

Chinese descriptions of Sanskrit

The concept of ‘root’ and *puruṣa* nominal declension

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The paper focus on two aspects: the acceptability of some previous interpretations of the term *zìtǐ* (字體) as ‘word root’ or ‘word stem’ in Chinese descriptions of Sanskrit lexemes; and the phonological analysis of the declension of *puruṣa* ‘man,’ transcribed into Chinese characters by the monk Hui Li (慧立, 629-665 A.D.). As will be seen, *zìtǐ* seems to refer to the description of Sanskrit words as they are composed in the writing system (by letter addition), rather than to their grammatical structure. With regard to the declension of *puruṣa*, it appears that the phonetic reconstructions proposed by Pulleyblank (1991) for the Middle Chinese pronunciation of the characters employed seem to be accurate with respect to the corresponding Sanskrit syllables.

Keywords: Chinese historical phonology; Chinese linguistic tradition; Sino-Indian contact; Chinese description of Sanskrit.

1. Introduction

This paper proposes a reflection on two related topics: on the one hand, it explores the possible interpretation of the term *zìtǐ* (字體) as applied in some Chinese descriptions of Sanskrit word formation processes; on the other hand, it analyzes from a phonological point of view Hui Li’s declension of *puruṣa* “man” in the well-known *The Biography of Xuanzang*.

Both issues discussed share some essential features: first, the fact that the various passages referred to and commented on are taken from texts belonging to the so-called Chinese Buddhist canon, thus constituting accounts extracted from a corpus that is quite homogeneous in content and cultural background. Second, Hui Li’s *Biography of Xuanzang* seems to be an extremely significant work for both purposes, as not only it contains the nominal declension of *puruṣa* in Chinese characters, but the text also offers an interesting occurrence of *zìtǐ* that can be compared with uses of the same term in other accounts.

The complete title of Hui Li’s work is *Dà Táng dàcí ‘ēnsì Sānzàng fǎshī zhuàn* (大唐大慈恩寺三藏法師傳), translated by Beal (1914) as “The Biography of the Tripitaka Master of the Great Ci’en Monastery” and commonly abbreviated as “The Biography of Xuanzang” by Hui Li. It should be pointed out that “The Biography of Xuanzang,” as it has come down to us, was actually completed by the monk Yancong in 688 A.D. on the basis of Hui Li’s earlier text. However, in this paper we will refer to the *Biography* as Hui Li’s authentic work as a matter of tradition and simplicity.

A probably better known text is the *Dà Táng Xīyù Jì* (大唐西域記) (“The Great Tang Dynasty Record of the Western Regions”) written by the monk Bianji on the basis of Xuanzang’s (玄奘 600/602-664 A.D.) oral account in 646 A.D. In this famous work the monk describes the long journey performed by Xuanzang to the West, the places, customs and people he encountered, and the religious life he experienced. Hui Li’s “Biography” is a renarration of Xuanzang’s enterprise, and it is particularly valuable from a linguistic perspective, containing considerable detail regarding Xuanzang’s grammatical studies.

For example, Hui Li mentions different Indian books about language, naming in particular a treatise learnt by Xuanzang on the so called *shēngmíng* (聲明), the “science of sounds.” Its Chinese name *pí-jiā-luó* (毘伽羅)¹ or *pí-yē-jié-là-nán* (毘耶羯刺謫) is a transcription of the Sanskrit term *vyākaraṇa* “grammar:”

(1) 兼學婆羅門書，印度梵書名為記論 [...] 即舊譯云毘伽羅論者是也；然其音不正：若正應云毘耶羯刺謫[...]。此翻名為聲明記論²

(He) also studied the Brahmanical books, the Indian book with the name 'mnemonic treatise' [...]. This is the book that was called *Pí-jiā-luó* treatise in the old translations; however, this pronunciation is incorrect: to be exact it should be called *pí-yē-jié-là-nán* [...]. It is also called ‘mnemonic treatise on the science of sounds’ (see also Beal 1914:121-122).

Another important source of information concerning Chinese descriptions of Sanskrit is the *Nánhǎi jìguī nèifǎ zhuàn* (南海寄歸內法傳) by Yi Jing (義淨 635-713 A.D.), translated by Takakusu (1986) as “A Record of Buddhist Practices Sent Home from the Southern Sea” (henceforth abbreviated as Ji Jing’s “Record”).

