

Research Value of Phonetic Historical Materials from the View of Special Phonetic Annotations in Tangshu Shiyin

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Abstract: Dong Chong, Raozhou, Jiangxi, Northern Song Dynasty, wrote the book Tangshu Shiyin, which had some special phonetic annotations and created a method of phonetic notation named Fan Qie. These phonetic notations largely reflect the real pronunciation of Chinese characters in the Northern Song Dynasty. Through the study of the initial consonant characteristics reflected from the special phonetic annotations in Tangshu Shiyin, and the comparison of phonetic materials in the same state and modern dialect, it is concluded that the real initial characteristics reflected from these special phonetic annotations are in accord with modern Jiangxi dialect. This shows that the special phonetic annotations of Dong Chong's Tangshu Shiyin is on the basis of Jiangxi modern dialect in Song Dynasty, and some initial characteristics of Modern Gan dialect in Jiangxi of Song Dynasty had already appeared.

1. Introduction

Tangshu Shiyin includes twenty-five volumes, written by Dong Chong, born in Raozhou (Now called Poyang City), Jiangxi, Song Dynasty, finished in the 5th year of Chong Ning in the period of Song Huizhong. Preface of the first volume of Tangshu Shiyin was written by Dong Chong: "The emperor convened the Confucian officials to modify the Tang Book.....so fewer people in history of New Tang Book knew about the beginning and end of New Tangshu. So when reading the history of Jin where He Chao compiled the pronunciation, I secretly envied him. Then I studied the development history of phonology, realizing that it can make scholar calm without doubt. "From this, we can know that this book did phonetic transcriptions for the New Tang Book.

Song Dynasty lies in a transitional phase of ancient Chinese phonology shifting to modern Chinese phonetic of Chinese phonetics. Important phonetic changes of modern Chinese, such as labial differentiation, sonant devoicing, the confluence of the phonetic system of Zhi and Zhao, the differentiation and Hongxi confluence of finals, the checked tone of final end weakening and shedding with the confluence of Yin rhymes, were largely produced, developed and finished in Song Dynasty. Therefore, the study of phonology of Song Dynasty is an indispensable part in the study of Chinese phonetics history, which has been the main reason for the increasing importance of the cohort study of phonetics history in recent years. The study on the phonetics of Song Dynasty in academia mostly uses the rhythmic dictionary, rhyme picture, Ye Yin of Song Dynasty and poetry of Song Dynasty as subjects, and there is less attention paid to the important historical phonetic material - phonetic notes in Song Dynasty. Phonetic notes in Song Dynasty are largely Fan Qie speech or Zhi speech which the author uses the real phonetics to create, and has a vital value to study phonetics in Song Dynasty. Tangshu Shiyin written by Dong Chong has a great amount of phonetic notes reflecting real speech.

The works of studying Tangshu Shiyin include the Sound Class Research on New Tangshu Shiyin written by He Zhantao and two papers summarized from this book by the same author. But the used version is limited to the photocopy version of Wu Ying Dian by Han Fen Lou, and lack of collating, with more negotiable issues. In addition, Research on Phonetic Notes in Song Dynasty written by Sun Jianyuan (1996) had a study of four kinds of phonetic notes literatures, including the New Tang Shu Shi Yin. But this article had no in-depth research of Dongchong's

phonetic notes.

The preface of Tangshu Shiyin written by Dong Chong said: "The emperor convened the Confucian officials to modify the Tang Book, the events written were from the past, and the essence of articles was old but scholars would like to learn. Some words were too strange to identify, and there didn't lack people who just learned a part of this book but ended with sorrow. "According to this, Dong Chong did notes for the New Tang Book, aiming to solve the dyslexia problem that readers encountered in reading process, which was a common feature of works about phonetic notes. Therefore, the author would as far as possible comply with the book Qie Yun when using words of Fan Qie. Meanwhile, different from the general rhythmic dictionary, Yin Shi takes notes with the text, while Fan Qie wording also presents with the randomness. Partially self-created Fan Qie or literal phonetics emerged. According to our preliminary study, these phonetic characteristics of self-created Fan Qie or literal phonetics have three aspects: (1) Consistent with the traditional Chinese pronunciation in Yun Shu; (2) Reflect some partially changes in common language (e.g., individual word pronunciation or pronunciation of some words); (3) Varied from the traditional pronunciation in Yun Shu, and also different from the laws of evolution of common language phonetics. We call these three aspects special phonetic annotations.

