Deterrorizing Sanskrit

Sound laws

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Lengthening of Indo-European o in open syllables (according to Brugmann)

ie. *o* in open syllable (ending in resonant) $\longrightarrow$ oi. $\bar{a}$

- Only ie. *o*, but not ie. *e* or *a* are lengthened.
- One consonant follows *o*, only.

Examples:

- *bharāmas*
  but not *bharāmi* where *pherō* and Latin *ferō* show that *mi* was added after long $\bar{o}$
- Verbs of the tenth class like

ie. **mor-ey-eti* $\longrightarrow$ *mār-ay-a-ti* ("he makes die, he kills"), but

ie. **jonH-ey-e-ti* $\longrightarrow$ *jan-ay-a-ti* ("he begets") (compare *jan-i-tum*

Lengthening of Indo-European o in open syllables (according to Brugmann)

- In the perfect, we have

	1. pers. sg.		3. pers. sg.	
oi. root	oi.	ie.	oi.	ie.
gam ("to go")	*ja-gam-a*	$g^{w}e$-$g^{w}om$-h_2e	*ja-gām-a*	$g^{w}e$-
tan ("to stretch")	*ta-tan-a*	*te-ton-*h_2e	*ta-tān-a*	*te-to*
kṛ ("to make")	*ca-kar-a*	*ke-kor-*h_2e	*ca-kār-a*	*ke-k*

Consonants (except sibilants)

Sanskrit

	vl./unasp.	vl./asp.	vd./unasp.	vd./asp.	nasals	sibila
velars	*k*	*kh*	*g*	*gh*	*ṅ*	
palatals	*c*	*ch*	*j*	*jh*	*ñ*	*ś*
cerebrals	*ṭ*	*ṭh*	*ḍ*	*ḍh*	*ṇ*	*ṣ*
dentals	*t*	*th*	*d*	*dh*	*n*	*s*
labials	*p*	*ph*	*b*	*bh*	*m*	

Consonants (except sibilants)

Indo-European

	vl./unasp.	vd./unasp.	vd./asp.
velars	k	g	gh
palatals	$\acute{k}$	$\acute{g}$	$\acute{g}h$
dentals	t	d	dh
labials	p	b	bh
labio-velars	k^w	g^w	$g^w h$

Differences:

- no cerebral row
- labio-velar sounds
- ie. ie. palatal are not pronounced as oi. palatals.
- ie. n and m (no need to distinguish any phonetic variants)
- voiceless + aspirated sounds unclear and uncommon

Sound laws

summary

ie. $k/g/gh \longrightarrow$ oi. $k/g/gh$ before dark vowels or cons.

ie. $k/g/gh \longrightarrow$ oi. $c/j/h$ before light vowels (sec. palatalization)

ie. $\acute{k}/\acute{g}/\acute{g}h \longrightarrow$ oi. $\acute{s}/j/h$ (primary palatalization)

ie. $t/d/dh \longrightarrow$ oi. $t/d/dh$
ie. $p/b/bh \longrightarrow$ oi. $p/b/bh$

ie. $k^w/g^w/g^wh \longrightarrow$ oi. $k/g/gh$ before dark vowels or cons.
ie. $k^w/g^w/g^wh \longrightarrow$ oi. $c/j/h$ before light vowels (sec. palatalization)

