

THE DEVELOPMENT OF OLD-INDO-ARYAN CONSONANT-CLUSTERS (INVOLVING SPIRANTS) INTO PĀLI.

0. The purpose of this paper is to make a re-analysis of the development of Old Indo Aryan (OIA) consonant clusters involving spirants into Pali (P).
1. The consonant clusters involved in this change are either bi-consonantal or tri-consonantal, and can be formulated as follows:

bi-consonantal clusters

$$\text{stop} + \text{spirant} ; \text{spirant} \quad + \quad \left. \begin{array}{l} \text{stop} \\ \text{nasal} \end{array} \right\}$$

tri-consonantal clusters

$$\left. \begin{array}{l} \text{stop} \\ \text{semi vowel} \end{array} \right\} + \text{spirant} + \left. \begin{array}{l} \text{nasal} \\ \text{semivowel} \end{array} \right\} ;$$

spirant + stop + semivowel.

(The term 'spirant' is used here as a cover symbol for 'sibilants' as well as 'h'.)

These clusters occurred both initially and medially in OIA. However, tri-consonantal clusters were of very low text and list frequency, word-initially.

- 1.1 The specific instances of these clusters in so far as they have a bearing on P. are stated below.

a. bi-consonantal clusters

kṣ,	e.g.	kṣaṇa	'moment'	yakṣa-	'devil'
ts,		tsaru-	'hilt'	vatsa-	'calf'
ps,		psa:ta-	'hungry'	jugupsa:-	'disgust'
śc,				paśca:t-	'later'
śn				praśna-	'question'
śm,		śmaśru-	'beard'	aśman-	'stone'
śk,				śuśka-	'dry'
śt,				dr̥ṣṭa-	'seen'
śṭh,				śreṣṭha-	'superior'
śp,				puśpa-	'flower'
śṇ,				uśṇa-	'hot'
śm,				uśman-	'heat'
sk,		skandha-	'shoulder'	bha:skara-	'sun'
skh,		skhal-	'trip'	apaskhala-	'slipping'
st,		stu-	'praise'	vastu	'wealth'
stha,		stha:	'stand'	prastha:na	'advent'
sp,		spaṣṭa-	'clear'	upaspṛś-	'touch'
sph,		sphaṭika-	'crystal'	apasphura-	'bursting forth'
sn,		sneha-	'oil'	vasna,	'wealth'
sm,		smi	'smile'	apasmara	'epilepsy'
hn,				ahna-	'day'
hm,				jihma-	'crooked'

b. tri-consonantal clusters

kṣṇ,			ti:kṣṇa-	'sharp'
kṣm,	kṣma:	'earth'	pakṣman-	'eye- lashes'
kṣy,			pakṣya-	'belonging to'
tsn,				'the wings'
rṣṇ,			jyotsna:-	'moonlight'
ṣkr,			pa:rṣṇi-	'heel'
ṣṭr,			niṣkram-	'go out'
ṣṭhy,			ra:ṣṭra-	'country'
sty,	stya:na	'grown dense'	oṣṭhya-	'labial'
str,	stri:	'woman'	pastya:	'homestead'
			vastra-	'cloth'

2. In previous studies, the development of OIA. stop+spirant or spirant + stop clusters have been treated differently from spirant + nasal clusters.¹ Such an approach tends to obliterate the generalities underlying the phenomena of phonological change. It is proposed here that both these changes were essentially the results of a single phonological process that has come into effect during the early Middle Indo Aryan (MIA.) period, of which P. serves as the best representative.
- 2.1 All these clusters have a *sibilant* or *h* as a determining factor in the phonological changes that ensued. As for the development of the OIA. sibilants /ś/, /ṣ/ and /ṣ/, the general assumption had been an unconditional merger of these with /s/ in P.² Such an assumption however, does not reveal the underlying factors involved, and it is plausible that there had been a conditioned two-stage change of OIA. Sibilants into P., specially in view of the resultant nasal type involved. This becomes clear when we compare the OIA. Sibilant development in P. with that of Ardha-Māgadhī (AM.)

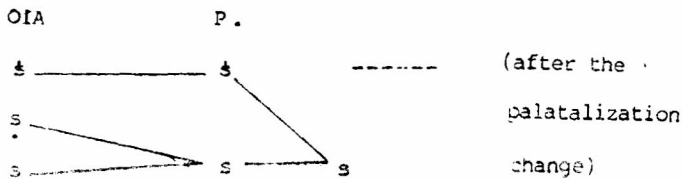
e.g.	OIA.	P.	AM.
'desire'	tṛṣṇa:	taṇha:	taṇha:
'question'	praśna	paṇha	paṇha
'eat'	aśna-	aṇha-	(aṇha)
'day'	ahna-	anha-	aṇha
'us'	asma:n	amhe	amhe

In AM. there is only a two-way contrast between the segmental nasals, /n/ (ṇ) ≠ /m/,³ whereas in P. there is a five way phonemic contrast among the segmental nasals, /m/≠/n/≠/ṇ/≠/ñ/≠/ṅ/, as evident from the following examples.