¹ For previous Chinese uses of the term *pí-jiā-luó* in association with texts about words and sounds see Teng (2014).

² CBETA Vol. 50, n.2053, Chap. 3, p. 24.

Both texts offer a significant number of important annotations regarding the most salient grammatical features of Sanskrit (see Staal 1972), although they were not specifically meant for the purpose of conveying linguistic information. The *Biography of Xuanzang* by Hui Li and Yi Jing's "Record" are in fact quite remarkable from the linguistic point of view. Among the other technical features of Sanskrit morphology alien to Chinese, Hui Li explains the 'eight cases' (*bā zhuàn* 八轉), or the distinction between *tinanta* (*dǐyànduō* 底彥多) 'verbal' and *subanta* (*sūmànduō* 蘇漫多) 'nominal' terminations. He also tries to express the concepts of grammatical number and gender applying a very interesting terminology. As for the notion of singular, dual and plural number, Hui Li uses the expressions *shuō yī* (說一) 'talking about one', *shuō èr* (說二) 'talking about two' and *shuō duō* (說多) 'talking about many' respectively. These are directly translated from the native Sanskrit terms *ekavacana*, *dvivacana* and *bahuvacana*. Regarding gender, Hui Li refers to 'masculine sounds' (*nán sheng* 男聲), 'feminine sounds' (*nǚ sheng* 女聲), and 'neither- masculine nor-feminine sounds' (*fēi nán fēi nǚ sheng* 非男非女聲).

The same grammatical notions are also dealt in Yi Jing's account, with only slightly different terminology. For example, Yi Jing adopts the equivalent Chinese terms *yī yán* (一言), *èr yán* (二言) and *duō yán* (多言) to express the three categories of morphological number, and he calls the nominal cases of inflection the *qī lì* (七例), considering them seven in number, without the vocative, as in the Indian tradition.

However, it is my opinion that the richness of the linguistic material described in the texts of Hui Li and Yi Jing possibly led scholars to misinterpret the actual meaning of some of the terminology employed by the two monks. This is mainly due to the lack of broader contextualization of these same terms and how they are used in parallel texts in the Chinese Buddhist tradition. Moreover, it is crucial to examine this terminology from the perspective of its relationship with the heritage of Ancient Chinese linguistic conceptions. In particular, I propose a different interpretation of the term *zìtǐ* (字體), often intended as 'word root' or 'word stem' in a morphological sense (see for example Li 1959, Brough 1973), arguing that (at least in the texts here examined) it rather has a graphical application.

2. Terms for 'root' in Chinese texts about Sanskrit

In general it is important to point out that in Chinese Buddhist texts we find different terms generally associated with the concept of 'roots' or 'primary and original elements' for the formation of words. These terms are *zìyuán* (字元), *zìběn* (字本), and *zìtǐ* (字體). Their presence in annotations related to the

description of the Sanskrit language and Indian grammar books, such as those in the accounts of Hui Li and Yi Jing, is why they have been interpreted as belonging to a morphological dimension. ‘Root’ is thus intended in the sense of ‘morphological base’ or ‘minimal lexical element’ from which more complex linguistic units are derived. Consider the following example from Yi Jing’s record.

(2) 三. 謂馱觀章。有一千頌, 專明字元³

III. The book on Dhatu. This consists of 1000 slokas, and treats particularly of grammatical roots (Takakusu 1896: 172).

Nevertheless, such a technical approach to word formation mechanisms in Sanskrit is a metalinguistic competence not necessarily achieved by all Chinese monks, who were quite strongly influenced by their native understanding of language.

It is well known that Chinese tradition placed a special emphasis on the level of graphic representation of words. The study and classification of graphic forms has always been extremely important to the Chinese because of the specificity of their writing system, and in ancient China graphological considerations have played a central role as a method of lexical analysis, especially from an etymological perspective. In this regard, we can mention the example of the *Shuōwén Jiězì* (說文解字, II sec. A.D.), which is not a conventional lexicographical work simply listing the common meaning of words (Bottéro 1996: 2016; Bottéro and Harbsmeier 2008). In its glosses the *Shuōwén* pays attention to a word’s graphic composition, and assigns to characters the meaning suggested by their graphical etymology.

