



Frozen Sandhi, Flowing Sound: Permanent Euphonic Ligatures and the Idea of Text in Classical Pali Grammars

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Abstract Pali classical grammars reflect a specific idea of what Pali Buddhist texts are. According to this traditional idea, texts are mainly conceived as sound and therefore the initial portions of every grammar deal with sound and sound ligature or sandhi. Sandhi in Pali does not work as systematically as it does in Sanskrit and therefore Pali grammarians have struggled with the optionality of many of their rules on sound ligature. Unlike modern linguists, however, they identify certain patterns of fixed or frozen sandhis that are often associated to the formulas of Pali prose. This paper focuses on these specific frozen sandhis in Pali prose and their connection to the nature of Pali literature broadly. The main working hypothesis is the following: in the same way that certain frozen sandhis in verse obey metrical patterns, frozen sandhis in prose suggest that Pali speech-sounds are subordinated to formulaic rhythmic structures.

Keywords Pali · Sandhi · Text · Sound · Grammar · *Vyākaraṇa* · Formula · Prosody

Abbreviations

B ^e	Burmese edition
C ^e	Sinhalese (Ceylonese) edition
E ^e	European edition
Kacc	Kaccāyana
Kacc-nidd	Suttaniddesa
Kacc-v	Kaccāyana-vutti
Mmd	Mukhamattadīpanī
Mmd-pt	Mukhamattadīpanī-porāṇa-ṭīkā

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Mogg	Moggallāna
Nir	Nirukta
P	Pāṇini
Rūp	Rūpasiddhi
Rūp-ṭ	Rūpasiddhi-ṭikā
Sadd	Saddanīti
S ^c	Thai (Siamese) edition

Introduction: The Meaning of Sound

1.1. Over the centuries monastic students of Pali texts have begun their education by mastering the *suttas* —not the *suttas* of the Tipiṭaka, but the *suttas* of grammatical treatises such as the Kaccāyana (ca. 6th c. CE).¹ Even today, novices in Burma begin their education by reciting aloud and memorising the rules of the Kaccāyana grammar.² For most students, therefore, the Pāli grammatical discourse offers the first scholarly conceptualisation of a Buddhist text.

1.2. Pali grammarians define their subject matter as *sadda* (Skt. *śabda*) “sound”, “word”.³ They distinguish *sadda* as articulate sound originated in mind (*citta*) from other types of *sadda* being simply sounds or noises originated in “temperature” (*utu*), like the sound of a drum or a conch-shell. Specifically, their focus is on the speech-sounds of the Buddha’s discourses. The Abhidhamma philosophy of mind and matter permeates the linguistic description of what Pali texts are: the Pali text is defined as a material phenomenon (*rūpa*), specifically sound (*sadda*), which arises under the influence of mind (*citta*), and not any mind, but the mind of the perfectly awakened Buddha.⁴

1.3. Grammatical *suttas* are recited and memorised. They describe the oral speech-sounds of the Tipiṭaka, which are, in turn, to be recited and memorised as well. The traditional method of studying Pali grammar is the same method used for the study of canonical texts. It consists in memorising the texts by orally reciting them repeatedly. According to my monastic informants in Burma,⁵ the study of texts

¹ For an overview of the Kaccāyana literature and its influence in the history of Pali scholarship see Franke (1902), von Hinüber (1983), Deokar (2008, p. 7), Pind (2012), Ruiz-Falqués (2018), Gornall and Gunasena (2018).

² My account of the living grammatical tradition is based on my personal experience in Burma. It does not intend to represent a pan-theravadin practice, but simply to illustrate the importance of oral learning in present-day Buddhist education systems.

³ See Sadd 1105 (*CONSPECTUS TERMINORUM*, § 1.1.), Gornall (2014), Ruiz-Falqués (2017). In the Burmese language, *sadda* (pronounced *thaaddā*) has become the local word for “grammar”, and the Kaccāyana Pali grammar is popularly known as *saddā-krīḥ* “great grammar”.

⁴ Wijeratne and Gethin (2007, p. 226), Ruiz-Falqués (2017, p. 36).

⁵ For this information I thank Ven. U Sundara, Sitagu International Buddhist Academy, Sagaing; Ven. U Koṇḍaññakitti, PhD candidate, Shan State Buddhist University (SSBU), Taunggyi; Ven. Sao Uttamasārālaṅkāra, MA student, SSBU; Ven. U Viriyādhika, MA graduate from SSBU, Taunggyi. For the night lessons, cf. Ven. U Silānanda Sayadaw’s *Handbook of Abhidhamma Studies* (Silānanda 2012, p. 24): “Then there are what are called night lessons. They are found only in Burma. Some books of

was in their childhood connected to the cycle of natural light: with daylight one would read, recite and memorise, and at night, in complete darkness, the teacher would examine students, sometimes slapping them with a stick if they failed to recite the assigned portion of the day. From a traditional point of view, then, grammar is not only about a text that is considered to be oral, but grammar itself is learnt orally. The fact that present-day monastic scholars use books and written tools has not erased the fundamental oral nature of Pali, not only as an ancient body of literature, but also as a system of textual learning (in Pali: *pariyatti*). In this system, where the trial by fire is the “night lesson”, the mastery of a text is only proved in darkness, even when oil lamps or electric light are available. The *suttas* of classical Pali grammar are the cornerstone of this system.

