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LENKA DOČKALOVÁ

## DEVELOPMENT OF SANDHI PHENOMENA IN SANSKRIT AND IN AŚOKAN PRAKRIT AND PĀLI

### 0. Introduction

In this paper I focus on sandhi phenomena in Sanskrit as compared with sandhi phenomena in selected Middle Indo-Aryan languages known as Prakrits, dialects gradually arisen from Old Indo-Aryan languages. Above all, I would like to refer to concrete types of sandhi, especially to those typical to both, Sanskrit and Prakrits, and where the development of these variations is seen best. On the one hand, I will handle Sanskrit as a representative of the OIA language (the list of abbreviations can be found at the end of this paper), and Prakrits, namely Pāli and Aśokan Prakrit, as a representative of the MIA languages, on the other hand (in this paper I use a term *Prakrit* as a cover term for both, Aśokan Prakrit as well as Pāli). Because of limited space for this paper I will deal with only two representatives of the MIA languages that are Early Prakrits. Many monographs and papers are concerned with sandhi phenomena either in Sanskrit or in Prakrits only. I assume it is more useful to deal with this topic comparing the state in Sanskrit with the state in Prakrits, just for better discovery of the shift and of the development of the phenomena under consideration. The basis for the interpretation of sandhi variations will here be a description of conditions in the OIA language which is the closest reflection of the state of Indo-Iranian, whereas the term *Sanskrit* will be used as a cover-term for both, Vedic and classical Sanskrit (important notes relevant to the Vedic Sanskrit are given in notes at the end of this paper). Then variations in the MIA languages will be compared with the ascertained state in Sanskrit and discussed.

### 0.1 Introduction of Prakrits

Generally, it is possible to characterize Prakrits as synthetic languages with rather simplified grammar and with tendency to decrease the number of cases and verbal forms. Literary Prakrits did not come to stay over the same period and so

they cannot represent just the contemporary dialects (remind the oldest Aśokan Prakrits that can be split into several dialects).

The edicts of the king **Aśoka** were written down in local dialects (mostly in *brāhmī*) with eastern and western features, though originally based on a dialect of eastern origin. Compared to OIA, Aśokan Prakrit shows processes of phonetic change and as regards its language, these inscriptions can be divided into three groups: a) the western one, b) the north-western one and c) the eastern one.

It is possible to presume that **Pāli** grew as a mixture of different dialects. Yet it sporadically refers to features belonging to the eastern part of the linguistic area of India, e. g. resolution of consonantal clusters, which is a relict from an earlier eastern dialect in which the texts of early Buddhism were orally handed down and from which they were transmitted into their present (western) linguistic form.

### 1. Fundamental notes about sandhi

By the term **sandhi** (from Skt. *saṃdhi-* “placing together”) I understand phonological modification of grammatical forms which have been juxtaposed. Two main widespread tendencies that could be placed under this heading are assimilation and dissimilation. Rules of sandhi in Sanskrit are made obligatory by the fact that a given grammatical unit, a word or a morpheme, does not have precisely the same phonological form in different immediate environments. Sandhi alternations are determined, regularly or not, by purely phonological environment and are generally termed morphonological or morphonemic alternations. Furthermore, the Sanskrit system of spelling follows almost completely the phonemic principle (I will follow this principle in this paper) and every phonemic variation in the expression of a word or morpheme is specifically reflected in Sanskrit orthography. Sandhi alternations of Sanskrit (as well as of Prakrits) are concerned either with cases of variation at the end of one word determined by the nature of the following initial (**external sandhi**) or with cases of variation of the final of verbal roots and nominal stems when followed by certain suffixes and/or endings as well as with words forming compounds (**internal sandhi**). Sandhi rules for the external as well as the internal type are the same – leaving out some exceptions, e. g. Skt. *pat-* + *a-* > *patati* vs. Ved. *kṛṇavat#atrāthiḥ* > *kṛṇavadarāthiḥ* (this problem is dealt with in some detail by Šefčík who also thinks about the question of “*differences in the juncture of sandhi and word-internal junction that would enable to find word border in syntagmatical chain of allophones*”, see ŠEFČÍK 2001: 158). Alternatively, the internal sandhi may take an early form of the external type in the petrified state; thus, I will consider mostly the external type of sandhi in this paper.

## 2. Sandhi phenomena

### 2.1 Vocalic sandhi

Sandhi phenomena at word boundaries (external sandhi) differ fundamentally in Sanskrit from those in Prakrits. If a vowel meets with a vowel in Sanskrit, the following can take place: a) contraction, b) diphthongization, c) phonological variation, d) elision, and sometimes e) hiatus. Conversely, in Aśokan Prakrit and Pāli there is essentially vocalic sandhi of two kinds: a) contraction and b) elision (apocope, apheresis). Furthermore, sandhi in Prakrits is always optional and relates only to words which are syntactically closely connected. Unlike Sanskrit, where the utterance is mostly characterized by the absence of hiatus, Prakrits admit all kinds of hiatus and eliminates and contracts initial as well as final vowels. Hence it is not always obvious what vowels underwent sandhi change because of the law of mora that can obscure vocalic length.

**Note 1:** A different situation is seen in Vedic Sanskrit where the hiatus is common especially where the initial vowel is followed by a consonant, thus regularly after *na* and ecliptic *-ca*.

**Note 2:** The law of mora: a syllable must not hold more than two morae whereas one mora is the length of time of either a short vowel or of one consonant (OBERLIES 2003: 169).

#### 2.1.1 Vowels of similar quality

The simplest derivational process in Sanskrit concerned with the absence of hiatus is the one concerning the basic final and initial **vowels of similar quality** (*a, ā, i, ī, u, ū*). In such cases the resulting sandhi vowel can be no other than long because long vowels are generally understood as corresponding to two short basic vowels in Sanskrit, e. g. Skt. *atra#adya* > *atrādya* “here now”, *sīdāmi#iha* > *sīdāmīha* “I am sitting here”, *uruṣu#uraḥsu* > *uruṣūraḥsu* “broad chests” [Loc. Pl.].