In this paper, special phonetic annotations in Tangshu Shiyin were included as the subject, classical philology collation method, limited corpus analysis, Fan Qie link method, Fan Qie comparison method and statistics method were used to explore the nature of initial consonant characteristics in these phonetic annotations. Because these annotations were created by Dong Chong born in Raozhou Jiangxi Province, the main objective is to explore the relationship between the initial consonant characteristics in these special phonetic annotations and historical dialect of Jiangxi Province in Song Dynasty, providing reference materials and basis for the study of historical dialect of Jiangxi Province.

2. Special phonetic annotation phenomenon and phonetic nature in Tangshu Shiyin

2.1 Mutual initial consonant annotation of Zhuang (↔◁) Group and Jing (↔↘) Group¹

(1) Mutual Phonetic Annotation Phenomenon of Zhuang Consonant and Jing Consonant

There are 9 cases of mixed Zhuang and Jing consonant annotations in Shiyin, for example:

① Jing (↔↘) and Zhuang (↔◁) consonant mutual phonetic annotations: 组 ↘ zeguqie, Ce ↘ Guqie 2-17, ²鄮 ↘ zeganqie, Ce ↘ Ganqie 4-38; 擗 ↘ cejiaoqie, Ze ↘ Jiaoqie 19-176

② Qing (↔↘) and Chu (↔◁) consonant mutual phonetic annotations: 警 ↘ chubaqie, Cu ↘ Baqie 22-215 lower;

③ Cong (○) and Chong (○↗) consonant mutual phonetic annotations: 咀 ↗ ji: Zhuangsuoqie, pronunciation Ju ○ cilyeqie, 15-143; ³𪛗 ○ chuxianqie, Cu ↗ Xianqie 25-222 lower

④ Xin (↔) and Sheng (↗) consonant mutual phonetic annotations: 蒐 ↗ suojiuqie, Su ↗ Jiuqie 24-221

¹Initial consonant is attached with the middle ancient voice simulation. Refer to Wang Li's History of Chinese Phonetics, China Social Sciences Press, 1998, Page 165. Qie characters and anti-Qie characters below, and right lower corner of direct voice are noted with the middle ancient voice simulation. For the convenience of discussion, Fei initial consonants separated from middle ancient Bang consonants are simulated to Fei <◁, Fu <▷, Feng ↗, Wei ↘ and Xia consonants tertiary, independent of Yu consonant, simulated to ↗.

²In the examples of Yinshi, "Zu (组)" is noted with the character, and "Zeguqie" below is the anti-Qie character in the Guang Yun; "Ceguqie" is Dong's phonetic annotation. "2" means the number of volumes of annotation in the Shiyin. "17" means the number of volumes of the noted character in the New Tangshu. The same as below.

³The noted character is not included into the Guang Yun, so anti-Qie character is selected in Ji Yun, marked with Ji (集) below. The direct voice is marked with anti-Qie character according to the Guang Yun. The same as below.

upper; 澍 / shuyouqie, Su_ houqie 3-24

⑤ Chong (○ / ↗) and Xie () consonant mutual phonetic annotations: 苴 ji: Xujieqie,

Chu ○ / ↗ Jiaqie ○ / ↗ 5-43 lower.

Jing and Zhuang consonant mutual phonetic annotations have the following performance in Shiyin: (1) Mutual Zhuang consonant tertiary and Jing consonant tertiary phonetic annotations, for example, “菟 / ” phonetics from “肃_ 鳩”. (2) Mutual Zhuang consonant secondary and Jing consonant tertiary phonetic annotations, for example, “苴 ” phonetics from “锄_ 驾”. (3) The upper word cut from Zhuang consonant combines with the lower word from the first-class rhyme to note the first-class word of Jing consonant, for example, “组_ ” from “侧古_ “. (4) The upper word cut from Jing consonant combines with the lower word from the second-class rhyme to note the second-class word of Zhuang consonant, for example, “警_ “ from “粗_ 八”.