Primary and secondary palatalization

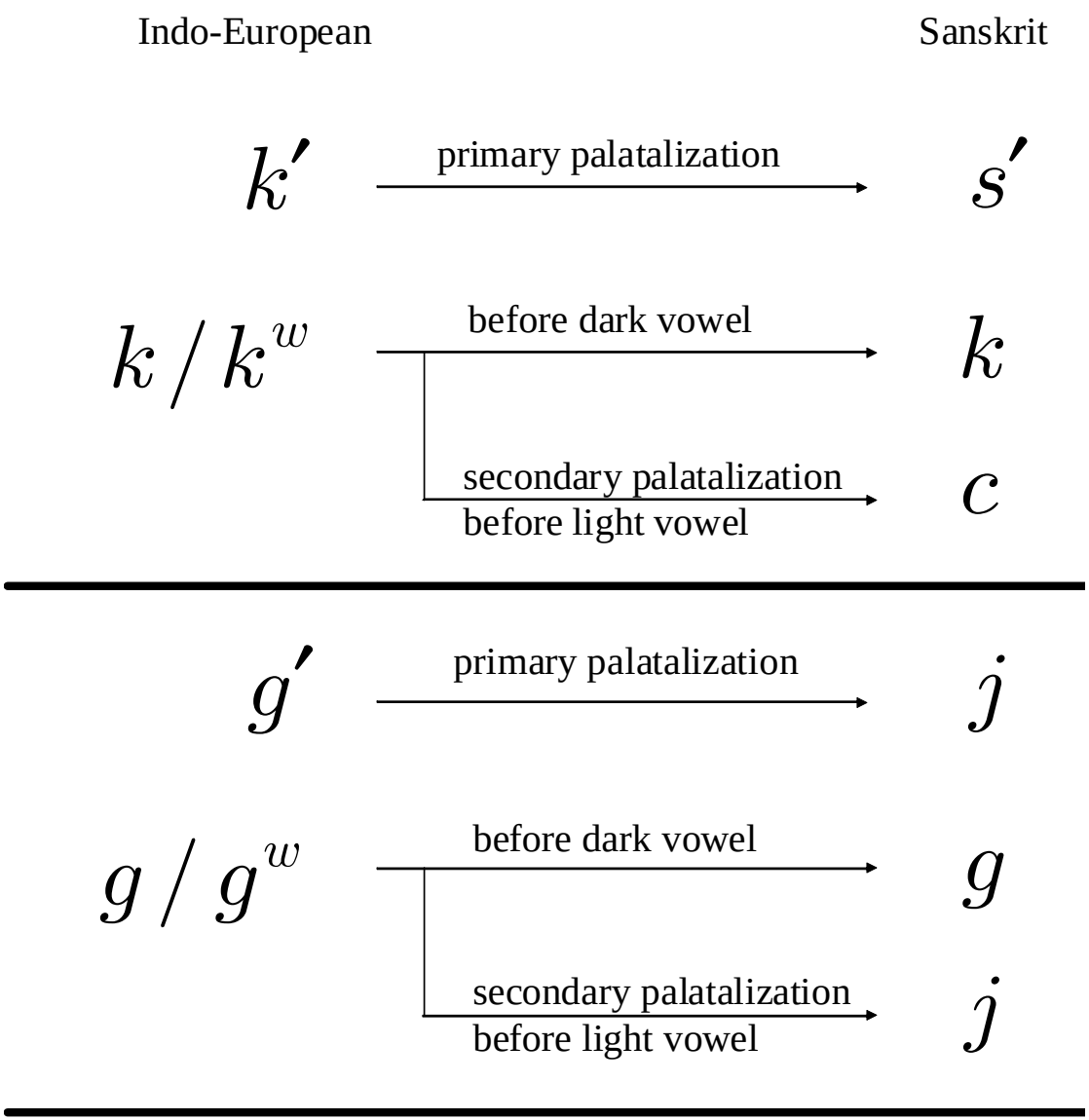
$$\text{ie. } {}^{*}\acute{k}\mathring{m}\text{tóm} \longrightarrow \begin{cases} \text{oi. } \acute{s}at\acute{a}m \\ \text{ogr. } he\text{-}katon \\ \text{lat. } centum \\ \text{gth. } hund \end{cases}$$

Reduplicated perfect of oi. *kṛ*, *karôti* (“to do, to make”):

ie. ${}^{*}ke\text{-}k\bar{o}r\text{-}a$

$\longrightarrow$ *ca-kār-a* (with ie. *k* $\longrightarrow$ oi. *c* before light ie. vowel *e*)

Primary and secondary palatalization



Word-final consonants

simplification of consonant clusters

- *s* is the sign of nom. sg., both masculine and feminine:
  - *dev-a-s* (“god”)
  - **marut-s* $\longrightarrow$ *marut* (“wind”)
- parasmâipada imperfect sg. of athematic verbs:

$\sqrt{}$ *han* (“to strike”)	1. pers. sg.	2. pers. sg.	3. pers. sg.
	a-han-am	*a-han* $\longleftarrow$ *a-han-s*	*a-han* $\longleftarrow$ *a*

Word-final consonants

compensatory lengthening of nom. singulars

Remember

$$punar\ rāmaḥ \longrightarrow punā\ rāmaḥ.$$

In general

$$V + CC \longrightarrow \bar{V} + C.$$

- *bala-vant*, m. (“he who has strength”) has nom. sg.

$$^{*}bala\text{-}vant\text{-}s \longrightarrow\ ^{*}bala\text{-}vans \longrightarrow\ ^{*}bala\text{-}vann \longrightarrow\ ^{*}bala\text{-}vān$$

- *mati-mant*, m. (“he who has mind $\longrightarrow$ clever”) has nom. sg.

$$^{*}mati\text{-}mant\text{-}s \longrightarrow\ ^{*}mati\text{-}mans \longrightarrow\ ^{*}mati\text{-}mann \longrightarrow\ ^{*}mati\text{-}mān,$$

- PAP *ga-ta-vant*, m. (“he who went”) with nom. sg. *ga-ta-vān.*
- **But**:

$$gacchants \longrightarrow gacchan$$

Word-final consonants

compensatory lengthening of nom. singulars

- *mahant* (“great”) with nom. sg. *mahān*
- *gir*, f. (“voice, speech”) with nom. sg.

$$^{*}gir\text{-}s \longrightarrow \ ^{*}gir\text{-}r \longrightarrow \ ^{*}gīr$$

- *su-manas*, m./f. (“good-hearted man/woman”) with nom. sg.