**Note 3:** The examples listed in this paper are only illustrative and do not deal with all alternatives of particular types. Those for Sanskrit have been chosen from ALLEN (1962: 29-96) and WACKERNAGEL (1896: 301-343); those for Prakrits from OBERLIES (2003: 181-184) and GEIGER (1994: 57-66).

A similar result is recorded in the case of the junction of one short vowel and one long vowel (the order of vowels making no difference), e. g. Skt. *pitā#atra* > *pitātra* “the father here”, *adhi#īśvaraḥ* > *adhīśvaraḥ* “beside master”, and also in the case of two long vowels, e. g. Skt. *rājā#āste* > *rājāste* “the king is sitting”, *urvaṣī#ikṣate* > *urvaṣīkṣate* “the nymph Urvaṣī is viewing”. In contradistinction to Sanskrit, the situation in Prakrits is such that if two contiguous vowels of similar quality come together across word boundaries, one of them is subject to deletion (if the second word begins with a closed syllable), e. g. *hi#iyam* > Aś *h'iyam* “because this”, *iva#asam*<sup>o</sup> > Pā *sīharāja v'asambhīto* “unfrightened like

a lion”, *me#etam* > Pā *m’etam* “this of me”. This type of sandhi in Prakrits is mostly treated as a peculiar contraction.

**Note 4:** The system of vowels in Prakrits shows certain modifications from that of OIA. So Sanskrit’s diphthongs *e* and *o* are classed among simple vowels in Prakrits. In other words, Aśokan Prakrit and Pāli have lost diphthongs *ai* and *au* which were replaced by vowels *e*, *i* (< *ai*) and *o*, *u* (< *au*).

In general, a hiatus is permitted in Prakrits (in external as well as in internal sandhi) but it used to be bridged either by a glide or a special sandhi consonant, which must be voiced (-*d*-, -*m*-, -*y*-, -*r*-, -*v*-), and this is perhaps a relict from the OIA period or a result of analogy (notes about hiatus are mentioned here in spite of two dissimilar vowels). Glides break the hiatus inside words (internal sandhi), e. g. *dvyardha*- > Aś *di-y-aḍha* “one and a half”, \**piṇḍyālopa*- > Pā *piṇḍi-y-ālopa*- “a morsel of food”, \**su-v-icchita*- > Pā *su-p-icchita*- “well-wished”, whereas sandhi consonants break the hiatus between two words (external sandhi), e. g. Pā *anva-d-eva* “afterwards”, *giri-m-iva* “like a mountain”, *dhi-r-atthu* “woe upon” etc. Long vowels can be shortened before these consonants; it means -*e*/*o* > -*a*, and nasal vowels may lost their nasality, e. g. Aś *tassa dajjam imam selam jalanta-r-iva tejasā* “this stone blazing with splendor”, *hitva-m-aññaṃ* “having left the other state[s] behind”. Historical sandhi, e. g. Pā *aggir-iva* “like a fire”, frequently provide the pattern for new forms (sometimes because of rhyme), e. g. Pā *rājā-r-iva* “like a king”, *kata-r-asmāsu ... bhatti-r-asmāsu* “done towards us ... devotion towards us”. Inserted consonants became sometimes fixed, e. g. *ukta* > Aś *vukta* “said”, *iṣṭa* > Pā *yiṭṭha* “sacrificed” (OBERLIEST 2003: 183-184).

**Note 5:** Examples mentioned here show junction of two vowels of similar quality as well as vowels of different quality.

### 2.1.2 Vowels of different quality

The second possible contraction of vowels across word boundaries is the one when **two different contiguous vowels** come together. Coming out of Sanskrit we can distinguish five types of sandhi connection here.

**Note 6:** Following Allen (1962) I indicate the same classification of particular types of vowel sandhi (*op. cit.*: 29-51) as well as consonantal sandhi (*op. cit.* 52-96) in this paper.

I. *Open vowel* + *e*, *o*, *ai*, *au*. As can be seen in Sanskrit, sandhi alternations of this pattern show petrified remains of early periods when vowels *e* and *o* had the diphthongal character, e. g. Skt. *tava#eva* (< *tava#ayva*) > *tavāyva* > *tavai-va* “to be strong”, *na#ojaḥ* (< *na#avyaḥ*) > *nāvjaḥ* > *naujaḥ* “not vigorous”, *mama#aiśvaryaṃ* (*mama#āyś°*) > *mamāyś°* > *mamaiśvaryaṃ* “my supremacy”, *sā#autsukyavati* (< *sā#āvti*) > *sāvti°* > *sautsukyavati* “(she) impatient”.

**Note 7:** The vowels *e* and *o* are commutable with original *ay* and *av* just as the diphthongs *ai* and *au* are commutable with original *āy* and *āv*.

Analogically to the situation in the junction of two vowels of similar quality, the final vowel of the preceding word is also subject to deletion in Prakrits, e. g. *ca#eva* > Aś *c'eva* “and”, *yathā#o* > Pā *yath'odhikāni* “in all parts”. Note that the junction of an open vowel + diphthongs *ai* or *au* does not appear in Prakrits (see Note no. 4).

II. *Close vowel* (including semivowel *r*) + *open vowel* is another type of connection, also known as **kṣaipra sandhi**. By reason of a distinction in aperture both vowels, final and initial, in Sanskrit or in Prakrits are really different. The close vowel appears to be reduced, non-syllabic and semivocalic in sandhi, thus *y*, *r* or *v*, e. g. Skt. *iti#āha* > *ityāha* “so he said”, *mṛdu#asti* > *mṛdvasti* “to be soft”, *karṭṛ#asti* > *kartrasti* “to be a creator/author”. In Prakrits one vowel is also elided again – it concerns both, the final vowel of the preceding word, e. g. *sādhu#āvuso* > Pā *sādh'āvuso* “very well, my friend!”, and the initial vowel of the following word, e. g. *strī#adhyakṣa* > Aś *ithī-jhakha* “superintendent of the wives”.