This native conceptualization, strongly focused on characters and their graphic composition, should be taken into consideration when dealing with a topic such as Chinese descriptions of foreign languages and linguistic traditions. In fact, in my view Chinese monks applied this same attention to graphic forms to Sanskrit, treating the formation of Indian lexemes as a combination of graphic units rather than of morphemes. As a result, the various terms meaning ‘root’ in Chinese Buddhist texts likely have graphic rather than grammatical application.

In (3) Yi Jing makes a brief reference to the process of word formation, applying the term *zìtǐ* (字體)

³ CBETA, Vol. 54, n. 2125, Chap. 34: 35.

(3) 文荼則合成字體。且如，樹之一目梵云苾力叉。便引二十餘句經文，共相雜糅，方成一事之號也⁴。

Wencha (Manda or Munda) treats of the formation of words by means of combining (a root and a suffix or suffixes). For instance, one of many names for ‘tree’ in Sanskrit is Vriksha. Thus a name for a thing or a matter is formed by joining (the syllables) together, according to the rules of the Sutra, which consists of more than twenty verses (Takakusu 1896: 174).

According to Brough (1973: 253-254), Yi Jing’s description is not clear enough regarding the correct interpretation to give to *zìtǐ*, suggesting both ‘word-forms’ or ‘word-stems’ as possible readings. In any case, *zìtǐ* would be assigned a grammatical context of application. In my opinion a first question related to the term *zìtǐ* is to ask in what sense this mechanism of word composition was intended by the monk Yi Jing. It is crucial to understand whether the building material of his ‘combining together’ really belongs to a morphological dimension—and thus it makes sense to investigate if Yi Jing is referring to lexemes, stems, roots or other very specific linguistic units—or whether the word formation process is purely considered as a graphic addition of ‘letters.’ Before making assumptions regarding *zìtǐ*, we must also consider that the term *zì* is itself ambiguous, referring to both words and their graphic representations, i.e. characters. *Zì* is indeed used in different meanings in Chinese Buddhist texts, where it is associated with words, syllables and letters.

In this regard, it is interesting to see how *zìtǐ* was interpreted in different ways in its three occurrences within the same passage, this time from *The Biography of Xuanzang* by Hui Li:

(4) [...]又，有字體三百頌；又，有字緣兩種 [...]，此別辯字緣字體。又，有八界論八百頌；此中略合字之緣體⁵。

[...] again, there is one of 300 slokas on the roots (bases) of letters; again, there are (treatises on) two separate kinds of letter-groupings⁶ [...], these distinguish letter-groupings from letter-roots. Again, there is one treatise called Ashta-Dhatu in 800 slokas; in this work there is a brief conjunction of letter-bases and letter-groupings (Beal 1914: 122).

In addition to Beal’s translation, where *zìtǐ* is significantly associated with graphic units (letters), other interpretations seem confusing with respect to its meaning. Julien (1853: 166) proposes three renderings, fluctuating between graphic units and morphological components. He translates the three occurrences of *zìtǐ* as ‘les formes des lettres,’ ‘la forme des mots,’ and ‘racines’ respectively. Similarly,

⁴ CBETA (Vol. 54, n. 2125, Chap. 34: 35).

⁵ CBETA (Vol. 50, n.2053, Chap. 3: 24).

⁶ Here Beal’s translation seems to be wrong: the meaning of *zì yuán* is not ‘letter-groupings’ but the term renders the Indian *pratyaya* ‘suffix’ (see Brough 1973: 254, note 26).

Brough (1973: 249; 254) proposes the two interpretations ‘forms of characters’ and ‘word-stem,’ thus giving to *zītī* a morphological and a graphic application at the same time. Instead, Li (1959: 118) always translates the term with a generic ‘roots of words.’

I argue that *zītī* probably refers to the graphic or external structure of the Sanskrit word, and that the process of lexeme construction is understood by Hui Li as a combination of letters. A graphical interpretation is to be preferred from the internal perspective of Hui Li’s and Yi Jing’s texts, that contain explicit references to the Indian graphic system, and also from the perspective of other Chinese Buddhist works much more focused on Indian syllabary. These latter sources are mostly translations of Indian religious texts, which introduce Indian graphic symbols as a basic knowledge for reciting religious formulas.