1.4. One of the earliest grammatical texts, called the Kaccāyanavutti (ca. 8th c. CE), states that “expertise in speech-sounds is very useful in the *suttantas* (*suttantesu*)” (*akkharakosallaṃ bahūpakāraṃ suttantesu*).⁶ The expression in the *suttantas* is ambivalent in Pali, perhaps intentionally. The term *suttanta* in the plural refers to the discourses of the Buddha. Grammatical authorities clarify that the assisting (*upakāra*) role of Phonetics consists in helping to produce a correct recitation, in order that the meaning (*attha*) will become clear. Sound and meaning are interrelated, but meaning is said to be paramount. In the little-known grammatical commentary called the Saṃpyañṭikā (also known as Nyāsappadīpa or Mukhamattadīpanīporāṇatīkā)⁷ some anonymous verses with vivid similes are quoted. In them, meaning is compared, among others, to the sword, and sound is compared to the sheath; or meaning is compared to the lion, and sound is compared to the cave that shelters the lion.⁸ These similes try to highlight the importance of meaning over sound. But Pali grammars do not deal with meaning directly. They begin with the study of sound, which is supposed to be the medium through which meaning is conveyed.

1.5. All Pali grammatical treatises begin with a chapter on phonetics and sandhi (or “euphonic ligature”). In his encyclopedic grammar called the *Saddanīti* (ca. 12 c. CE), Aggavaṃsa argues that sandhi comes first because the operations of sandhi “are always needed, like flavouring with salt is needed with regard to all curries”.⁹ Aggavaṃsa could well be playing with words here, as *vyañjana*, means both “curry” or “condiment” and “speech-sound” or “letter”. All grammatical processes are “spiced up” with sandhi. Verbal morphology, for instance, cannot be understood without the operations of sandhi. Like salt and spices in food, sandhi has an ambivalent nature: it is perceived as contingent and yet indispensable.

Footnote 5 continued

Abhidhamma have to be learned at night. That means we learn it during the day. At night we go to the teacher and recite what we learned during the day. The teacher explains difficult passages. Or if we have made mistakes, he may correct them. Actually we have to learn from the teacher without lights.”

⁶ Kacc-v 1, 13–14. For different interpretations of this passage, see Pind (1996, p. 69), Gornall (2014, p. 513), Ruiz-Falqués (2021b, p. 386).

⁷ Probably written in Pagan (Burma) around the 12th century CE, cf. Gornall and Ruiz-Falqués (2019, p. 427).

⁸ Ruiz-Falqués (2021b, p. 376).

⁹ Sadd 603, 19–21; Warder (1967, p. 44).

1.6. Classical grammarians mostly agree with modern Western scholarship in that sandhi in Pali is to a great extent optional. Their strategies to systematise variation, however, are quite unique. In this respect, an interesting insight concerns the idea of “permanent sandhi” (*niccasandhi*), for it challenges the notion that Pali sandhi is “always optional” (see §2 below). In this paper I will briefly review general problems with Pali sandhi and I will subsequently focus on how the grammarian Buddhappiya (ca. 12th c. CE, Coḷa India¹⁰) introduces the concept of “permanent sandhi” (*niccasandhi*). Inspired by Buddhappiya’s analysis, I will propose the term “frozen sandhi” to explain certain invariable forms, such as *ten’ upasaṅkami* and *cakkhundriyaṃ*, that are not archaic but not optional either, and are connected to the formulaic flow of Pali canonical prose. My hypothesis is the following: in the same way that certain frozen sandhis in verse obey metrical patterns, frozen sandhis in prose suggest that Pali speech-sounds are subordinated to formulaic rhythmic structures. The invariable nature of certain sandhis serves the purpose of preserving the flow of the formulas, a phenomenon that classical grammarians such as Buddhappiya and Aggavaṃsa call *suttasukhuccāraṇa*, “the easy recitation of the Sutta.”¹¹ In the last section of the paper I will try to articulate some caveats regarding the validity of the frozen sandhi hypothesis when we study the possible oral rhythm in texts that are, after all, written. As the title suggests, this paper tries to explain the double nature of sound in Pali texts, being, on the one hand, static and formulaic, and on the other shaped according to principles of euphony and rhythmic flow.

Sandhi and the irregularities of Pali

2.1. The study of sandhi in Pali presents unsurmountable difficulties, so much so that Thomas Oberlies, in his recent authoritative and comprehensive manual of Pali Grammar, treats all the areas of the language historically, except sandhi, which is presented in a descriptive, synchronic manner.¹² In his review of Oberlies’s earlier version of the Grammar, Ole H. Pind pointed out that the treatment of Pali in existing manuals was quite unsatisfactory, and a study of sandhi through modern Phonetics was much needed.¹³ In reply to Pind’s critique, Oberlies argues that “this [study of Pali sandhi from modern Phonetics] can only be achieved when we have

¹⁰ Gornall (2020, p. 54).

¹¹ Rūp § 38; see also Sadd 1108 (*CONSPECTUS TERMINORUM* § 1.3.1.2).

¹² Oberlies (2019, p. 175): “A historical outline of sandhi operations is extremely difficult, particularly since our texts, as they are transmitted, show a great number of Sanskritic sandhis which have been adopted from Sanskrit texts instead of genuine Middle Indic ones. Hence for practical reasons the following account is purely descriptive and (as a rule) synchronic”.

¹³ Pind (2004, p. 508); see also von Hinüber (1982, p. 138): “These few examples may be sufficient here to show the highly artificial character of a part of the Pāli *saṃdhi*, which exists side by side with many rather archaic *saṃdhi*-combinations (cf. H. Bechert: *Vokalkürzung vor Sandhikonsonant*, *MSS* 6, 1955, 7–26). Of course, the *saṃdhi* in Pāli as a whole rather urgently deserves a comprehensive study”.

an up-to-date phonetics of Pāli (and Prakrit) – which we do not even have for Sanskrit”.¹⁴

2.2. An important reason why an up-to-date Phonetics for Pali is more urgent than one for Sanskrit is that Pali sandhi does not lend itself to being systematised in a predictable, mechanical fashion. As is well known, Sanskrit sandhi can be reduced to a limited number of rules that apply consistently. For instance: $-a + a-$ yields always $-\bar{a}-$, $-a + u-$ is always $-o-$, etc. In Pali, however, and in Middle Indic in general,¹⁵ *sandhi* is considered to be “always optional”¹⁶ (Oberlies) or at least “to a great extent optional” (Childers).¹⁷ Therefore it is believed that a clear understanding of Pali historical phonology will bring some order to this chaos.