(2) Presentations of Mixing of Zhuang and Jing Initial Consonant in the Historical and Model Dialect of Jiangxi Province

The above mutual annotation phenomenon of Zhuang and Jing initial consonant is similar to the mutual use of Jing and Zhao consonant in the Deng Yin Men Fa, indicating Zhuang initial consonant pronounces at the tip of the tongue. In common languages, Zhuang initial consonant combines with Zhang consonant to form the retroflex initial consonant, [ʃ, ʒ, ʒ̥] in the modern Chinese. However, when it comes to many dialects of the South China including Gan dialect, most of Zhong Gu Zhuang initial consonants do not pronounce the retroflex consonant, while the affricate consonant and fricative consonant at the tip of the tongue, [tʃ, tʃ̥, s̺]. The mixing of these Zhuang and Jing initial consonants in Shiyin shall be the records of these dialect characteristics. Dong Chong was native in Poyang, Jiangxi Province. In the modern Gan dialect, Jing and Zhuang initial consonants are mixed. “The Gan dialect sites where Jing and Zhuang consonants are mixed with Hong Yin Yun into [tʃ, tʃ̥, s̺] are Yongxiu, Duchang, Nanchang, Ji'an, Xia Jiang, Linchuan, Hukou, while partial dialect sites in Fengxin, Guangchang and Lichuan has Jing and Zhuang consonant mixed with Hong Yin Yun into [tʃ, tʃ̥, s̺].”^[1] In the partially representative sites of model Gan dialect in Jiangxin Province, Hong Yin initial consonants of Jing and Zhuang consonants are read as follows^{[2]: 4}

Representative words Dialect site	Zhuang consonant						Jing consonant				
	债	助	茶	铲	疮	省	租	凑	菜	仓	孙
Nanchang	←←	←←	←←	←←	←←	←	←←	←←	←←	←←	←
Duchang	←←	○	○	○	○	←	←←	○	○	←←	←
Gao'an	←←	←←	←←	←←	←←	←	←←	←←	←←	←←	←
Ji'an	←←	←←	←←	←←	←←	←	←←	←←	←←	←←	←
Xiajiang	←←	←←	←←	←←	←←	←	←←	←←	←←	←←	←
Linchuan	←←	←←	←←	←←	←←	←	←←	←←	←←	←←	←
Pengze	←←	←←	←←	←←	←←	←	←←	←←	←←	←←	←

According to the above analysis, we deduce that the phenomenon where Hong Yin of Jing and Zhuang consonants pronounces at the tip of the tongue as the affricate consonant and fricative consonant emerged in the Song Dynasty.

In addition, Dong has 2 cases of mutual Zhi () and Jing (←) initial consonants phonetic

⁴The phonetics of following representative words of modern Gan dialect refer to Chen Changyi et al.'s Records of Jiangxi Province-Dialect Records of Jiangxi Province, China Local Records Publishing, 2005.

annotation performance:

- ① 徹 tertiary noted with 清 tertiary: 琛 _ choulinqie, Qi _ Jinqie, 8-74 upper
- ② 澄 tertiary noted with 邪 tertiary: 佇 N zhilyuqie, Xu Lyuqie, 7-72 middle

Looking at the above two cases from the view of Zhi and Zhao confluence, it seems similar to 照二归 Jing consonant where Zheng Chi Yin turns into Chi Tou Yin. However, this phenomenon is very special and has no enough examples proved. So this deduction is in doubt. There is one case of mutual Cong (○) and Chong () phonetic annotations in Shiyin: 戕 ○ zailiangqie, Xu Yangqie, 17-154.

In the Tangshu Shiyin, Chuan (○[˘]) and Chan (˘) consonants are combined, but Cong and Xie consonants are not corresponding and separated. There is only 1 case of mutual annotation, accounting for only 0.62%, and not indicating the trend of Cong and Xie consonant combination. We think that this case of Cong and Xie mutual annotation is also a dialect phenomenon. Yan Zhitui said that the people of South China did not identify the words Cong (从) and Xie (邪). According to the Wanxiang Mingyi, Zhou Zumo concluded the phonetic system in the original Yu Pian has no differentiation of Cong (从) and Xie (邪), while this phonetic system was just the first system of the South China in six dynasties.^[3] In the Gan dialect of Song Dynasty, the phenomenon of Cong (从) and Xie (邪) confusion comes from the Zhong Gu Nan Yin.