Regarding what I called the ‘internal perspective’ of Yi Jing and Hui Li’s accounts, we can see that in the following description of an Indian treatise Yi Jing makes a reference to the *siddham*, i.e. the form of the Indian syllabary that became the standard transmitted to China (Chaudhuri 1997).

(5) 本有四十九字 [...] 成一十八章; 總有一萬餘字, 合三百餘頌⁷

There are forty-nine letters (of the alphabet) [...] arranged in eighteen sections; the total number of syllables is more than 10.000, or more than 300 slokas (Takakusu 1896: 171).

This treatise on ‘letters’, as Yi Jing says, is 300 slokas long. Brough (1973: 249) noticed that 300 slokas is also the same length of the text mentioned by Hui Li in (4). This probably means that the two monks were talking about the same Indian treatise. Crucially, if its content is a *siddham*, *zītī* in (4) cannot have a morphological interpretation. The term *zītī* in general identifies the Indian word structure, but this structure is graphically and not grammatically built.

While grammatical annotations about Sanskrit are not common, Chinese descriptions of the *siddham* are much more frequent (see Chaudhuri 1997, 1998). Terms meaning ‘base’ or ‘root’ in the sense of a primary element employed in the formation of more complex units often appear in these latter accounts, where the graphic application of the terminology is evident. In the example in (6), monk Kumārajīva defines Indian graphic symbols (*zi*) as ‘word roots’ (*zì gēnběn*) because of their function of generating lexemes, and thus to represent meanings⁸.

(6) 四十二字是一切字根本。因字有語，因語有名，因名有義。

The 42 letters are the roots of all words. From letters you get words, from words you get names, and from names meanings.

⁷ CBETA (Vol. 54, n. 2125, Chap. 34: 35).

⁸ Kumārajīva’s text (a Chinese translation of the *Mahāprajñāpāramitā Sūtra*) is taken from SAT (V. 25, n. 1509). See also Mair (1992).

In addition to the other terms, *zìtǐ* also occurs in these kind of annotations, and it is interesting to see how it specifically designates the graphic form of the Indian word. Perhaps the most salient text in this case is Sengyou's (僧祐 435-518) account, here in (7), in which the author describes Indian lexemes as if they were Chinese characters. The description is part of a section entitled *Hú hàn yì jīng wén zì yīn yì tóng yì jì* (胡漢譯經文字音義同異記), "Notes concerning the similarities and differences of meanings, sounds, and graphic signs in sacred texts translated from Indian languages to Chinese," itself contained in the famous catalog *Chū Sānzāng jìjí* (出三藏記集).⁹

(7) [...] 梵書製文有半字滿字。所以名半字者義未具足，故字體半偏，猶漢文月字虧其傍也。所以名滿字者理既究竟，故字體圓滿，猶漢文日字盈其形也。[...] 又，半字爲體如漢文言字。滿字爲體，如漢文諸字。以者配言方成諸字。諸字兩合即滿之例也。言字單立即半之類也。半字雖單爲字根本，緣有半字得成滿字。

[...] Moreover among the figures made in Indian books there are 'half' characters and 'full' characters. In those which are called 'half' characters the meaning is incomplete, and for this reason the form of the character is partial, as in Chinese writing the character 'moon' is missing a part. Those which are called 'full' characters are finished entirely, and for this reason the form of the character (*zìtǐ*)¹⁰ is perfectly realized, as in the Chinese script the character 'sun' has a full form. [...]. Furthermore, the 'half' characters with regard to structure are like the form of the character *yan* (言) in Chinese writing. With regard to the structure of the 'full' characters, they are like the form of the character *zhu* (諸) in Chinese writing. Through the combination of 者 with the component 言 the character *zhu* 諸 is formed. The character *zhu* with the combination between the two [graphic elements] is thus an example of a 'full' character. The *yan* character alone is of the 'half' character type. Although 'half' characters are simple they constitute the roots of words, and due to the fact that there are 'half' characters 'full' characters can be formed.