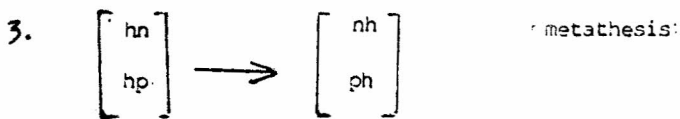
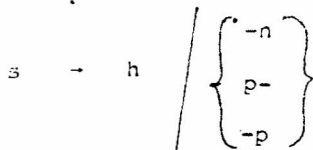
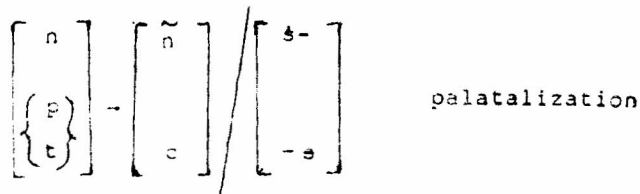
1. cf. Wilhelm Geiger, *Pali Literature and Language*, translated by B. Ghosh (second edition) 1958, Delhi: § 49 through § 59.
2. cf. Geiger, *op.cit.* § 35; A Fahs, *Grammatik des Pali* Leipzig, 1985, § 22
3. cf. A.M. Ghatage, *Introduction to Ardha Magadhi*, (fourth edition) Poona, 1951, § 81.

/amha/	'us'
/anha/	'day'
/kaṇha/	'black'
/añha-	'eat'
/anha-	'move'

One of the factors that is responsible for the emergence of /ñ/ as a phoneme in P., as contrasted both with OIA. as well as other MIA. languages is the combinatory change OIA. śn > p. ñh. In view of this change OIA. sibilant merger in P. can be restated as follows:



2.2 The change of consonant clusters with a spirant as a member, can be stated as follows for bi-consonantal groups, in word-medial position.



(S= sibilant; P=stop; N=nasal)

2.3 The gemination of the stops was metrically conditioned subject to the law of *mora*.

It is difficult to assume gemination in these cases as a general phonological process unrelated to the metrical structure within the word. For intervocalic un-geminated aspirate stops are permitted in P., as illustrated by examples such as

	OIA.	P.
'story'	katha:	katha:
'sky'	nabhas	nabha
'fingernail'	nakha	nakha
'rough'	kaṭhina	kaṭhina
'honey'	madhu	madhu

2.4 Tri-consonantal clusters were simplified into bi-consonantal clusters through assimilation, after which they underwent the above phonological changes (2.2, 1-4).

Examples

bi-consonantal	OIA.	P.
'disgust'	jugupsa:	jiguccha:
'calf'	vatsa-	vaccha
'question'	praśna	pañha
'clever'	dakṣa	dakkha
'later'	paśca:t	paccha:
'dry'	śuśka	sukkha
stung	daśta	daṭṭha
'lip'	oṣṭha	oṭṭha
'flower'	puṣpa	puppha
'black'	kṛṣṇa	kaṇha
'wonder'	viśmaya	viṃhaya
'day'	ahna	anha
'crooked'	jihva	jiṃha

tri-consonantal

'will live'	vatsyati	vacchati
'will get'	lapsyati	lacchati
'edible'	bhakṣya	bhakkha
'sharp'	ti:kṣṇa	tikkha
'heel'	pa:rṣṇi	paṃhi

2.5 Word-initially the resultant clusters were **simplified** as follows:

	pph	ph	
	Nh	N(h)	
e.g.		OIA.	P.
	'throw into'	prakṣipati	pakhipati
	'throws'	kṣipati	khipati
	'praise'	stuti	thuti
	'wealth'	vastu	vatthu
	'beard'	śmaśru	massu

2.6 However, we come across certain exceptions to these rules in items such as,

	OIA.	P.
'eyelash'	pakṣman	pakhu ma /pamha
'sharp'	ti:kṣṇa	tikhina/tiṅha (in addition to the regular tikkha)
'subtle'	sukṣma	sukhu ma
'affection'	sneha	sneha/sineha

These must be explained as due to borrowings from OIA.⁴

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4. Also see W.S. Karunatilake, "Some observations on the Development of Old Indo-Aryan Spirant + Nasal Clusters into Pali", *Kalyani*, Journal of Humanities and Social Sciences of the University of Kelaniya, vol III, no 4.

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