2.3. Unlike modern linguists, Pali grammarians never attempted an historical approach to the language of the Tipiṭaka, nor did they try to explain Pali on the basis of Sanskrit. They did, however, follow certain linguistic principles inherited from the Sanskrit tradition. Pali grammarians use the term *sandhi* as an equivalent of Pāṇinian *saṃhitā* “connected speech”.¹⁸ This label includes what in modern scholarship is called internal and external *sandhi*. Among the Pali terms that are used in relation to sandhi we find *sambaddha*, i.e. “connected speech”, and *vavatthita*, “separated, disconnected”.¹⁹ When we discuss sandhi following the classical Pali grammarians, it is essential to keep in mind that absence of sandhi is counted as a sandhi option as well. In the Kaccāyana grammar, this absence of sandhi is called *pakatisandhi* “a *sandhi* in which the natural form is preserved.”²⁰ Therefore, when a Pali grammarian states that $-a + a- > -\bar{a}-$ is optional, it means that the result could also be $-a-$, or no sandhi at all ($-a a-$).

¹⁴ Oberlies (2019, p. 175 n.5).

¹⁵ von Hinüber (2001, p. 203).

¹⁶ Oberlies (2019, p. 175), echoing Jacobi (1913, p. 211): “Zunächst sei daran erinnert, dass der Sandhi im Pāli und Prakrit arbiträr ist” (“First of all, let it be remembered that Sandhi in Pali and Prakrit is arbitrary”); see also Childers (1879, p. 100); see also Geiger (2000, p. 60): “Pāli is not always consistent”—meaning, I think, that it does not obey strict rules.

¹⁷ Childers (1879, p. 100): “In Sanskrit *sandhi* is imperative, in Pali it is to a great extent optional: between separate words it takes place but seldom, and even in compounds hiatus occurs. Again, while sandhi is regular and uniform in Sanskrit, in Pali it is very irregular. For example, while in Sanskrit *na upeti* must always become *nopeti*, in Pali it might become *nopeti*, or *n’ upeti*, or *nūpeti*, or remain *na upeti* without *sandhi* change taking place.”

¹⁸ The word *sandhi* does not appear in Pāṇini’s Aṣṭādhyāyī or Yāska’s Nirukta, where they use *saṃhitā*, defined as close juxtaposition of phonemes: *paraḥ sannikarṣaḥ saṃhitā* in P 1.4.109 (see Ciotti 2019, p. 2) and understood as the continuous text of the Ṛgveda in Nir I 17 (I thank the anonymous reviewer for this information); for the early Brahmanical background of the term see Visigalli (2013), *Chapter II: Saṃhitā*. The first grammatical text to use it are the Prātiśākhya, in the sense of “the modification of phonemes caused by a close juxtaposition” (Deokar 2008, p. 133). Sandhi is considered the continuity of sound itself, and only by extension the grammatical rules related to the phenomenon of ligature are also called *sandhi* (Deokar 2008, p. 133).

¹⁹ Vin II 67 ff., cf. (Deokar 2008, p. 110).

²⁰ The Kaccāyana states that in this case, “vowels remain natural (*pakati*) before a consonant” and “sometimes before a vowel [too]”. Kacc § 23 *sarā pakati byañjane*; Mogg § 28 *na dve vā. pubbaparasarā dve pi vā kvaci na lupyante, latā iva, lateva, latā ’va*. Note that these are not canonical examples but a theoretical model of optionality. For the absence of sandhi (*pakatisandhi*) as an old feature of Pali vs. Classical Sanskrit, cf. Windisch (1893).

Permanent *sandhi* (*niccasandhi*)

3.1. Most *sandhi* rules in the Kaccāyana have an optional character, and the same holds true for all the grammatical treatises based on the *suttas* of Kaccāyana, including popular manuals such as Buddhappiya's *Rūpasiddhi* and Dhammakitti's *Bālāvatāra*.²¹ Option markers are generally of two types: (1) *vā* (or *vibhāsā*) meaning “optionally” “either X or Y”, and (2) *kvaci* (or *navā*) “sometimes” “exceptionally”. In the *Rūpasiddhi* the marker *vā* is also used as a “restricted option” (*vavatthitavibhāsā*). This alternative interpretation of *vā*²² allows the grammarian to isolate three different domains of application of the *sandhi* rule: one domain in which the rule is “permanent” or “mandatory” (*nicca*) and applies always; a second domain where the rule applies optionally, i.e. it is “impermanent” or “non-mandatory” (*anicca*); and a third domain where the rule does not apply (*asanta*, lit. “non-existing [in that domain]”).²³ Relevant to us are the *nicca* and the *asanta* types of *sandhis*, for they represent an attempt to teach certain forms that are not optional.