'Half-characters' are described as having an unfinished shape, similar to that of the character for 'moon' in Chinese writing, probably because the lower part of the character 月 is open. The so called 'half-characters' are also unable to convey meaning on their own. They are simple elements, regarded as word roots (*zì gēnběn* 字根本) in that they constitute the building blocks for the realization of 'full characters.' These latter units, on the other hand, are defined as having a complete graphic structure, associated with the perfectly closed shape of the Chinese character for 'sun' 日. The text offers a second

⁹ Regarding the *Chū Sānzāng jìjí* see Nattier (2008), or Storch (2014) for information on other Buddhist catalogs. The text in (7) is also commented and translated in French by Bottéro (2016). For another English translation see Boucher (2005). Text from the SAT (Vol. 55, n. 2145).

¹⁰ Note that here *zìtǐ* is clearly given a graphic interpretation also in Bottéro (2016: 16), where the term is translated as *structure graphique (corps)*. Bottéro points out how Chinese graphic terminology is used in Sengyou's text to explain Indian writing.

association between Indian writing and Chinese writing, this time using the Chinese characters *yán* 言 and *zhū* 諸 as examples of ‘half’ and ‘full’ character.

The difference between ‘half’ characters and ‘full’ characters corresponds to the difference between what we would call ‘letters’ and ‘words,’ or to the difference between simple graphic units and complex graphic units of the Sanskrit syllabary. Sengyou’s description, together with the remarkable insistence on *siddham* studies by Chinese monks, suggest that the mechanism of Indian word formation is probably intended in a graphic sense and not in a morphological perspective.

3. The phonological significance of Chinese characters: the case of *puruṣa*’s declension

A second aspect treated in this paper regards a very significant feature of “The Biography of Xuanzang” by Hui Li: the usage of some Chinese characters as phonographical devices in Hui Li’s transcription of *puruṣa* (‘man’) nominal declension. While the inflectional paradigm given in the text has been already studied from the point of view of the semantic definitions there associated with each grammatical case,¹¹ my intent is to describe *puruṣa* paradigm for its phonological significance. It is well known that Chinese transcriptions of foreign terms play a crucial role in reconstructing how Chinese characters were pronounced at different chronological stages of the language. The fortunate circumstance of knowing the Sanskrit forms corresponding to each Hui Li’s transcription renders *puruṣa*’s declension particularly informative, and allows us to compare different systems of reconstruction. In this study I mainly take the systems of Pulleyblank (1991) and of Baxter and Sagart (2014) as a reference, observing whether one or the other provides a better reconstruction for the same characters, i.e. a reconstruction more similar to the intended pronunciation of the Sanskrit syllable.

In the table below *puruṣa*’s (*bùlùshā* 布路沙) nominal declension is given in Chinese characters. Each character is followed by its pīnyīn transcription, and by its phonetic reconstruction according to Pulleyblank’s Late Middle Chinese (LMC) system. In particular, LMC is the designation Pulleyblank (1983, 1984, 1998, 1991, 1999) uses to define the new Chinese language developed in the Tang capital Chang’an during the VIIIth century, and which gradually spread to the rest of the Chinese empire. This idiom would be best represented by Song time Rime Tables, which are collections of characters arranged according to phonetic principles and used as a support during poetic production. LMC is particularly important to Pulleyblank because he considers this language to be a koiné of the period,

¹¹ See D’Antonio and Keidan (2022), Sun (2005: 167-168), Lǚ (1923: 21-22) and Zhang (2020: 250).

the common ancestor of all modern Chinese dialects except the Min dialects (against the existence of a Tang koiné and other Pulleyblank theories see, for example, Branner 2006, Coblin and Norman 1995, Coblin 2003).

Note that when there is a fanqie formula in Hui Li's text to specify the correct pronunciation of a transcribed Sanskrit syllable, the characters used for the phonetic formula were given in parentheses. In addition, an attempt was made to concretely apply the fanqie rule, which consists of combining together the initial consonantal sound of the first character of the gloss and the remaining sounds of the second character. In the table, the fanqie rule is applied to both the LMC reconstructions and the standard Mandarin pronunciation of the same characters. This may require a non-canonical pinyin notation for the syllables resulting from the fanqie combination, again in parentheses. The ? symbol corresponds to a missing or illegible character in Hui Li's transcription, i.e. a graphic form that do not correspond to any modern Chinese characters. Finally, the declined Sanskrit lexeme was provided for each grammatical case.