**Note 8:** In Vedic, there is a *kṣaipra sandhi* in a small minority, whereas elsewhere the final syllable is preserved, probably with a relevant intervocalic glide. Then the final vowel is short, even where the final vowel is long, e. g. *patnī#acchā* > *patni(y)acchā* “toward the lady”.

III. *Open vowel* + *close vowel*. The process of reduction relates also to this connection of vowels in Sanskrit. However, the reduction of the initial vowel, *i*, *ī* and *u*, *ū*, of the second word would cause preconsonantal sandhi forms *ay* and *av* whereas their monophthongal forms *e* and *o* can be historically derived from them, e. g. Skt. *atra#īśvaraḥ* < *atrayśvaraḥ* > *atreśvaraḥ* “master here”. The similar conversion is not related to the initial semivowel *r* because of the sandhi form *ar* evidenced in the language, e. g. Skt. *atha#ṛṣiḥ* > *atharṣiḥ* “the ṛṣi (a singer of sacred hymns) now”, *sā#ṛddhiḥ* > *sarddhiḥ* “this increase”.

In Prakrits the situation is virtually the same as in the cases I. and II. The final vowel of the first word can be elided, e. g. *prajā#upa* > Aś *paj'upadāye* “at the birth of a child”. Furthermore, the initial vowel of the second word or the final vowel of the first word can be lengthened by compensatory lengthening providing that a double consonant does not follow the elided vowel of the second word, e. g. *kena#idha* > Pā *ken'īdha* “by what ... here?”, *ca#upa* > Pā *c'ūpatapeti* “and it torments (me)”; *Cunda#iti* > Pā *Cundā ti* “Cunda!”.

**Note 9:** When *ti* “thus” (< *iti*) follows a word ending in a vowel, the vowel is lengthened in Prakrits, and it is a rule there.

IV. *e*, *o*, *ai*, *au* + *vowel*. In order to explain them phonologically, we must convert the basic final *e*, *o*, *ai*, *au* to their pre-Sanskrit values, i.e. to *ay*, *av*, *āy*, *āv*, respectively, e. g. *te#āgatāḥ* (< *tay#āg*<sup>o</sup>) > Ved. *ta(y)āg* > Skt. *ta āgatāḥ* “the ones who come”, *prabho#ehi* (< *prabhav#ehi*) > *prabha(v)ehi* “the light is present”, *tasmai#adadāt* (< *tasmāy#ād*<sup>o</sup>) > Ved. *tasmā(y)ad*<sup>o</sup> > Skt. *tasmā adadāt* “he gave (it) to him”, *ubhau#indrāgnī* (< *ubhāv#ind*<sup>o</sup>) > *ubhā(v)indrāgnī* “they

both goddess *Indrāgnī*". In the case of the junction of final *e* and *o* with an initial vowel *a* we might expect sandhi forms like Skt. *te#abruvan* > *ta(y)abruvan* "they talked" or *viṣṇo#ava* > *viṣṇa(v)ava* "a favor of a god *Viṣṇu*", and forms with internal *-aya-* really exist outside the *Rigveda*. In the next evolution of the classical language the initial vowel *a* was elided and replaced by an apostrophe (**avagraha**) in spelling, e. g. Skt. *te 'bruvan* or *viṣṇo 'va* (**abhinihita sandhi**).

**Note 10:** In Vedic we can come across so-called *graphic hiatus* which had a phonological basis in some cases, e. g. *te#indra* (< *tay#indra*) > *tayindra* > *taindra* > *tayndra* > *tendra* "they – a god *Indra*", *rāye#uta* (< *rāyay#uta*) > *rāyayuta* > *rāyāuta* > *rayavta* > *rāyota* "woven for a king".

In the evolution of MIA another historical process called **saṃprasāraṇa** took place and consequently Skt. clusters *-aya-* and *-ava-* were reduced to monosyllabic, monophthongal *e* and *o*, e. g. Skt. *sthāpayati* "he is standing" [Caus.], *avataraṇa* "descended" ~ Aś *nigoha-* "Banyan tree" < *nyagrodha*, Pā *abbhīhāsi* "offered" < *abhyahārṣīt* [(C)ya > \*(C)yi > (CC)i]; Aś *tul(an)āya* "through haste" < *tvaranayā*, Pā *turita-* "quick" < *tvarita-* [(C)ma(̣)n and (C)va/i > (C)vu > (CCu)]; in closed syllables *o* results, e. g. Pā *sotthi* "luck" < *svasti*. In Prakrits the same situation is quoted as in the case III., e. g. *ike#ike* > Aś *ik'ike* "every single one", *etāye#athāye* > *etāye 'thāye* "for that purpose", *ye#abhi* > *y'ābhivadanti* "who greet ...".

**Note 11:** The process of *saṃprasāraṇa*: the reduction of syllables *ya*, *ra*, *va* to semivowels *y*, *r*, *v*. In other words, it is a process of vocalic and consonantal assimilation.

**Note 12:** Long vowels of Prakrits are results of several contractions: 1) *-ā-* < *-ayā-/āya-/avā-*, 2) *-ē-* < *-aya-/ayi-/\*ayir-/avi-*, 3) *-o-* < *ava-/ayū-*. Vowels of Aśokan Prakrit and Pāli are contracted after the loss of medial *-y-* or *-l-* as well.

In Vedic intervocalic *y* and *v* were more weakly articulated in internal position than initially and simultaneously less weakly than finally. Hence the prediction of the MIA development in the weakest (final) position which explains the development only in the case of the junction of *e#a* and *o#a* and not in the case of the junction of *ai#a* and *au#a*. Furthermore, sandhi forms *tebruvan* and *viṣṇova* are found in Vedic where the metrical evidence points to disyllabic pronunciation. Thus, it is presumed that these forms with *e* and *o* are here due to the influence of later Sanskrit forms, and forms with *-a(y)a-* and *-a(v)a-* would actually be the true Vedic forms.