2.2 Mutual phonetic annotations of dental consonant Zhi (), Zhang (↔[°]), Jing (↔) and lingual consonant Duan (↔) initial consonants

(1) 4 Cases of Mutual Duan (↔) and Zhi () Consonants Annotations:

- ① 透 noted with 徹: 佻 ↔ tudiaoqie, Chi _ Liaoqie, 6-70 lower
- ② Mutual annotation of the Chinese character 定 and 澄: 愷 N zhilingqie, Te○ Lingqie, 17-153; 幢○ tuhongqie, ZhaiNHongqie, 15-136
- ③ 澄 noted with 透: 緄N chiweiqie, Ta ↔ Weiqie, 17-152

(2) 2 Cases of Mutual Duan, Jing and Zhang Consonants Annotations:

- ① 昌 noted with 透: 俶↔[°] _ changliuqie, Tian ↔ Zhuqie, 7-72 middle
- ② 从 noted with 透: 摧○ zuohuiqie, Ta ↔ Huiqie, 21-203

Tangshu Shiyin has the mutual annotations of partial She Shang and She Tou Yin, for example, 澄 noted with Ding: “愷, Te Ling Qie”. From this part of corpus, it can be seen that “there is no She Shang Yin since the ancient times”. However, Dong Chong's phonetic annotations have two mutual annotations of Jing and Zhang consonants and She Tou Yin. This indicates that the mutual phonetic annotation of Zhi consonant and She Tou Yin. Through the study of limited statistics on Dong's phonetic annotations, we found Zhi and Zhao confluence. The mutual annotations of Zhi, Jing and Zhang, and Duan annotations could be seen as the mutual annotations within the scope of Chi Yin. This corresponds to the phenomenon where Chi Yin turns into She Tou Yin in Gan dialect.

In the modern Gan dialect, there is a phenomenon where Zhi, Zhang and Jing initial consonants confluent with Duan consonant read as t and t^h.^[4] In the modern Gan dialect, Guzhi, Zhang, Jing confluent with Duan consonants read as t and t^h below:

Representative words Dialect site	Zhi consonant			Zhang consonant			Jing consonant		
	中	展	除	砖	唱	臭	灾	村	层
Fengxin	↔	↔	↔	↔	↔	↔	↔	↔	↔
Yihuang	↔	↔	↔	↔	↔	↔	↔	↔	↔
Le'an	↔	↔	↔	↔	↔	↔ [°]	↔	↔	↔
Lichuan	↔	↔	↔ [°]	↔ [°]	↔	↔ [°]	↔	↔	↔

In the modern Gan dialect, the phenomenon where Zhi, Zhang, Jing read as Duan consonant is extensive, but presents with different characteristics. Zhi and Zhang consonant words from the same source may have different performance in the same dialect. The mutual annotations of Zhi, Jing, Zhang and Duan initial consonants in the Tangshu Shiyin indicate the affricate consonant characteristics of She Chi Yin in the Gan dialect.

2.3 Mutual annotations of Ri (Q) consonant and Ying () consonant, Yi (⊖) consonant, Ni (Niang) (◆) consonant

In the modern Gan dialect, the phonetics of ancient Ri consonant are varied, such as zero initial consonant, Bian Yin (ℓ) or tongue tip nose voice (◆). This phenomenon may happen in the Song Dynasty. In the Dong Chong's phonetic annotations, there are few mutual annotations of Ri consonant and Ying consonant, Yi consonant and Niang consonant.

①日 Noted with 影: 然QRuyanqie, Yan Shanqie, 5-43 Lower

②日 Noted with 以: 汭QEr'ruiqie, Yu⊖Ruiqie, 8-74 Upper; QRuyianqie, Yi⊖ Yangqie, 23-217 Upper

③日 Noted with 娘: 妊QRuzhenqie, Nv◆ Zhenqie, 10-83; 輻(輻)QRuzhiqie, Nv Zhiqie, 12-104; 经(经)QRuzhenqie, Nv◆ Zhenqie, 16-149

Mutual annotations of Ri consonant and Ying and Yi consonants indicates that Ri consonant reads as zero initial consonant. Mutual annotations of Ri consonant and Niang consonant indicate that Ri consonant reads as the nose voice initial consonant. The above characteristics are reflected in the modern Gan dialect, for example, “让” (Ri consonant), “养” (Yi consonant) has the phenomenon where vowel sound reads as zero initial consonant in Boyang county.^[5] In the modern dialect, “Ri consonant reads Huo, sometimes Bai, the same as the Ni consonant in front of Xi Yin (Jin Du)”.^[1] The phonetics of Ri consonant in the modern Gan dialect are as follows:

Representative words Dialect site	Ri consonant							
	肉	让	人	认	软	任	染	惹
Fengxin	Q	Q	Q	Q	Q	ℓ	Q	ℓ
Yichun	Q	Q	Q	—	Q	—	—	—
Nanchang	Q	Q	Q	Q	Q	ℓ	ℓ	—
Gao'an	—	—	—	—	—	ℓ	ℓ	ℓ
Lichuan	Q	Q	Q	Q	Q	Q	Q	Q
Ji'an	Q	ℓ	Q	Q	Q	ℓ	ℓ	Q

Wherein, Ri consonant in the modern Gan dialect in Jiangxi Province looks like later changes, confused with Lai consonant after Ri consonant ℓ is confluent with Ni (Niang) consonant.

In addition, Dong Chong's phonetic annotations have a case of 日 noted with 书: 汭_{Qer'ruiqie}, Shu·Shuiqie, 6-70 lower

Ri consonant is the sub-voiced initial consonant paired with Zhang consonant, but Ri consonant may not read as the corresponding voiced fricative consonant in the Gan dialect. In the modern Gan dialect, there is a phenomenon where Ri consonant is confused with Shu consonant.^[6]

2.4 Mutual annotations of Fei and Xiao closed initial consonant

Dong Chong's phonetic annotations has a case where Qing Chun Yin 奉 (↓-)consonant noted with 匣 (↖) consonant closed consonant: 坟_{↓ fangwenqie}, Hu~ Wenqie, 5-54

Under the condition of close consonant, Xia consonant reads with the Qing Chun Yin. This is an obvious characteristic of Gan dialect. “In the Gan dialect of Jiangxi Province, Xiao and Xia closed consonant and Fei consonant ㄨ are extensive phonetic characteristics. According to the

preliminary investigation, Xiao and Xia closed consonants are confused with Fei consonant in most sites, but only Hukou County has no confusion of this point.” [1] For example, the Chinese character “火” has its initial consonant read as ɣ in 70 counties and cities of Jiangxi Province, except for Xingzi, Duchang, Xinjian and Pengze. This extensive dialect phenomenon may just have emerged in the Song Dynasty, so there is only one case.

2.5 Mutual annotations of Jian () consonant, Zhi () and Zhang () initial consonants

①章 Noted with 见: 鄞, Zhirenqie (Ji), Ji Yinqie, 7-73 Upper

②知 Noted with 见: 暉 Zhujiiaoqie, Jiu Jiaoqie, 9-79

③章 Noted with 溪: 麇, Zhuliangqie, Qiu Liangqie, 23-219

④群 Noted with 昌: 璩, Quyingqie, Che Yingqie, 4-32

The ancient phenomenon where Jian initial consonant was confused with Zhi and Zhang initial consonants is common in the modern Gan dialect. There will be two situations: (1) Read as She Mian Yin initial consonant ʃ, (2) read as the She Ye Yin initial consonant ʃ̣. For example: “珍” (Zhi consonant), “巾” (Jian consonant), “张” (Zhi consonant), “整” (Zhang consonant) read as “ʃ” in Wuning, Wanan, Dayu and others in Jiangxi Province, while read as “ʃ̣” in Xingzi, Zhangshu, Xingan, Yichun, Pingxiang and Yudu and others; Furthermore: “陈” (Cheng consonant), “近” (Qun consonant) read as “ʃ̣” in Lichuan and Nancheng and others in Jiangxi Province, while read as “ʃ̣̣” in Yichun. [5]

In the phonetic system of “Gujin Yunhui Juyao”, Zhonggu Jian initial consonant has become “E” voice. The voice of Yunhui is the common voice in the juncture of Fujian, Zhejiang and Jiangxi in ancient times. This may be a popular standard voice in the South China in the beginning of Yuan Dynasty and end of Song Dynasty. In the Shiyin, the mixing of Jian initial consonant and Zhi initial consonant indicates that Jian initial consonant is confluent with Zhi and Zhang initial consonant after becoming “E” voice. In the modern Gan dialect of Jiangxi Province, ancient Jian initial consonant is confluent with Zhi and Zhang initial consonant below:

Representative words Dialect site	Zhi consonant			Zhang consonant			Jian consonant		
	猪	池	转	煮	齿	穿	居	技	拳
Nanchang	↔°	↔—	↔—	↔°	↔—	↔—	↔°	↔—	↔—
Nancheng	↔°	↔—	↔°	↔°	↔—	↔—	↔°	↔—	—
Nanfeng	↔°	↔—	↔°	↔°	↔—	↔—		↔—	↔—
Qianshan	↔°	↔—	↔°	↔°	↔—	↔—	↔°	↔—	↔—
Yichun	↔°	↔̣—	↔̣	↔°	↔—	↔̣—	↔°	↔̣—	↔—
Zhangshu	↔̣	↔̣—	↔̣	↔̣	↔̣—	↔̣—	↔°	↔—	↔̣—

2.6 Mutual annotations of velar sound and glottal sound initial consonants

Velar Sound Jian, Xi and Qun Consonants Have Mutual Annotations with Glottal Sound Xiao and Xia (Yun) Consonants. There Are Three Categories.

(1) Mutual annotations of Jian (), Xi (k_) and Xiao (x_) consonants

① 见 noted with 晓: 郟 guqiaqie, Qi Qiaqie, 12-106

② 晓 noted with 见: 翊 kuangyuqie, Jiu Yuqie, 6-71 upper; 擣 xuweiqie, Ju Wei qie, 7-72 middle

③ 溪 noted with 晓: 筠 kuguqie, Huang Guqie, 3-21; 屺 xueliqie, Xu Liqie, 7-71 lower;

峴 _{-xuliqie}, Xu _{-Liqie}, 8-74 upper; 瞰 _{-kulanqie}, Huang _{-Lanqie}, 17-155

(2) Mutual annotations of Jian () , Xi () and Xia () consonants

① 见 noted with 匣: 緱 _{guhoubie}, Hu _{-Goubie}, 21-202

② 匣 noted with 见: 鞞 _{-hugeqie}, Ju _k Ye _{qie}, 10-87; 确 _{-hujueqie}, Qi Yue _{qie}, 12-110; 确 _{-hujueqie}, Gu Yue _{qie}, 23-216 lower

③ 溪 noted with 匣: 嶮 _{-kuxiqie}, Xian _{-Jiqie}, 5-43 lower; 诘 _{-qujiqie}, Xi _{-Jiqie}, 7-72 middle; 鞞 _{-kujiaoqie}, Hu _{-Wuqie}, 16-149

(3) 2 cases of mutual annotations of Jian () consonant, Qun (•) consonant, Xia () consonant, Yun () consonant

① 见 noted with 云: 穀 _{yueqie}, You _{-Yueqie}, 8-75 lower

② 群 noted with 云: 璩 _{qiangyuqie}, Yong _{-Yuqie}, 9-79

The phonetic characteristics in the above mutual annotations have no presentations in the modern Gan dialect of Jiangxi Province, possibly related with surrounding dialects. From the view of dialect performance, in the modern Fujian voice, many ancient glottal sound Xiao and Xia read as the velar sound (She Gen Sai Yin), for example, Hua (划, Xia consonant) reads as k for the initial consonant in the modern Xiamen and Chaoshan dialects; Hua (滑, Xia consonant) reads as k for the initial consonant in Xiamen, Chaozhou, Fujian and Jian'ou; In the Wu dialect of the South China, Xia consonant also reads as the She Gen Sai Yin, for example, “He” (Xia consonant) in He Zuo (合作) reads as k for the initial consonant in the Jiangsu dialect; “Hui” (Xia consonant) reads as for the initial consonant in Wenzhou dialect; “Hou” (Xia consonant) reads as • for Bai consonant in the Wenzhou dialect. Li Rong concluded that Xia consonant read as •-(-) in ancient times. In the modern Jiangxi dialect, Gurao region is still the juncture of Min dialect, Wu dialect and Gan dialect. In the phonetic annotations of Tangshu Shiyin, 16 cases of velar sound and glottal sound mixing. This may be the product of Wu and Min dialect influence.

2.7 Mutual annotations of glottal sound Xiao (), Xia () consonant and Yun () consonant and Yi () consonant

In Dong's phonetic annotations, Xiao and Xia consonants are confused with Yun and Yi consonant, presenting with few changes in the guttural fricative consonant weakening.