	SINGULAR	DUAL	PLURAL
NOM	布路殺 <i>bùlùshā</i> <i>puǎ` luǎ` ʂa:t</i> <i>puruṣaḥ</i>	布路筭 <i>bùlùshāo</i> <i>puǎ` luǎ` ʂa:w</i> <i>puruṣau</i>	布路沙 <i>bùlùshā</i> <i>puǎ` luǎ` ʂa:</i> <i>puruṣāḥ</i>
ACC	布路莖 <i>bùlùshān</i> <i>puǎ` luǎ` ʂa:m</i> <i>puruṣam</i>	布路筭 <i>bùlùshāo</i> <i>puǎ` luǎ` ʂa:w</i> <i>puruṣau</i>	布路霜 <i>bùlùshuāng</i> <i>puǎ` luǎ` ʂa:ŋ</i> <i>puruṣān</i>
INSTR	布路鐵拏 <i>bùlùshānǎ</i> <i>puǎ` luǎ` ʂa:t nra:</i> <i>puruṣeṇa</i>	布路? (音鞞借反) <i>bùlù? (biàn)</i> <i>puǎ` luǎ` (pīam`)</i> <i>puruṣābhyām</i>	布路鐵鞞 (or 咽) <i>bùlùshābǐng (or xī)</i> <i>puǎ` luǎ` ʂa:t pjiājǐ`</i> <i>puruṣaiḥ</i>
DAT	布路廈(沙詐反)耶 <i>bùlùshà (yé)</i> <i>puǎ` luǎ` ʂa: (jīa)</i> <i>puruṣāya</i>	布路沙? (鞞借反) <i>bùlùshā? (biàn)</i> <i>puǎ` luǎ` ʂa: (pīam`)</i> <i>puruṣābhyām</i>	布路鐵韻(鞞約反) <i>bùlùshāyùn (bue/biao)</i> <i>puǎ` luǎ` ʂa:t ` (piak)</i> <i>puruṣebhyaḥ</i>
ABL	布路沙哆(他我反) <i>bùlùshādūo (tuǒ)</i>	布路鐵? (鞞借反) <i>bùlùshā? (biàn)</i>	布路鐵韻(鞞約反) <i>bùlùshāyùn</i>

	<i>puǎ` luǎ` ʒa: (tʰa`)</i> <i>puruṣāt</i>	<i>puǎ` luǎ` ʒa:t (?piam`)</i> <i>puruṣābhyām</i>	(b-ue/biao) <i>puǎ` luǎ` ʒa:t` (piak)</i> <i>puruṣebhyaḥ</i>
GEN	布路緞? (子耶反) <i>bùlùshā? (zé)</i> <i>puǎ` luǎ` ʒa:t (tsia)</i> <i>puruṣasya</i>	布路緞? <i>bùlùshā?</i> <i>puǎ` luǎ` ʒa:t ?</i> <i>puruṣayoh</i>	布路緞請 (安威反) <i>bùlùshā`án (ān xiàn)</i> <i>puǎ` luǎ` ʒa:t (?ja:m)</i> <i>puruṣānām</i>
LOC	布路? (所齊反) <i>Bùlù? (sí)</i> <i>puǎ` luǎ` ?(ʒiaj)</i> <i>puruṣe</i>	布路殺諭 <i>bùlùshāyù</i> <i>puǎ` luǎ` ʒa:t jyǎ`</i> <i>puruṣayoh</i>	布路緞縑 (所芻反) <i>bùlùshā (sú)</i> <i>puǎ` luǎ` ʒa:t (ʒuǎ)</i> <i>puruṣeṣu</i>
VOC	布路殺 <i>bùlùshā</i> <i>puǎ` luǎ` ʒa:t</i> <i>puruṣa</i>	布路稍 <i>bùlùshāo</i> <i>puǎ` luǎ` ʒaw`</i> <i>puruṣau</i>	布路沙 <i>bùlùshā</i> <i>puǎ` luǎ` ʒa:</i> <i>puruṣāh</i>