V. *Vowel + consonant*. In the junction of a final vowel with an initial consonant no significant sandhi changes took place in Sanskrit. It means that sandhi forms are identical in structure with their basic forms, e. g. Skt. *sā#devī* > *sādevī* "that goddess". However, we must pay attention to a class of exceptions. One of them concerns the nominal dual ending *-au* which with its sandhi variations appears in all environments whereas in Vedic sandhi the prevocalic *-āv* alternates with preconsonantal *-ā* there. It is possible to assume it may represent a survival of a prehistoric alternation of a long diphthong before a vowel with a long vowel before a consonant, e. g. Ved. *paprau* ~ *paprā* "giving, granting" [Loc. Sg. Masc. i-stems]. Note the substitution of *y* by *v* and *vice versa* in Prakrits which surely reflects the common interchangeability of *y* and *v* in this position, e. g. *āvuso* < Pā *āyusmant-*, *migadāya* < *mṛgadāva*.

Another substantial exception is the initial voiceless aspirated palatal *ch* which is after a short final vowel regularly geminated into *cch* in Sanskrit, e. g. Skt. *atra#chāyāyām* > *atracchāyāyām* “here in the shadow”. The rule dealing with the double *cch* is extended to cases where this aspirate is preceded by the negative particle *mā* and the preposition *ā* in spite of their long vowels. The situation in Prakrits is in some ways more difficult. So if we understand the state in Prakrits well, we must pay attention to the development of the Prakrits’ system of aspirates in general. The MIA languages lost the OIA aspirates in consequence of dissimilation (as well as dissimilation in the context of another aspirate), blending, phonetical weakness of sounds at the end of words and in words which are used frequently. Hence the aspirate *ch* or *cch* arise either from *-ts(y)-* or *-ps(y)-*, e. g. *cikitsā-* > Aś *cikīchā-* “art of healing”, *vatsa-* > Pā *vaccha-* “calf”. Furthermore, in the west *kṣ* developed into *cch* (*#ch-*), e. g. *vṛkṣa* > *vra(c)cha-* “tree”, *kṣubdha-* > Pā *chuddha-* “rejected”. In other words, this is a type of peculiar assimilation of OIA consonantal clusters (OBERLIEST 2003: 177).

**Note 13:** However, word-initial stops *k-*, *t-*, *p-* and *b-* may be aspirated due to the presence of a following fricative *-s-* or liquid *-l-* in Prakrits, e. g. *kutsayati* > Pā *khumseti* “scolds”, *tuṣa-* > Pā *thusa-* “chaff”, *aparūṣa-* > Aś *aphalusa-* “not cruel”, *bisa-* > Pā *bhisa-* “lotus fibre” (OBERLIES 2003: 175).

The last peculiarity is restricted to a final close vowel in junction with an initial fricative *s-*. If the preceding grammatical unit before the fricative is a verbal prefix, especially in Vedic, the rule of internal sandhi is following: *s* > *ṣ*, e. g. *ni#sad-* > *niṣīdati* “he is sitting down”. Conversely, Prakrits reduce three OIA fricatives into one, *s* (< *ś*, *ṣ*, *s*), e. g. *śuśrūṣā-* > Aś *susrusā-* “obedience”. In the word-initial position, fricatives *#s-* and *#ś(v)-* are sometimes represented by an aspirate *ch-*, e. g. *ṣaṣ* > Pkt. *cha-* “six”, *śāva-* > Pkt. *chāpa-* “the young of an animal”.

If we consider the cases where a vowel can be lengthened by compensatory lengthening, provided the eliminated vowel of the second word is not followed by a double consonant, all vowels can be contracted this way in Prakrits. And if this type of sandhi is treated as elision with vowel lengthening, we can get the same contractions as in OIA, thus e. g. *dharma#anusāsti-* > Aś *dhammānuṣasthi-* “instruction of the law”, *°pati#idha* > Pā *gavaṃpatīdha* “the owner of the cows here” etc. Furthermore, for Pāli (like for OIA) characteristic is the contraction of final *-a/-ā* with a following dissimilar vowel (*i*, *u*) into *-e-* and *-o-*, e. g. *na#upa°* > *nopalipati* “is not stained”, *°assa#iva* > *nigrodhasseva* “like ... of a Nigrodha tree”.

In contrast to Sanskrit, the vowel followed by an anusvāra (in fact the nasal vowel) in connection with another vowel is subject to deletion, e. g. *tupkākaṃ#aṃtikam* > Aś *tuphāk’ aṃtikam* “near you”, *anagāriyaṃ#upe°* > Pā *anagāriy’ upetassa* “of one who has become homeless” vs. *vācaṃ#abhi°* > Pā *vācābhikaṃkhāmi* “I long for your voice”, *muniṃ#idha* > Pā *munīdha* “the sage here”.



The same sandhi phenomena occur also at the boundaries of compound words (in Prakrits newly formed words) and within words (in Prakrits of usually more than three syllables), e. g. Skt. *ni+sev-*, *niṣevate* “he is venerating”, *pra+as-*, *prāsyati* “he is throwing”, *mahā#udadhi-* > Pā *mahodadhi-* “great lake”, *atyaśana-* > Pā *accāsana-* “eating too much” etc.

## 2.2 Consonantal sandhi

It is possible to distinguish two main groups of sandhi alternatives in Sanskrit: I. junction of the final consonant of the first word with the initial vowel of the second word and II. junction of the final consonant of the first word with the initial consonant of the second word. The word-final position is affected by the process of neutralization of many oppositions in all environments which calls for recognition in morpheme-finals. The set of junctions of two consonants, final and initial, contains various sandhi complications, resulting from the variety of possible combinations of final and initial consonants, with reference to both place and manner of articulations. The alternations affect primarily the final consonants there.