① 云 noted with 匣: 鳧 _{-weiweiqie}, Hu _{-Biqie}, 6-70 lower; 侑 _{-yujiuqie}, Xi _{-Jiuqie}, 18-164

② 匣 noted with 以: 茱 _{-hujiongqie}, Yu _{-Qingqie}, 8-75 lower; 茱 _{-hujiongqie}, Wei _{-qiongqie}, 25-223 upper

③ 云 noted with 晓: 郢 _{-wangfenqie}, Xu _{-Yunqie}, 7-73 upper

④ 晓 noted with 以: 歙 _{-xujiqie}, Yi _{-Jiqie}, 7-73 upper

In the Shiyin, confusion of Xia consonant, Yun and Yi consonants happens under the closed pronunciation, in particular to the close relation between Xia closed consonant and Yun and Yi consonants. The phenomenon where Xia closed consonant reads as the zero initial consonant is also common the Shangrao region of Jiangxi Province today and occasionally exists in the Gan dialect region of Jiangxi Province as follows.

Representative words Dialect site	Ri consonant							
	华	壶	回	画	魂	横	红	滑
Fengxin	→	-	- ^o	→	- [◆]	→·	h·	→ ^l
Shangrao	→	-	- ^o	→	- ^o	→·	o·	→

Yushan	→	ˆ	◦	→		→	◦	→
Guangfeng	→	ˆ	◦	◦	◦	→	◦	◦

The phenomenon where closed Hong Yin of Xia consonant reads as zero initial consonant is extensive in the modern Wu dialect of Shangrao region, but only in Fengxin in the Gan dialect region. This confusion phenomenon in Tangshu Shiyin is closed to the Wu dialect. This may be the product of Wu dialect influence.

2.8 Mutual annotations of labial sound initial consonant

(1) 1 Case of Mutual Annotations of Ming (𠄎) Consonant and Bing (𠄎) Consonant,

明 noted with 以: 詔𠄎 *mizhengqie*, Bi₁Zhengqie, 21-204

Ming consonant reads as the labial voiced affricate consonant. This is a feature of Minnan dialect of the south of the Yangtze river region of modern China. For example, “Mo (模)”, “Mi (米)”, “Mu (木)” and “Mai (卖)” (Ming consonant) read as b in Xiamen and Chaozhou dialect regions. Dong Chong added Bing consonant into Ming consonant of Chinese characters in common languages, similar to the phenomenon of Bing and Ming consonants mixing in the Min dialect. Dong was native in Raozhou of North Song Dynasty. Raozhou is located in the Shangrao-Yingtang-Jingdezhen zone in the east of Jiangxi Poyang Lake. Yingtang and Jingdezhen zone falls in the Gan dialect region; the modern Shangrao region has the distribution of scattered Min dialect points. If Dong Chong had Bing and Ming consonant mixing, this may be the relic of early Min dialect.

(2) Mutual Annotations of Fu <> and Wei : Consonants

麻 M *wenfuqie*, Fang <> Wuqie, 6-70 upper

Mutual annotations of Fu and Wei consonants are found in the Wu dialect. Dong's hometown at that time was located in the Shangrao-Yingtang and Jingdezhen zone in the east of Jiangxi Poyang Lake. Shangrao falls in the Wu dialect regions. Maybe Dong's dialect was impacted by the neighboring regional dialect, mixed with other dialects. This shall be a dialect intercross phenomenon.

3. Phonetic foundation problems of special phonetic annotations in Tangshu Shiyin and dialect historical study value

By using the literature review and comparison with the modern dialect, the initial consonant characteristics in the special phonetic annotations of Tangshu Shiyin were explored, indicating many phenomena present with the dialect characteristics of Jiangxi Province. For example:

1). Zhao Er ㄨㄨ Gui Jing ㄨㄨ. In the modern Gan dialect, ancient Zhuang ㄨㄨ, Chu ㄨㄨ, Chong ㄨㄨ and Sheng ㄨㄨ consonants are confluent with Jing ㄨㄨ, Qing ㄨㄨ, Cong ㄨㄨ, Xin ㄨ and Xie ㄨ consonants, reading as tongue tip front voice ㄨㄨ, ㄨㄨ, ㄨ. In the Tangshu Shiyin, Zhao and Er ㄨㄨ initial consonants have mutual annotations with Jing ㄨㄨ initial consonant. This is the presentation of this characteristics without doubt.