First of all, it can be seen that the declension of *puruṣa* is characterized by a certain degree of inconsistency. For instance, the text renders homonymic elements differently, such as the stem *puruṣa-* (布路沙 LMC *puǎ` luǎ` ʒa:*; Mandarin *bùlùshā*) and the vocative singular form *puruṣa* (布路殺 LMC *puǎ` luǎ` ʒa:t*; Mandarin *bùlùshā*). The same happens for the dual vocative termination, which is written 稍 (LMC *ʒaw`*; Mandarin *shāo*) instead of 箒 (LMC *ʒa:w*; Mandarin *shāo*), as the identical dual nominative and accusative forms. Here Hui Li’s choice could be explained by the intention to represent some intonational aspect of the vocative. Note that the two characters have the same phonetic realization in Mandarin, while they differ only for vowel length and tone in Pulleyblank’s LMC reconstruction. There are also cases where the accuracy of Hui Li’s transcription cannot be verified, because some syllables (typically the termination) are missing. For example, the Sanskrit dual locative *puruṣayoh* is fully rendered as 布路殺諭 (LMC *puǎ` luǎ` ʒa:t jyǎ`*; Mandarin *bùlùshāyù*), but the dual genitive, which is formally equal in Sanskrit, is incomplete. It is given as 布路緞 (LMC *puǎ` luǎ` ʒa:t*; Mandarin *bùlùshā*), without the ending syllable.

Another interesting fact in Hui Li's character choice is that the text freely alternates four different graphemes (殺, 沙, 緞, and 廈) for Sanskrit *ṣa* or *ṣā*. The character 緞 (LMC *ṣa:t*; Mandarin *shā*) is further applied to the syllable *ṣe* of the instrumental singular and of the dative, ablative and locative plural forms, and it is used to represent the final syllable *ṣaiḥ* of the instrumental plural *puruṣaiḥ*. The instrumental plural inflection is especially interesting, because for its realization Hui Li gives two options: 布路緞鞞 (LMC *puā` luā` ṣa:t pjiājḡ*; Mandarin *bùlùshābǐng*) or 布路緞呬 (Mandarin *bùlùshāxì*). No reconstruction is provided by Pulleyblank for the character 呬 (Mandarin *xì*), while 鞞 (LMC *pjiājḡ*; Mandarin *bǐng*) seems to suggest an alternative termination in *-bhis*. This would imply that Hui Li was aware of the existence of a dual option for the instrumental plural: an ending in *-aiḥ* and one in *-bhiḥ*.¹²

As regards Pulleyblank's (1991) phonetic reconstructions, some discrepancies arise regarding final consonants. Sometimes his reconstructions for characters employed by Hui Li display final consonants where the Sanskrit syllables end in a vowel: in particular, this is the case of the above mentioned characters 殺 and 緞 (both LMC *ṣa:t*; Mandarin *shā*). In Pulleyblank's system both characters are represented as LMC *ṣa:t*, while the Sanskrit form would not be closed by a dental consonant. In other words, the final *-t*—supposed to be present in the LMC version of the two characters 殺 and 緞—was not really necessary for the purposes of Hui Li's phonetic notation.

That being the case, it seems hard to explain why Hui Li adds the character 哆 (LMC *tʰa'*; Mandarin *tō*, according to the *fǎnqiè* indication) after 沙 (LMC *ṣa:*; Mandarin *shā*) specifically to represent the final dental of the ablative singular *puruṣāt*. The fact that Hui Li already had two options for rendering the syllable *ṣa:t*, and that he used them even when there was no need, makes it strange to think that he had to resort to a different solution for the ablative singular. When we compare Pulleyblank's reconstructed forms with that of Baxter and Sagart (2014), we find two Middle Chinese (MC) realizations for the character 殺 (LMC *ṣa:t*; Mandarin *shā*), each corresponding to a later development. These are: MC *sreat* > Mandarin *shā*; MC *sreajH* > *shài*. While the first reconstruction is almost the same as that of Pulleyblank, the second reconstruction seems to provide a less problematic phonetic profile for this character. The absence of the final dental consonant would not only make Hui Li's transcription better in all cases where 殺 *shā* is employed, but (more importantly) would give an explanation for his effort to find a way to signal the presence of a final *-t* at the ablative singular.