**Note 14:** As mentioned, the resource for my description in this paper is the state in Sanskrit. Consonantal sandhi in Prakrits I indicate at particular sections, a) – d).

The situation in Aśokan Prakrit and Pāli is slightly simpler because of the loss of all final consonants (providing that they were not retained in sandhi clusters). If we leave aside the preservation or restoration of consonants as so-called “hiatus breakers” (see section 2.1.1), it is only the nasal *-ṃ#* (< *(V)m/(V)n*) that may undergo consonantal sandhi within a sentence in Prakrits (vide infra, 2.2 c). Furthermore, after the loss of final consonants, the remaining final vowels can be nasalized by adding *-ṃ*, e. g. *mama* > Aś *mamaṃ* “my”, *īṣat* > Pā *īsaṃ* “a little”.

**Note 15:** However, as a result of analogy even *-ṃ* can be dropped in Prakrits, e. g. Aś *idānīm* > *idāni* “now” (after temporal adverbs in *-i*), Pā *āyasmān* > *āyasmā* “venerable one” (after *rājā*).

a) Stops *-k*, *-t*, *-p* preserve their place of articulation but they assimilate in voicing in Sanskrit. The general principle can then be formulated just like this: “*the finals are voiced before voiced initials and voiceless before voiceless initials ... the terminal finals represent a neutralization of the voiced : voiceless and aspirated : unaspirated oppositions occurring in the non-final environments.*” (ALLEN 1962: 91), e. g. Skt. *vāk#mama* > *vāgmama/vāṅmama* “my language”, *rāṭ#bhāṣate* > *rāḍbhāṣate* “the king is speaking”, *triṣṭup#nūnam* > *triṣṭubnūnam* “a meter now”.

The dental *-t* assimilates in voicing and in some cases in the place of articulation. The final *-t* is governed by the general principle listed above, e. g. Skt. *gamat#vājebhiḥ* > *gamadvājebhiḥ* “he will go greatly”. Before interfering stops and palatals, it is assimilated to them, e. g. Skt. *tat#ḍhaukate* > *taḍḍhaukate* “he

is coming near”, *tat#ca* > *tacca* “and he”. The dental stop *-t* assimilates into palatal *-c* before the fricative *ś-*, and the fricative *ś-* is changed into *ch-*, e. g. Skt. *nṛpāt#śatruḥ* > *nṛpācchatruḥ* “an enemy of the king” etc. In the context before an initial nasal the final *-t* (as well as *-k*, *-ṭ*, *-p*) is assimilated in the manner of articulation, not in the place, e. g. *tat#namaḥ* > *tannamaḥ* “this obeisance”.

The junction of the final oral stops *-k*, *-ṭ*, *-t*, *-p* with a vowel does not basically constitute any peculiarity in Sanskrit. Since the initial is undoubtedly voiced we may expect the preceding final is voiced, too. The terminal oral stops *-k*, *-ṭ*, *-t*, *-p* are voiceless so that they must convert to their voiced counterparts in junction with a vowel, e. g., Skt. *tādṛk#annam* > *tādṛgannam* “such a food”, *abharat#annam* > *abharadannam* “a brought food”, *ṣaṭ#aśītayah* > *ṣaḍaśītayah* “eighty six”, *trṣṭup#api* > *trīṣṭubapi* “also a meter of 4 x 11 syllables”. The derivational process is furthermore typical within compounds, however, not in the case of internal sandhi where the process of voicing can function only before voiced consonants.

**Note 16:** In Vedic there is sometimes *ḷ* in the place of *ḍ*, e. g. *ṣaṭ#ūrvīḥ* > *ṣaḷūrvīḥ* “the six middles of the thigh”. A similar change is noted in Prakrits, e. g. *mūḍha* > Pkt. *mūḷha* “confused”, *arāḍa* > Pkt. *aḷāra* “curved”.

b) The nasal *-n* partly remains without a change and partly assimilates in the place of articulation when it comes together with an initial consonant in Sanskrit. In some cases a fricative may be inserted. The most significant feature of this type of sandhi is the retention of dentality by the nasal before semivowels and non-interfering stops as well as the insertion of intrusive *-t-* before fricatives, e. g. Skt. *mahān#kaviḥ* > *mahānkaviḥ* “a great poet”, *mahān#yudhiḥ* > *mahānyudhiḥ* “a great fight”, *mahān#rathaḥ* > *mahānrathaḥ* “a great chariot” etc. Assimilation of the place of articulation takes place before interfering stops, e. g. Skt. *śatrūn#jayati* > *śatrūñjayati* “he is defeating enemies”, *tān#ḍimbhān* > *tāñḍimbhān* “these newborns” [Acc. Pl.]. As regards the lateral semivowel, there is assimilation of laterality, e. g. Skt. *tān#lokān* > *tāñlokān* “these places” [Acc. Pl.]. If the final *-n* and an initial fricative come together, the nasal is retained, e. g. Skt. *tān#sam* > *tāntsam* “with them” (a form *tānsam* is also possible), *tān#ṣaṭ* > *tānṣaṭ/tāntṣaṭ* “those six” where the stop *-t* is treated as a certain transitional consonant. There is no transitional glide in the case of the junction of the nasal *-n* and the palatal fricative *ś-*, thus *-n* is assimilated to the place of articulation of the interfering fricative, e. g. Skt. *devān#śamsāmi* > *devāñśamsāmi* “I am glorifying Gods”.