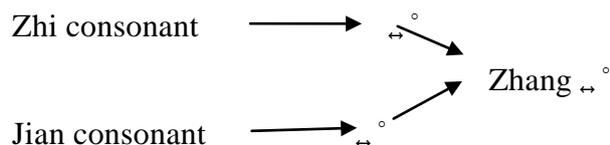
2). Affricate voice of She Chi Yin. Ancient Zhi ㄨ and Zhang ㄨ initial consonants have been confluent in the phonetic system of Song Dynasty, reading as the initial consonant of affricate and fricative voices ㄨ[◦][7]. In the Tangshu Shiyin, ancient Zhi and Zhang initial consonants, ㄨ[◦] have mutual annotations with Duan initial consonant ㄨ. This indicates the confluence of Zhi and Zhang affricate and fricative voice initial consonant, reading as the affricate voice. This is one of extensive characteristics in the modern Gan dialect distribution of Jiangxi Province.

3). Differentiation of Ri consonant In the modern Gan dialect, ancient Ri ㄨ consonant reads as zero initial consonant ㄨ, nose voice ㄨ and Bian Yin ㄨ. In the Tangshu Shiyin, Ri consonant ㄨ,

Ying and Yu consonants (confluent in Song Dynasty's phonetic system reading as the zero initial consonant \emptyset ^[7]) have mutual annotations with Ni η consonant and Lai l consonant. This shows that the differentiation of Ri consonant in the modern Gan dialect of Jiangxi emerged in the Song Dynasty.

4). Light labial voice of closed glottal sound, that is, initial consonant reads as ɸ under the ancient Xiao initial consonant ɸ combined with the closed consonant Hu. This is the symbolic characteristic of modern Gan dialect. The mutual annotations of closed Xiao and Fei initial consonants in the Tangshu Shiyin indicate that ɸ dialect characteristic in the Gan dialect emerged in the Song Dynasty. $\text{ɸ} \rightarrow \text{ɸ}$

5). Confluence of Jian initial consonant and Zhi ʈʂ and Zhang ʈʂ° initial consonant ʈʂ . In the modern Gan dialect of Jiangxi, ancient Zhi ʈʂ and Zhang ʈʂ° initial consonants often are confluent with Jian fine initial consonant reading as the initial consonant of Zu ʈʂ° , except partially affricate consonant reading ʈʂ , ʈʂ° . In the Tangshu Shiyin, the mutual annotations of ancient Jian initial consonant ʈʂ and Zhi and Zhang initial consonant indicated the ancient Jian initial consonant became E voice. The confluent features with Zhi ʈʂ and Zhang ʈʂ° initial consonant are as follows:



The phonetic features of special phonetic annotations in the Tangshu Shiyin are consistent with the modern Gan dialect of Jiangxi. These features are presentations of phonetic features of Jiangxi dialect in the Song Dynasty. These phonetic annotations provide important literature material for understanding the Jiangxi dialect of Song Dynasty. Meanwhile, this provides strong evidence for our confirmation of Dong Chong's books.

Because of lacking of literature, Dong Chong's life story and native place were obtained from his preface. It can be seen that he was the doctor of arts in the Chongning years of Song Huizong. Other reference is the “New Tangshu Shiyin, Raozhou confuscian Dong Chong” recorded in Wang Guanguo's Xue Lin. There is no other evidence. We apply the evidence of dialect to make sure that Dong Chong was the “Raozhou Confucian” as recorded in Wang Guanguo's Xue Lin.

Today Raozhou in North Song Dynasty covers counties and cities of Shangrao-Yingtang-Jingdezhen zone in the east of Jiangxi Poyang Lake, and most of these places fall in the modern Gan dialect region. Shangrao falls in the Wu dialect region and also with Min dialect features. Special phonetic annotations in the Tangshu Shiyin reflect the initial consonant features of modern Gan dialect and some of them show the features of Min and Wu dialects. They record the main features of Jiangxi dialect in the Song Dynasty and fully reflect the complexity and variety of Jiangxi dialect characteristics of Song Dynasty, consistent with the dialect distribution of modern northeast region of Jiangxi Province.

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