3.2. The first use of the term *nicca* applied to *sandhi* is found in the *Rūpasiddhi* commentary upon the *sutta* Rūp § 15 *vā paro asarūpā*, which can be glossed: “Optionally, [when two vowels meet] the second [is elided] if the preceding vowel is dissimilar”.²⁴ In his commentary, Buddhappiya argues that the word *vā* in this rule is a marker of *vavatthitavibhāsā*, a “restricted option”. The first possibility includes cases such as the compound *cakkhundriyaṃ* (< *cakkhu-indriyaṃ*),²⁵ the second possibility, *anicca* “not permanent”, describes cases in which the rule is not necessarily applied, for instance in the case of *yassadāni* (< *yassa idāni*); and finally we have the *asanta* “non-applicable” cases, where the rule has no effect whatsoever, for instance: *pañcendriyāni* (< *pañca indriyāni*), *saddhindriyaṃ* (< *saddhā-indriyaṃ*), *sattuttamo* (< *satta-uttamo*), *yassete* (< *yassa ete*), *cakkhāyatanaṃ* (< *cakkhu-āyatanaṃ*), etc.

3.3. The *nicca* and *asanta* categories are opposites. In both cases the vowel that will be elided is predetermined and they both represent invariable forms. Indeed, writing **pañcandriyaṃ* or **cakkhuyatanaṃ* is not an option in Pali,²⁶ despite the

²¹ About 120 of the 675 rules of the Kaccāyana grammar are directly controlled by option markers. These markers frequently open sub-domains with more rules under them, cf. Ruiz-Falqués (2021c). To these we could add many more rules that provide variation without using option markers, e.g. Kacc § 484 providing, without option markers, the alternative forms *dammi* “I give” and *damma* “we give” for *dadāmi/demi* and *dadāma/dema* respectively. For a historical and intellectual context of *Rūpasiddhi* and *Bālāvatāra*, cf. Gornall and Gunasena (2018) and Gornall (2020).

²² Probably inspired by the *Kāśikāvṛtti* or by the early *Kātantra* commentaries, cf. Ruiz-Falqués (2021a).

²³ Rūp 9.4. The same principle is developed in the learned 15th-century commentary by Saddhammajotipāla, the *Suttaniddesa* (cf. Kacc-nidd 11.8–14).

²⁴ = Kacc § 13 = Sadd § 31. For a more detailed description of option markers in the Kaccāyana grammatical tradition, see Ruiz-Falqués (2021a, c). This rule follows a more general principle, Kacc § 12 *sarā sare lopam* (= Rūp § 13 Sadd § 30) “vowels are elided before a vowel”, cf. Allen (1972, p. 17): “one may speak of the word-final position in Sanskrit as being relatively ‘weak’.”

²⁵ Rūp 9.8 *cakkhundriyaṃ iti niccaṃ*.

²⁶ Cf. Skt. *pañcendriya*, which in Pali would give *pañcendriya* due to the reduction of *e* in a closed syllable; and Skt. *caḥṣvāyatana*, which in Pali would involve both assimilation *kṣ > kkh* and simplification of the consonantal group to two consonants, although *cakkhāvāyatanaṃ* has a few occurrences

optional marker *vā* in rule Rūp § 15 (= Kacc § 13) and despite the principle that all sandhi in Pali is optional (cf. § 2.2. above). Rather than focusing on the lack of a general underlying phonological system, Pali grammarians seem to be asking: Why is sandhi not always optional?

3.4. It may be argued that the concept of “restricted option” is a proxy for a category that would simply list exceptions. But there is a difference between mere exceptions and restricted options: the latter are attempts by the grammarian to reduce certain cases to a principle, as much as possible, and refine a general rule with a particular one. Buddhappiya, for instance, concludes his commentary upon Rūp § 15 with a stanza that synthesises the scope of the *vavatthivabhāsā*:

After *a-vanṇa* [= *a*, *ā*], the vowel that follows is not elided, except in cases such as *idāni*, *iti*, *iva*, *eva*. After a vowel other than *a-vanṇa* [i.e. after *i*, *ī*, *u*, *ū*, *e*, or *o*], the following long vowel is not elided. Exception is made in cases such as *āsi*, *eva* [and other words beginning in long vowel].²⁷

If we trust the *Rūpasiddhi-tīkā* (the oldest Pali commentary on the *Rūpasiddhi*), this stanza teaches two particularities that qualify the general rule, Rūp § 15.

3.5. The first particularity is that, in Pali sandhi, *a/ā* are by default elided if the following vowel is dissimilar, except when the word ending in *-a/-ā* is followed by indeclinables such as *idāni*, *iti*, *iva*, *eva*, etc. This is illustrated with examples such as *yassadāni* and *saññā ti* (< *saññā iti*). The formula *yassa dāni kālaṃ maññasi/-ti*, for instance, seems invariable, and perhaps the rare variant readings *yassidāni* are simply clerical errors.²⁸ The examples *yass’ iñjitaṃ n’ atthi kuhūñci loke* and *yass’ ussādā n’ atthi kuhūñci loke* confirm that, in general, it is the final *-a* that is elided, not the initial *i-* or *u-*.

3.6. The second particular rule states that a long vowel after a vowel other than *a/ā*²⁹ is generally not elided, although there are exceptions: *āsi*, *eva*, and some other words, begin with a long vowel that may be elided if they follow a vowel other than *-a/-ā*.³⁰ The examples given in Rūp are *moggallānosi bījako* (< *moggallāno āsi bījako*) and *pātova* (< *pāto eva*). Note how exceptions are treated as such and no rule is proposed in order to explain them. In the examples given in Rūp § 15 we also

Footnote 26 continued

in S^c, always in the formula *cakkhvāyatanam sotāyatanam*, etc., e.g. D III 255, 303, 337; M III 400, 509; S II 4.

²⁷ Rūp 9,19–20:

avaṇṇato saro’ dānūīvēvādīṃ vinā paro;
na luppat’ aññato dīgho āsevādivivajjito.