So far I have discussed only those cases where stops were voiced and none of them were voiceless. In such cases assimilation of the place of articulation might be expected whereas between a nasal and a stop there is an inserted fricative with resulting reduction of the nasal to anusvāra, e. g. Skt. *tān#ca* > *tānśca* “and them”, *tān#ṭaṅkān* > *tānṃṣṭaṅkān* “these spades” [Acc. Pl.]. In the classical language the fricative was also spread by analogy to forms where it had no historical justification (cf. e. g. the locative, 3. Pl. verbal forms, Acc. Pl. of āmreḍita compounds etc.).

c) For the nasal *-m* characteristic is assimilation of the place of articulation in Sanskrit. The basic final *-m* is represented only before oral or nasal labial stops, e. g. Skt. *tam#buddham* > *tambuddham* “that clever” [Acc. Sg.], whereas before another stop it is represented by a nasal stop of the appropriate class, e. g. Skt. *tam#kavim* > *taṅkavim* “that poet” [Acc. Sg.], *tam#daridram* > *tandaridram/ tamdaridram* “that poor” [Acc. Sg.] etc. In the earliest period we can find the final basic *-m* also before semivowels, e. g. Skt. *samrāj-* “the supreme ruler” (note the internal sandhi in this compound). In the position before a fricative, the fricative is lost leaving nasality at the vowel, e. g. Skt. *aham#śṛṇomi* > *ahaṃśṛṇomi* “I hear”.

**Note 17:** In Vedic the nasalized forms of the semivowels (except initial *r-*) originated from assimilative processes, e. g. *sam#yudhi* > *saṅyudhi*, *suvargam#lokam* > *suvargaṅlokam*, *yajñam#vaṣṭu* > *yajñāṅvaṣṭu*.

The final *-ṃ* is affected by initial mutes and nasals and assimilated to corresponding nasal in Prakrits, e. g. Pā *bheriṅ carāpetvā* “having made the drum to be carried around”. Provided it is followed by *y(eva)*, the final *-ṃ* is assimilated to *-ṅ* *ṅ-*, e. g. Pā *taṅ y(eva)*. Peculiar sandhi arises before enclitics, e. g. Pā *karissaṅ ca, kin ti, yam-pi, evam-eva, Aś evam-api* “in the same way also” etc. This junction forms a unit with the preceding word there. Furthermore, the final *-am* used to be lengthened before enclitic and there are two possibilities, either *-am* > *-āṃ* or *-am* > *-am-m*, e. g. Aś *sukhaṃmeva* “only happiness”, Pā *mam-m-iva* “like me”, *n’ etaṃ ajjatanām-iva* “this does not hold true for today only”.

**Note 18:** OIA consonantal clusters are assimilated in Prakrits according to the following rule: “... a consonant of lesser power of resistance is assimilated to one with greater power of resistance. The general principle is that an occlusive is dominant in all positions.” (OBERLIES 2003: 178). There is typical assimilation of consonantal clusters with *-ṅ-*, thus *-ṅc-/-jṅ-* > *-ṅṅ-*, in the east *-ṅṅ-/-nn-*, e. g. *ājñāpayāmi* > Aś *āñāpayāmi* “I order”, *pañcaviṃśati-* > Pā *pañṅaviṃśati-* “twenty-five”; *ājñā-* > Pā *āṅñā-* “order”, *pañcadaśa-* > Pā *pañnarasa-* “fifteen”.

The nasals, velar *ṅ*, dental *n* and labial *m*, are all voiced in Sanskrit and in junction with a vowel they mostly stay without changes at sandhi, e. g. Skt. *prāṅ#āste* > *prāṅāste* “he is present in the east”, *tān#uvāca* > *tānuvāca* “he told them”, *aham#asmi* > *ahamasmi* “I am”. Providing that a short vowel precedes the final *-n* or *-ṅ*, there is a geminated nasal in sandhi, e. g. Skt. *pratyaṅ#asi* > *pratyaṅṅasi* “a sword backward”, *abharan#iha* > *abharanniha* “they carried here”.

d) The changes of visarjanīya in Sanskrit are treated as the most complicated, which complication originates from the triple origin of visarjanīya (*-s*, *-ṣ*, *-r*). It changes variously according to whether it substitutes either the fricatives or *-r*. First, let us look at cases where the initial is voiced. If the final is *-r*, then there is no need for another process of voicing, e. g. Skt. *akar#jyotiḥ* > *akarjyotiḥ* “unhappiness”. The only exception arises with the initial *r*: there only one single (not geminated) consonant *-r* survived with a short vowel before the basic

consonant *-r* lengthened, e. g. Skt. *punar#ramate* > *punarramate* > *punāramate* “back at the place of pleasant resort”. However, if the basic final is *-s* or *-ṣ*, then the process of assimilation takes place, e. g. Skt. *agneṣ#manve* > *agneṣmanve* > *agnermanve* “knowing of fire” [Gen.], *nalas#nāma* > *nalaznāma* > *nalavnāma* > *nalonāma* “smell indeed” (*av* > *o*). In the MIA languages the sandhi form with *-o-* was generalized (cf. Skt. *putras* “a son” ~ Pkt. *putto*). Where a long vowel precedes a fricative, the omission of the fricative does not entail any reduction of quantity of this vowel, e. g. Skt. *aśvās#vahanti* > *aśvāzvahanti* > *aśvāvahanti* “horses are carrying”.

If the initial is voiceless, the basic final fricatives *-s* and *-ṣ* are retained in the earliest forms of this type of sandhi in the position before an initial stop or fricative of the same class as well as before labials and velars. This sandhi forms survive only in Vedic and in some cases also in the classical language, e. g. Ved. *divas#putraḥ* > *divasputraḥ* “the son of a father”, Ved. *yajuṣ#karoti* > *yajuṣkaroti* “veneration” etc. and in compounds, e. g. Ved. *namas#kāra-* > *namaskāra-* “adoration”, *duṣ#tara-* > Ved. *duṣtara*, cl. Skt. *dustara-* “invincible”. The same conditions apply for the final *-r* in compounds, e. g. Skt. *vanar#sad-* > *vanarṣad-* “sitting on trees or in the forest”, *punar#tta-* > *punarṭta-* “restored” etc. which conforms to the forms of internal sandhi, e. g. *arpayati* “to cause to move” [Caus.], *piparṣi* “you bring over” etc. Later the assimilative process affected any voiceless initial of the three interfering series, so that any basic final is assimilated to the initial, involving the homorganic fricative of that series (ALLEN 1962: 74), e. g. Skt. *tasyās#chāyā* > *tasyāschāyā* “her shadow”, *śatruṣ#carati* > *śatruṣcarati* “an enemy goes”, *dvār#tat* > *dvāstat* “the door”. The final *-ś-*, *-ṣ-* and *-r* combined with an initial fricative *ś-*, *ṣ-* or *s-* induced the process of assimilation where mostly the initial fricative is weakened to its terminal form of visarjanīya, e. g. Skt. *tās#ṣaṭ* > *tāḥṣaṭ* “those six” [Nom. Pl. Fem.], *manuṣ#svayam* > *manuḥsvayam* “intelligent alone”, *punar#śatam* > *punaḥśatam* “a hundred back”. If the fricative is followed by a stop (as well as a semivowel or a nasal), then this fricative can be lost, e. g. Skt. *vāyavas#stha* > *vāyavasstha* > *vāyavastha* “standing north-west”, *niṣ#svaram* > *niṣsvaram* “out of the sun”.