¹² Cf. Edgerton (1953: 52).

By contrast, Pulleyblank’s reconstructions of final consonants seem to work well with nasals. Hui Li, for example, uses the characters 芟 (LMC *ša:m*; Mandarin *shān*) and 霜 (LMC *ša:ŋ*; Mandarin *shuāng*) for the accusative singular and accusative plural terminations respectively, where Pulleyblank’s forms perfectly fit with the equivalent Sanskrit ones.

Some other comments can be made about the analysis of *fǎnqiè* formulas. In several cases these indications appear crucial, as they suggest the reading of unknown characters or of a lacuna in the text. For example, the formula 鞞僭反 *bǐng jiàn fǎn* that follows the unreadable character employed for the dual instrumental, dative and ablative termination. 鞞 (LMC *pjiəŋ*; Mandarin *bǐng*) and 僭 (LMC *tsiam*; Mandarin *jiàn*) combination tell us that the character should be read in a way very close to *pjam*, which corresponds quite well to the Sanskrit termination *-bhyām*. When a *fǎnqiè* follows a still existing or perfectly readable character, sometimes it happens that the phonetic reconstruction of the *fǎnqiè* formula differs from the reconstruction of the glossed character alone. Interestingly, in almost all cases where this occurs the pronunciation resulting from the *fǎnqiè* is more similar to the reference Sanskrit syllable. For example, the locative plural termination given by Hui Li is 縹 (LMC *tɕəw*; Mandarin *zhòu*), which is glossed with a *fǎnqiè* as 所芻反 *suǒ chú fǎn*. If we combine the initial consonant of 所 (LMC *ɕǎʔ* or *ɕuǎʔ*; Mandarin *suǒ*) and the final of 芻 (LMC *tɕʰuǎʔ*, Mandarin *chú*) according to Pulleyblank’s (1991) reconstruction, we will obtain *-ɕuǎʔ*. Thanks to *fǎnqiè*, the resulting syllable is closer to Sanskrit *-ɕu*.

The only case in which the formula seems to deviate is that of the genitive plural termination, where the character employed is 謫 (LMC *nra:m*, Mandarin *nán*). Here Pulleyblank’s form fully corresponds to Sanskrit *-ṇām*, while his reconstruction of the graphemes 安 (LMC *?an*, Mandarin *ān*) and 咸 (LMC *xhja:m*, Mandarin *xiàn*) appearing in the *fǎnqiè* does not match well to Sanskrit. In fact, the result of the combination would be *?ja:m*. A corresponding reconstruction for the character 謫 is absent in Baxter and Sagart (2014), where it is only provided the Mandarin homophone character 南 (MC *nom*). The character 安 that opens the *fǎnqiè* formula is instead reconstructed as MC *ʔan* in Baxter and Sagart (2014), with an initial vowel.

4. Conclusion

Regarding the question of a possible morphological interpretation of *zìtǐ* (字體), the texts under consideration in this study show a strong connection of this term with elements pertaining to the graphic system. *Zìtǐ* is generally used in reference to the formal structure of an Indian word, but the

word itself is seen as the result of letter compounding, and not as an aggregation of units having grammatical significance. This graphical approach to lexeme formation is typical of the Chinese tradition, and derives from the ancestral practice of decomposing Chinese characters in order to identify their basic graphic constituents. Hence the translation of *zītǐ* as ‘word root’ or ‘word stem’ (where ‘root’ and ‘stem’ are highly technical linguistic concepts) is inappropriate.

On the other hand, the declension of *puruṣa* (布路沙) constitutes an extremely interesting case of Chinese characters employed phonographically: its study reveals some inconsistencies in Hui Li’s character selection, as his rendering of Sanskrit isomorphic elements is treated with graphic alternations in Chinese. Similarly, the same character can be associated with different syllables. Regarding Pulleyblank’s (1991) phonetic reconstructions, with the exception of the two characters 殺 and 鑿, the presumed LMC pronunciation of the vast majority of Chinese forms is shown to be valid with respect to the corresponding Sankrit syllable.

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