²⁸ Canonical occurrences of *-a/-ā i-/ī-* with *pakatisandhi* exist, although they are rare: A B^c I 571 *ettha idāni*, and *yassidāni* is found in a few cases in the Budsir Thai electronic text. Vin I 131: *yassidāni bhante bhagavā*; Vin II 201: *yassidāni kālaṃ maññasitū*; M II 396 *yassidāni ratthapāla*, with v.l. from E^c *yassa dāni tvaṃ*.

²⁹ This is what Rūp-ṭ (15,5) states, glossing the word *aññato* as *aññasmā asarūpabhūtā ivaññādīto* “after another non-homorganic, namely *i/ī*, etc.”. Here the *ādī* indicates first position of a list. Since the list of vowels is *a ā ī ī u ū e o*, I understand that *i/ī*, etc. means all vowels except the ones before *i*.

³⁰ After re-examining the passage, I believe that my previous publication (Ruiz-Falqués 2021a, p. 237) offers a wrong interpretation of the compound *āsevavivajjito*, for this word does not refer to the example “*āsi eva*, and so forth”, but to the words “*āsi*, *eva*, and so forth” (Rūp-ṭ 15,6 *āsi eva iccādivivajjito*).

observe a tendency for the long vowel to be preserved before a short vowel, presented in couplets: *akataññūsi—akataññū asi, ākāseva—ākāse iva, tepi—te api, vandehaṃ—vande ahaṃ, sohaṃ—so ahaṃ, cattārome—cattāro ime, vasaloti—vasalo iti*.³¹ An implicit rule here seems to be that long vowels tend to remain unchanged.

Frozen sandhi and the formulaic style of Pali canonical prose

4.1. After examining the cases of *nicca* and *asanta* sandhis in Pali, it is possible to observe that they represent fixed sandhi formations. I propose the term “frozen sandhi” for such cases. I prefer to avoid “fossilized sandhi,” an expression that refers to certain sandhi forms representing an older stage of the language, essentially archaisms, such as *sabbhīr eva, pātūr ahoṣi, yad idaṃ, etad avoca, tasmād iha*, etc.³² As Windisch insightfully argued in an almost forgotten essay, the relationship between these fossilised sandhis and other sandhis where the glide is not historical remains to be fully explained.³³ Whereas fossilised sandhi represents a process of “solidification” of certain sound ligatures that were originally not optional (*-t a-* necessarily $> -d a-$, e.g. *etad avoca*), frozen sandhi represents the solidification of sound ligatures that are, theoretically, optional (*etam atthaṃ viditvā tāyaṃ velāyaṃ ... etc.*, frozen *sandhi, niggaḥīta -ṃ* always becoming *-m* in this formula).

4.2. Indeed, the concept “frozen sandhi” may be helpful in understanding the relationship between sandhi and Pali formulas. These formulas appear to be essential elements of the text when it comes to literary analysis.³⁴ When we look at specific *sandhis* in Pali prose we observe that certain variants are stable in specific formulas. Let us take again, as an example, the vowel combination *-a + u-*. This could theoretically yield: *-u-*, *-ū-*, *-o-*, *-a-*, or *-ā-* or no *sandhi* (*pakatisandhi*). Consider the formula *yena bhagavā ten' upasaṅkami*, which occurs more than 4,000 times in the Vinaya- and Sutta-piṭakas. Here we find only one possible *sandhi* form: *-a + u- > -u-*. We never find *tenopasaṅkami* or *tena 'pasaṅkami* or *tena upasaṅkami*.³⁵ This is an example of sandhi that has frozen in the context of a

³¹ Rūp 9,9–12.

³² For the concept of “fossilization” (*Versteinierung*), cf. von Hinüber (2001, § 209).

³³ Windisch (1893, p. 233) posits that sandhis such as *dhīratthu* or *punadeva* are not simply errors from *dhīg athtu* and *punar eva*, but new sandhis after a period in which the final consonant of *dhīk* and *punar* had already disappeared, and fill-up consonants were added, by analogy with historical sandhis, to bridge the hiatus.

³⁴ I refer to the discussion found in two other papers of this same issue of this journal on the idea of text in Buddhism, cf. Allon (2022, p. 3): “Early Buddhist texts, whether prose, verse or mixed prose and verse, are very much textual or literary artifices. (...) They are highly stylized, formally structured, extremely formulaic and repetitive, carefully crafted constructs, at least as we have them”; in his contribution to this volume, Shulman (2021: 2) develops the theory of the “play of formulas”, which posits that “[Buddhist] discourses can be seen as legitimate combinations of formulas, shaping texts out of formulas much like children may create different buildings with the same blocks or Legos.”

³⁵ The sporadic reading *ten'ūpa* is a clerical error.

stereotypical formula, a phenomenon that was already noted by Jacobi, although he did not carry the point further.³⁶

4.3. We know that rhythmic principles play a role in Pali verse as well as prose.³⁷ Allon has convincingly argued that sound, and not only syllable distribution, may play an important role in crafting certain formulas, and he gives the following example: *saccaṃ bhante bhāsītā me esā vācā yathābālena mūlhenā yathā-akusalenā ti*.³⁸ Allon's idea is aligned with the doctrine of medieval Pali grammarians, according to which sandhi should be avoided whenever it hampers euphony or whenever it obscures the meaning.³⁹ The implication is that, if sandhi is there, it is euphonious and eloquent.