The final *-aḥ* before an initial *a-* changes into *-o* with the loss of the initial *a-*, e. g. Skt. *ataḥ#aham* > *ato* ‘ham “I (am) here”. In Vedic the form *ata(y)aham* bridging the hiatus by a semivowel *y*-glide is sporadically found (also possible is a *v*-glide, *atavaham* whereas the sequence *-ava-* may be expected to undergo the samprasāraṇa process, thus *-ava-* > *-o* > *atoham/ato* ‘ham). The visarjanīya of the final *-aḥ* is lost before other vowels whereby a hiatus arises, e. g. Skt. *nṛpaḥ#uvāca* > *nṛpa uvāca* “a king told”. The long final *-āḥ* loses a visarjanīya before any vowel and a hiatus arises there, too, e. g. Skt. *devāḥ#iha* > *devā iha* “a god here”. If the visarjanīya is preceded by a vowel other than *-a-*, then it is converted into *-r*, e. g. Skt. *agniḥ#atra* > *agniratra* “a fire (is) here” (for situation in Prakrits cf. above, section 2.1.1).

Compared with Sanskrit, the sandhi of the ending *-aḥ* is rather simplified in Aśokan Prakrit and Pāli. Final *-aḥ* (< *-as/-ar*) evolved into *-o* (in some cases into

-e) and this sandhi form was generalized, e. g. *samājah* > Aś *samājo* “assembly”, *bhikṣavaḥ* > Pā *bhikkhavo* “monks” etc. After vowels other than short -a- the visarjanīya is lost altogether, e. g. *vidhiḥ* > Aś *vidhi* “rule”, *bhikṣuḥ* > Aś *bhikhu* “monk”, *jātīḥ* > Pā *jāti* “births”. Consequently, all words in Aśokan Prakrit and Pāli end either in vowels (short as well as long) or in a short vowel plus -ṃ (by virtue of the law of mora), e. g. *mahyam* > Aś *mayhaṃ* “my”.

In Prakrits consonantal clusters in the case of internal sandhi (at morpheme boundaries within compounds as well as of a prefix and the root and at junction of a word and a following enclitic) are also assimilated, though partially according to particular rules. Common rules (for more details see OBERLIEST 2003: 178-180) are in part cancelled not to obscure the initial of the second member, particularly in verbal derivatives, e. g. *udyāna-* > Aś *uy(y)āna-* “garden”, *duṣkara* > Aś *duk(k)ara-* “difficult”, *duṣcarita-* > Pā *duccarita-* “bad behaviour”, *sam-ut+śraya-* > Pā *samussaya-* “body”, *jarad+g<sup>o</sup>* > Pā *jaraggava-* “an old cow” (*ibid.*: 180). Furthermore, in Pāli the initial consonant of the second member is subject to gemination, especially in poetic language because of meter and analogy, e. g. *kumārga* > Pā *kummagga-* “a bad way”, *nigirati* > Pā *niggilati* “swallows” (*ibid.*: 177).

### 3. Conclusion

In this paper I dealt with two types of sandhi, vocalic and consonantal, in Sanskrit in comparison with Prakrits. The junction of two vowels of similar quality causes contraction of vowels (into one long vowel) in Sanskrit as well as in Prakrits (when the second word begins with an open syllable in Prakrits) where in addition one vowel, either final or initial, can be subject to deletion (if the second word begins with a closed syllable), and the same situation is characteristic for the junction of two different vowels in Prakrits. After the elision of the final vowel, there the remaining vowel may be lengthened. There in sandhi any initial vowel could even fall away, and these sandhi forms were occasionally generalized. Moreover, Aśokan Prakrit and Pāli admit all kinds of hiatus which can be bridged either by a glide or by special sandhi consonants. The results of the junction of two vowels of different quality in Sanskrit can be diphthongization, phonological variation, elision of the initial vowel and sometimes hiatus. In the case of the junction of two consonants as well as the junction of a consonant and a vowel in Sanskrit, typical is assimilation of voicing or of the place of articulation, whereas in Prakrits all final consonants, except nasals, were lost, thus just simple or nasalized vowels can stand finally in Prakrits. Thus, only the final -ṃ may undergo sandhi changes within the sentence. Furthermore, the external sandhi in Prakrits does not apply to all the words of a sentence but only to those which are syntactically closely connected.

