Literary Taiyuan)

4.2) > tʰə (Vernacular Taiyuan)

4.3) > *tʰɔ̌ə > *tʰɔ̌ > tʰo (Literary Minnan *tho*, Wuhan, Chengdu, Yangzhou).

4.4) > *tʰɔ̌ə > *tʰɔ̌ > tʰɔ (Cantonese *to1*, Meixian, Nanchang).

In sum, the data support the hypothesis of the liquid coda for the OC rhymes 歌 *gē* and 微 *wēi*.

The origin of these disyllabic monomorphemic word roots

It has been suggested that these disyllabic monomorphemic word roots belong to the Yan 燕 layer that has its root in the Sinitic language of the Yan fiefdom (ca.1046 – 222 BCE, the Yan kingdom from 323 BCE) of the Zhou empire. These words descend directly from Proto-Sinitic or OC (Gao 2013, 2014a, 2016). These words have no connection with Middle Chinese. The language variety of Yan now comprises Beijing and Northeastern Mandarin and the Baotang 保唐 dialect of the so-called “Ji-lu 冀鲁 Mandarin” (Gao 2014a:

28; 2016). Characteristically, the Middle Chinese tone-D 入声 (‘entering or checked tone’) has no valid mapping in these dialects.

It has been suggested that these disyllabic monomorphemic word roots are commonly used throughout the territory of the former Yan kingdom (Gao 2014a: 39). This territory is the home of Contemporary Mandarin. When a word is observed in one place of Yan, say Beijing or Shenyang, it is generally valid for all the places of Yan where their spoken Yan (Mandarin) language is naturally inherited, but it may not extend to all the other regions where their Mandarin language is rather learned in schools (school teachers do not teach dialect words in general, but some dialect words have entered the other regions through mass media). This is comparable to the following case: When a word is observed in one place of England, say London or Manchester, it is generally valid for all the places of England where their spoken English language is naturally inherited, but it may not extend to all the other countries where their English language is rather learned in schools. It has been suggested that there can be such disyllabic monomorphemic word roots in other Sinitic language varieties as well (Gao 2014a). However, intervocalic consonants and postvocalic codas are in complementary distribution. Yan retains the most intervocalic consonants because its native morphophonological structure is $C_1V_1C_2V_2$ (when C_2 is null, it appears monosyllabic) with no plosive coda. This suggests that OC is characterized by disyllabic word roots (Gao 2014a, 2014b).

Independently of the Chinese scholars, several non-Chinese scholars have also suggested clues for OC disyllabic word roots but based on foreign transcriptional and loanword evidence (Beckwith 2002, 2006, 2008a, 2008b, 2010, 2014, 2016; Beckwith & Kiyose 2008, 2018; Shimunek 2017). One of their core pieces of evidence concerns the Buddhist terms loaned from Sanskrit to Chinese. The oldest Chinese terms were coined with single and fixed Sinograms, e.g., 【佛】 for Sanskrit *buddha* ‘Buddha’, 【僧】 for Sanskrit *saṃgha* ‘Buddhist monk’. However, later Chinese terms with two unfixed Sinograms emerged for the same terms, e.g., 浮屠/浮圖 for *buddha* ‘Buddha’, 僧伽 for *saṃgha* ‘Buddhist monk’. They suggested that 【佛】 itself could be read as *bútă ~ *búdă, and 【僧】 itself could be read as *sáŋgă ~ *səŋgă in Late Old Chinese (Beckwith & Kiyose 2018: 155). When the Chinese language shifted from disyllabic to monosyllabic, the

terms with two unfixed Sinograms emerged in order to remain faithful to the Sanskrit pronunciations. Their foreign transcriptional and loanword evidence and our Chinese dialect evidence are well complemented towards the same hypothesis of OC disyllabic morphemes.

This paper does not attempt to conclude whether OC word roots must be disyllabic (CVCv) or monosyllabic (CVC). If the OC word roots were disyllabic (CVCv), the diachronic change newly identified in this paper would be the apocope of a morpheme-final unstressed vowel. If the OC word roots were monosyllabic (CVC), the diachronic change newly identified would be the epenthesis of a morpheme-final unstressed vowel. In either case, the intervocalic consonants correspond to the codas in reconstructed OC to date. This must be considered as our current common understanding.

Conclusion

The present study has observed the intervocalic consonants in Beijing and Northeastern Mandarin disyllabic monomorphemic word roots and suggested their OC origins. It has compared (etymologized) 40 Beijing and Northeastern Mandarin disyllabic monomorphemic word roots to Old Chinese word roots. These 40 etymological units are basically demonstrated in 6 sets of regular sound correspondences: (1) The correspondence -p- ⇔ *-p contains 6 word roots. (2) The correspondence -k- ⇔ *-k contains 6 word roots. (3) The correspondence -t- ⇔ *-t contains 6 word roots. (4) The correspondence -ts- ⇔ *-t and certain rhyme groups contain 6 word roots. (5) The correspondence -l- ⇔ *-l contains 6 word roots. (6) The correspondence -l- ⇔ *-l contains 10 word roots.

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