4.4. Let us now examine a couple of examples. Oberlies (2019, p. 181) observes that “vowels, which differ in quantity only, coalesce to the corresponding long vowel,” and he gives, among the examples, the expression *yathābhirantaṃ* (*yathā abhi°*). Now, if we look at the Nikāya texts, the only sandhi of *yathā + abhi°* is *yathābhirantaṃ*. This particular sandhi cannot be separated from the oft-repeated formula: *yathābhirantaṃ viharitvā* (or *viharaṃ*, or *vihare*, etc.), which is part of a stereotypical passage. This passage presents the transition of the Buddha or any other ascetic that has been spending time somewhere and is now moving somewhere else. It is a formula that defines the lifestyle of a wandering monk. We find, however, forms like *yathā abhisapāma* (M II 155,₂₆), or with *a-* in *yathā akusalaṃ* (Vin I 315,₁₀). A similar case, related to the same passage in Oberlies, is *yathānusiṭṭhaṃ*, which is also frozen, we never find *yathā anusiṭṭhaṃ*, nor *yathā anu°* in Nikāya prose. Both *yathābhirantaṃ* and *yathānusiṭṭhaṃ* follow the metrical pattern | ∪ – ∪ | – – |, common in *mattāchandas* (metres based on quantity). Whether it was part of a *vedha* (“metrical prose”) portion or not, this favorite rhythmic pattern in prose probably played a role in the solidification of the sandhi form.

4.5. Now let us consider the opposite case, when *yathā* does not join with the following *a-*: *yathāhaṃ* vs. *yathā ahaṃ*. One finds sandhi in formulas such as *yathāhaṃ bhante*, and hiatus in a formula like ... *yatra hi nāma* ... [verb in the future], *na tv eva ca kho arahā yathā ahan ti*, where the *tv eva* is also frozen, *kho arahā* is also frozen (never **khvārahā*). The metre in this formula is: | – – ∪ ∪ – | ∪ ∪ – | ∪ – ∪ – |, which strikingly resembles the *jagatī*.⁴⁰ See also: *tattheva ca kho arahā yathā ahan ti*, with frozen sandhi in *tattheva* and *yathā ahaṃ*, and the same prosody overall. In this formula, all words are indeclinables or pronouns except for one. There is a variant reading, *nattheva ca kho arahā yathā ahan ti*, and it follows the same prosody.

4.6. Another example where *yathā ah°* does not make the ligature may be explained on semantic grounds: *tathā* ... [verb in the imperative] *yathā ahaṃ* ... [verb in the optative]: *sādhu me bhavaṃ gotamo tathā dhammaṃ desetu yathā ahaṃ*

³⁶ Jacobi (1913, p. 217).

³⁷ For other studies related to rhythmic effects in Pali verse and prose see Jacobi (1885), Edgerton (1946), Smith (1950), Caillat (1970), Bechert (1988), Insler (1994), Allon (1997).

³⁸ Allon (1997, p. 244).

³⁹ Warder (1967, p. 51).

⁴⁰ Warder (1967, p. 207).

imassa bhoto gotamassa saṅkhittena bhāsītassa vitthārena atthaṃ ājāneyyan ti. Here the separation *yathā ahaṃ* makes the subject of the optative clear (*ahaṃ ... ājāneyyaṃ*), as it is different than the subject of the imperative (*gotamo ... desetu*). Thus, obscurity in meaning is avoided.

4.7. The form *esa* is a variant of *eso* when it appears in *pakatisandhi*.⁴¹ Pali grammarians count it among sandhis, although Aggavaṃsa is aware that it is not exactly a ligature, but is still included in the traditional list of *sandhi* examples.⁴² We find *esa* regularly in verses:

*esa khīṇāsavo buddho anīgho chinnaśamsayo
sabbakammakkhayaṃ patto vimutto upadhisaṅkhaye,
esa so Bhagavā Buddha esa sīho anuttaro
sadevakassa lokassa brahmacakkaṃ pavattayi.*⁴³

But it also appears in formulas in prose, in a context that is clearly stylistically crafted, for instance: *ubhayaṃ etaṃ māradheyyaṃ māraśś' esa visayo māraśś' esa nivāpo māraśś' esa gocaro* (M II 262,1–3). In the three cases we have *esa* and one may presume that the short vowel *-a* is there for rhythmical or euphonic reasons, perhaps more fluid than having a heavy *-o* in the middle of the phrase? Again, consider the formulas: *esa c' eva bho bhāradvāja hetu esa paccayo yen' ime ...* etc. (S IV 112,22–23); *tasmā ih' ānanda es' eva hetu etaṃ nidānaṃ esa samudayo esa paccayo jarāmaṇassa, yadidaṃ jāti;* and *na kho bhaddāli es' eva hetu esa paccayo* (M I 445,31). Interestingly we never find *eso/so paccayo* in canonical prose. Similarly, with a vocative in-between: *atthi khv' esa brāhmaṇa pariyāyo, yena maṃ pariyāyena ...* (Vin III 2,14–16) and *na c' esa brāhmaṇa pañho evaṃ pucchitabbo ...* (D I 117,32). We never find *eso brāhmaṇa*, but instead we find: *seyyathā pi so brāhmaṇa puriso* (M I 200,15). Other examples in the Nikāyas where the pronoun *esa* is used in rhythmical phrases: *esa maggo uju maggo esa maggo anuttaro* (D II 246,6); *esa migo esa migo* (D III 73,6); *esa maggo mahantehi anuyāto mahesihī* (A II 26,13), although *eso maggo* is found in other formulas as well.⁴⁴

4.8. With regard to *esa*, one shall note that this word, and not *eso*, appears in the well-known *vedhā* formula describing the Saṅgha: *supaṭipanno bhagavato sāvakaśaṅgho ... esa bhagavato sāvakaśaṅgho*. In order to make the metre scan, Bechert counts the short *esa* as a four morae *pāda*: – –. Even in other words of the formula Bechert postulates metrical reconstruction, for instance, *purisapuggalā* consisting of two dactyls | – ∪ | – ∪ | and *bhagavato* with anapestic beginning | ∪ – | –. If Bechert's analysis is correct, the Pali texts that we have received contain numerous metrical portions in “prose” that no longer scan due to vocalic changes. According to Jacobi, Alsdorf, Warder, and others, old metrical patterns eventually became obsolete and were either recast into other metrical moulds —e.g. *ārya* verses into *anutthubha*⁴⁵— or simply confused with regular prose. Certain rhythmic

⁴¹ Kacc § 27 = Rūp § 39 *lopañ ca tatrākāro*, understands that *-o* is elided and *-a* becomes its replacement.