Tab. 1: Vocalic sandhi

	a-		ā-		ī-		ū-	
	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.
-ā	-ā-	-ā-/’ a/a- <sup>‘</sup>	-ā-	-ā-/’ a/a- <sup>‘</sup>	-e-	-e-/’ ī-	-o-	-o-/’ ū-
-ī	-ya-	-ya-/’ a/-ī <sup>‘</sup>	-yā-	-yā-/’ a/-ī <sup>‘</sup>	-ī-	-ī-/’ ī/-ī- <sup>‘</sup>	-yū-	-yū-
-ū	-va-	-va-/’ a/-ū <sup>‘</sup>	-vā-	-vā-/’ a/-ū <sup>‘</sup>	-vī-	-vī-	-ū-	-ū-/’ ū/-ū- <sup>‘</sup>
-e	-e <sup>‘</sup>	-e <sup>‘</sup> /’ a/e- <sup>‘</sup>	-a ā-	-e <sup>‘</sup> /’ ā/e- <sup>‘</sup>	-a ī-	-e <sup>‘</sup> /’ ī/e- <sup>‘</sup>	-a ū-	-e <sup>‘</sup> /’ ū/e- <sup>‘</sup>
-o	-o <sup>‘</sup>	-o <sup>‘</sup> /’ a/o- <sup>‘</sup>	-a ā-	-o <sup>‘</sup> /’ ā/o- <sup>‘</sup>	-a ī-	-o <sup>‘</sup> /’ ī/o- <sup>‘</sup>	-a ū-	-o <sup>‘</sup> /’ ū/o- <sup>‘</sup>
-ai	-ā a-	-	-ā ā-	-	-āī-	-	-ā ū-	-
-au	-āva-	-	-āvā-	-	-āvī-	-	-āvū-	-
-r	-ra-	-	-rā-	-	-rī-	-	-rū-	-

	e-		o-		ai-		au-		r-	
	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.
-ā	-ai-	’ e-	-au-	’ o-	-ai-	-	-au-	-	-ar-	-
-ī	-ye-	-ye-	-yo-	-yo-	-yai-	-	-yau-	-	-īr-	-
-ū	-ve-	-ve-	-vo-	-vo-	-vai-	-	-vau-	-	-vr-	-
-e	-a e-	-e <sup>‘</sup>	-a o-	-e <sup>‘</sup>	-a ai-	-	-a au-	-	-a r-	-
-o	-a e-	-o <sup>‘</sup>	-a o-	-o <sup>‘</sup>	-a ai-	-	-a au-	-	-a r-	-
-ai	-ā e-	-	-ā o-	-	-ā ai-	-	-ā au-	-	-ā r-	-
-au	-āve-	-	-āv o-	-	-āv ai-	-	-āv au-	-	-āv r-	-
-r	-re-	-	-ro-	-	-rai-	-	-rau-	-	-r-	-

Tab. 2: Consonantal sandhi

	k		c		ṭ		t		p		n		m		y	
	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.	Skt.	Pkt.
-m	-ṃ -ṅk-	-ṅ	-ṃ -ṅc-	-ṅ	-ṃ -ṅṭ-	-ṅ	-ṃ -ṅt-	-n	-ṃ -ṃp-	-m	-ṃ	-n	-ṃ -ṃm-	-m	-ṃ	-ṅ ṅ-

It is evident that in Prakrits the basic (pause) form of the word is typical not only for the end of sentences, verses or hemistiches, but also for the internal frame of these formations as is also evidenced by the situation in Old Iranian and in Middle (and New) languages. For the most part it is possible to derive their forms from pause form of Old-Aryan words, though. Yet we must be aware the **MIA sandhi rules are only an imitation of the Sanskrit sandhi rules and not their organic continuation**. Sociolinguistically, it is the same as Buddhist Hybrid Sanskrit. North-Indic Buddhists wrote their texts in this language supposedly based on Central Indic dialect that was not identified or may be a mixture of different Central Indic dialects. Buddhist Hybrid Sanskrit was substantially affected by Sanskrit since the beginning of this tradition and the tendency for sanskritization was always deepened. Thus, Prakrit forms stand side by side with Sanskrit forms. According to Edgerton (2004), this language has never been spoken and it has been used as a sacred language only.

**List of abbreviations**

Acc.	Accusative
Aś	Aśokan Prakrit (in general, for all Aśokan inscriptions in this paper)
Caus.	Causative
Fem.	Feminine
Gen.	Genitive
Loc.	Locative
Masc.	Masculine
MIA	Middle Indo-Aryan
Nom.	Nominative
OIA	Old Indo-Aryan
Pā	Pāli
Pkt.	Prakrit
Pl.	Plural
RV	Rigveda
Skt.	Sanskrit
Sg.	Singular
Ved.	Vedic

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## VÝVOJ SANDHIOVÝCH ZMĚN V SANSKRITU, AŠOKOVĚ PRAKRITU A V JAZYCE PĀLI

Článek *Development of Sandhi Phenomena in Sanskrit and in Aśokan Prakrit and Pāli* je věnován otázce sandhiových změn v sanskrtu, Ašokově prákrtu a v jazyce Pāli (termín *prákr* je v článku užit jako zastřešující termín pro oba jazyky, tedy Ašokův prákr i jazyk Pāli). Konfrontačním způsobem je popsán vývoj a posun jak vokalických, tak konsonantických sandhiových změn externího typu ve zmíněných jazycích. Podrobněji jsou rozpracovány následující otázky: 1. spojení dvou vokálů stejné kvality, v kterémžto případě dochází v sanskrtu i ve zmiňovaných prákrtech ke kontrakci, v prákrtech může navíc jeden vokál, ať již iniciální, nebo finální, odpadat. 2. Stejná situace je v prákrtech pak zaznamenána i v případě kontrakce vokálů různé kvality, zatímco v sanskrtu dochází k různým výsledkům: diftongizace, elize počátečního vokálu, vznik hiátu aj. 3. V případě spojení dvou konsonantů nebo konsonantu a vokálu je pro sanskrť příznačná asimilace znělosti a místa, zatímco v prákrtech všechny koncové konsonanty, vyjma nazál, odpadly a pouze koncová nazála *-m* může tedy v prákrtech podléhat sandhiovým změnám. Popisem sandhiových změn v sanskrtu a prákrtech se autorka snaží dokázat, že prákrty lze oproti sanskrtu obecně charakterizovat jako jazyky syntetické, s gramatikou poněkud zjednodušenou, a že sandhiová pravidla jsou pak pouze napodobeninou pravidel sanskrtských, nikoli jejich organickým pokračováním.

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