⁴² Sadd § 187; Warder (1967, p. 49).

⁴³ A II 24,19–22 = Ap 53,527,12–13.

⁴⁴ E.g. S IV 195,19ff.

⁴⁵ Warder (1967, p. 1), Alsdorf (1967, p. 5) ff.

patterns that explain frozen sandhis could be difficult to identify unless certain adjustments are applied to the text, as Bechert has done. Therefore, any analysis of sandhi without such preliminary adjustments would never yield a historically coherent description of the ancient oral/aural substrate. If sandhi is more prevalent in verses due to the rhythmic constraints, it seems plausible to think that prose sandhi, whenever it takes place, could also be related to prosody. Paying attention to prosody in the study of prose sandhi could therefore yield interesting results, even if it entails certain methodological problems connected with the written status of the Pali texts.

Frozen Sandhi and the Editor's Dilemma

5.1. In this final section I would like to touch on some implications of frozen sandhi in the written version of the Pali texts — the only Pali texts that we actually know. As I was preparing this article, I had the opportunity to share my preliminary thoughts with students and colleagues. One of them rightly pointed out that my concept of frozen sandhi does not explain anything that we do not already know. “It is obvious” my student argued, “that in a given formula the sandhi will remain stable throughout the literature, because it is the same formula being repeated in different places.” This is certainly a reasonable assumption shared by most, or perhaps all, editors of Pali texts. For, if we accept, as it seems obvious, that a formula is only one, repeated multiple times, then we must also accept that, if the original formula involved sandhi, it must have had only one sandhi form. The problem is how to decide among sandhi variants. For instance, the variation *ko attho* and *kvattho* in the formula: *idaṃ bhante kathaṃ, imassa ko attho/kvattho ti*⁴⁶ cannot be decided on the basis of phonology, because “sandhi is always optional” and therefore both possibilities are theoretically correct. A similar example is the variant *tatthūpapannā* or *tatthupapannā* (cf. A E^c III 287_{,27}, with v.l. “S *tatthūpa*-throughout”, A V 331 n.9). Here the editor of the PTS edition adopts one and dismisses the other “throughout”. But if sandhi is always optional, the decision on sandhi can only be based on nothing but personal taste or a preference given to a certain manuscript. However, in the same way that sandhi anomalies in verse are often restored by resorting to metrics, and the final editorial decision takes prosody into account, a similar approach could be adopted in editing the sandhis of Pali prose.

5.2. One major obstacle in this approach is the complicated history of Pali texts. As is well known, the Pali Tipiṭaka is made of a collection of texts of different periods and styles, many of them of oral origins, but transmitted in manuscript form for two millennia. The text has undergone repeated editorial interventions, some of them being scribal errors, other being scribal corrections or interpolations. As much as it seems legitimate to approach Pali sandhi in prose as we do in verse, we need first to ascertain to what extent the *textus receptus* represents an oral recitation. For not all the features of Pali, or all sandhi forms, must necessarily represent a real

⁴⁶ Or even *kvāttho*, cf. Norman (2007, p. 90): “Sn 961 *kvattho* (? read *kvāttho*)”.

spoken flow of speech. Let me give one example. In one of his early writings on Pali sandhi, K.R. Norman (1988) proposed a phonological explanation for certain sandhi phenomena, e.g. *svāhaṃ* (= *so ahaṃ*) where the lengthening of the initial *a-* cannot be easily explained. Norman proposed that *so* becomes *sva* and the two shorts (*-a a-*) coalesce into a long *ā* (*so ahaṃ* > *sva ahaṃ* > *svāhaṃ*).⁴⁷ This appears as a valid reconstruction that tries to explain sound on the basis of sound, i.e. phonologically. But this explanation was eventually abandoned by Norman himself in favour of a philological explanation: the anomalous sandhi is the product of editorial interventions by scribes who were familiar with Sanskrit.⁴⁸ We should always read *idaṃ bhante kathaṃ*, *imassa ko attho*, and never *kvattho* (or *kvāttho*). Here, sound is not explained by sound, but by writing. This explanation would work well in certain cases, but it would also entail the complete disappearance of idiosyncratic Pali sandhis such as *yvāyaṃ* (= *yo ayaṃ*) or *tv eva* (= *ty eva* < *ti eva*). In trying to reconstruct a Pali that would be free from all the alleged scribal interventions, we would end up reading a text that would simply not be in Pali.⁴⁹

5.3. Some of the idiosyncratic features of the written Pali texts that we know must be very old, older than Buddhaghosa (5th c. BCE). Alex Wynne has convincingly argued that the Pali manuscript transmission has been more consistent than it is sometimes assumed.⁵⁰ If we study Pali manuscripts comprehensively, we observe that what appear sometimes as anomalies in certain passages could actually be faithful copies of a very old anomaly widely accepted in the manuscript transmission. Wynne (2013: 140) gives the example of the oscillation *tattha/tatra*. The distribution of these terms appears to be arbitrary throughout the canon. But when we compare the PTS edition of the Vinaya with the 9th-century Nepalese Vinaya manuscript (the oldest extant palm-leaf manuscript in “Pali”⁵¹), we can see how one passage with the word *tattha* repeated several times has one exception, written *tatra*. This exception occupies exactly the same position in both versions of the passage, which means that they both must be copies of an older hyparchetype containing an editorial “glitch”. Another example brought up by Wynne is the distribution of the variation *evaṃ santaṃ/evaṃ sante* in the Dīgha Nikāya, which

⁴⁷ For the foundations on Middle Indic *samprasāraṇa* in this argument, see Norman (1958).

⁴⁸ Norman (1988, p. 91) [1992: 221]: “I would suggest that the scribes, particularly those who had some knowledge of Sanskrit, thought that this type of sandhi was incorrect, and they then began to ‘restore’ something which more closely resembled Sanskrit sandhi. The method they adopted was not a genuine sandhi system, following the Sanskrit pattern precisely, but was rather a non-historic representation which gave some indication of the vowel which had been elided”.

⁴⁹ Another example of how the approach to a certain problem in Pali may affect the solution is the disagreement over the so-called ablatives ending in *-am*, postulated by Heinrich Lüders (1954: 138 ff.). Lüders solves the problem by resorting to Morphophonemics, while others, e.g. Smith and Pind, maintain that it on the basis of Phonology: the nasalisation of *-ā* “which occurs sporadically in Pāli verse literature” (Pind 2004: 509). Pind (2004) also proves the relevance of Sidney Allen’s studies (Allen 1953 & 1972) in the analysis of Pali Phonetics.

⁵⁰ Wynne (2013, p. 137).

⁵¹ For a discussion on the so-called oldest Pāli palm-leaf manuscript, see von Hinüber (1991) and Norman (1993b).

seems *prima facie* arbitrary but turns out to be consistent and stable if a large enough number of manuscripts is collated.⁵²

5.4. The history of the written transmission of the Pali texts remains in many ways unexplored, but in general we can say that there have not been great changes since the time of Buddhaghosa and our manuscripts still present variants that were known to Buddhaghosa.⁵³ Even the scribal interventions conjectured by Norman should be earlier than Buddhaghosa. Our knowledge of the process of formation of the Pali canon is therefore extremely limited and we do not know to what extent Pali sandhi reflects the supposedly oral substratum of the written text.

Conclusion

6.1. The present essay has offered a preliminary examination of what frozen sandhi is. It also opens different avenues of research that could potentially shed more light on the nature of Pali texts by understanding how its sounds are embedded in the rhythms of its formulas. A definitive conclusion is not possible, but I would like to connect a few dots and, in so doing, propose a working hypothesis for further research on Pali *sandhi*, one that could help us understand how Pali can both appear as dynamic and lively (“always optional”) and yet fixed or “frozen”.

6.2. In the first section of this article we have seen how Pali grammarians, much in line with their peers in other Indic *vyākaraṇa* traditions, developed an idea of Pali that was eminently oral, despite the fact that they primarily worked on, and worked with, written sources.⁵⁴ Their approach to sandhi is oral: sandhi is explained as a phenomenon that takes place precisely because the text is orally recited and it obeys principles of *sukhuccaraṇa* “easy pronunciation” or “euphony”. We have also seen, in sections §§ 2–3, how the same grammarians isolate certain sandhi forms as *nicca* “permanent”, thus implying that not all *sandhi* forms are optional (e.g. *tena upasaṅkami* is always read *ten’ upasaṅkami*). In section § 4 the concept frozen sandhi has been proposed in order to explain why certain ligatures are not optional, despite not being archaisms or linguistic fossils. Some frozen sandhis in prose seem to require an explanation that transcends phonology and involves a broader look at Pali as a literature made of formulas. I proposed that it would be worth investigating to what extent prose sandhi is subordinate to the rhythmic patterns of the formula in which it is embedded. At any rate, there are some examples that point to some sort of relationship between sandhi fluctuations, frozen sandhi and the formulaic style of Pali: the optionality of Pali will allow different combinations, but only one sandhi combination will be chosen for a specific formula, based on prosody. Finally, in

⁵² Wynne (2013, p. 141): “We can therefore suppose, as a working hypothesis but with considerable confidence, that the redaction to which all these ancient fragments and modern editions belong, is the *mūla*-text fixed in Sri Lanka in the first few centuries AD, following the writing down of the Tipitaka in the Ālu-vihāra in the first century BC. A corrected version of this recension, i.e. a reconstruction of the text known to Buddhaghosa in the fifth century AD, should therefore be possible.”

⁵³ Cf. Norman 1992: 103.

⁵⁴ See, however, Veidlinger (2007). Veidlinger argues that memory and orality could have played a major role in the transmission of the written canonical literature in Southeast Asia.

section § 5 we have argued that the nature of Pali texts cannot be fully understood without considering its written history, which may eventually explain certain sandhis and distort our ideal of sandhi being eminently oral.

6.3. With these points in mind, we can provisionally conclude the following: it seems reasonable to assume that a given Pali formula is inalterable throughout the canon and therefore any sandhi in that formula should also be “frozen”; it also seems true that the formulaic style of Pali prose, like verse, obeys certain principles of formal literary composition, such as rhythmic patterns, alliterations, etc., and there are prose passages in Pali that could perhaps be old metrical portions in disguise; certain features of written Pali seem to indicate that our available recension underwent significant editorial interventions at a very early stage, and therefore not all features of Pali correspond to an oral dialect or a combination of oral dialects. For all these reasons, I think that the study of sandhi in Pali prose needs to be carried out along with the study of Pali formulas, in the same way that sandhi in verses is studied along with metrics.

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