$$^{*}su\text{-}manas\text{-}s \longrightarrow \ ^{*}su\text{-}manass \longrightarrow \ ^{*}su\text{-}manās$$

Compare *su-manas*, n. (“flower”)

Word-final consonants

compensatory lengthening of nom. singulars

In quite a few important cases, lengthening goes together with the loss of a final *n* or *r*:

- Stem *rajan*, m. (“king”) with nom. sg.

$$^{*}rajan\text{-}s \longrightarrow \ ^{*}rajann \longrightarrow \ ^{*}rajān \longrightarrow rajā$$

- Stem *yogin*, m. (“yogi”) with nom. sg.

$$^{*}yog\text{-}in\text{-}s \longrightarrow \ ^{*}yog\text{-}in\text{-}n \longrightarrow \ ^{*}yog\text{-}ī$$

- Stem *nê-ṭṛ*, m. (“leader”) with nom. sg.

$$^{*}nêtar\text{-}s \longrightarrow \ ^{*}nêtar\text{-}r \longrightarrow \ ^{*}nêtār \longrightarrow nêtā,$$

Word-final consonants

not voiced or aspirated stops or palatals in absolute final position

	vl./unasp.	vl./asp.	vd./unasp.	vd./asp.
velars	*k* → *k*	*kh* → *k*	*g* → *k*	*gh* → *k*
palatals	*c* → *k*/*ṭ*	*ch* → *k*/*ṭ*	*j* → *k*/*ṭ*	*jh* → *k*/*ṭ*
cerebrals	*ṭ* → *ṭ*	*ṭh* → *ṭ*	*ḍ* → *ṭ*	*ḍh* → *ṭ*
dentals	*t* → *t*	*th* → *t*	*d* → *t*	*dh* → *t*
labials	*p* → *p*	*ph* → *p*	*b* → *p*	*bh* → *p*

Examples: root nouns

oi. stem	nom. sg.
yudh (“battle”)	*yut*
mṛd (“clay”)	*mṛt*
bhuj (“enjoyment, utility”)	*bhuk*
sam-rāj (“ruler”)	*sam-rāṭ*
srāj (“garland”)	*srāk*

Word-final consonants

not voiced or aspirated stops in absolute final position

Remember

ie. *ḱ/ǵh* → oi. *ś/h* (primary palatalization)

and

ie. *gh* → oi. *h* before light vowels (sec. palatalization)

- *ś* → *k/ṭ*, for example in

oi. stem	nom. sg.
dṛ́ś (“seeing, eye, theory”) ← ie. **derḱ*	*dṛ́k* ← ie. **dr̥rḱ-s*
viś (“house, people”) ← ie. **veiḱ*	*viṭ* ← ie. **viḱ-s* (?)

- *h* → *k/ṭ*, for example in

oi. stem	nom
madhu-lih (“honey sucker, bee”) ← ie. **medhu* + ie. **leiǵh*	*ma*
guh (“hiding place”) ← ie. **gheuǵh*	*guk*

Word-final consonants

not voiced or aspirated stops in absolute final position

- $s \longrightarrow \dot{h}$, for example *dêvas* $\longrightarrow$ *dêvaḥ*, but also
  - with original *s* in *dêvas tarati*
  - with *as* $\longrightarrow$ *ô*
- $r \longrightarrow \dot{h}$, for example *punar* $\longrightarrow$ *punaḥ*

Dialectal confusion of *r* and *l*

Both ie. *r* and *l* may lead to oi. *r* or *l*

- *car-a-ti* (“he wanders”) versus *cal-a-ti* (“he moves, he swings”)
- *rêkh-ā*, f. (“line, strip, picture”) versus *lêkh-ā*, f. (“line, strip, picture”), both of which are related to *likh-a-ti* (“he writes”)

Dialectal confusion of *r* and *l*

Remember

oi. *n* after *r*, *ṛ*, *r̄*, or *ṣ*, but not word-final ⟶ oi. *ṇ*

- *jīvanam*, n. (“life”)
- *maraṇam*, n. (“death”)

Compare

- *rathena* (instr. sg. of *rathas* (“carriage”))
- *brahmaṇā* (instr. sg. of *brahman* (“god”))

ruki

Remember

oi. *s* after ruki, but not word-final ⟶ oi. *ṣ*

- oi. *r*-sounds, such as *r* and *ṛ* with examples
  - *karṣas*, m. (“ploughing”) and
  - *kṛṣṇa* (“black, dark”)
- oi. *u*-sounds such as *u* and *ô* example *gô-ṣṭham* (“cowshed”) ⟵ stem *gô*, f. (“cow”) + *sthā* (“to stand”)
- oi. *k* with example loc. pl. *vākṣu* ⟵ *vāc* (“word”)
- oi. *i*-sounds such as *i* and *ê* with examples
  - *sthā, ti-ṣthati* (“to stand”)
  - *dêvas* m, (“god”) with loc. pl. *dêvêṣu*
  - *sad, ni-ṣīdati*

ruki

But

oi. *s* after *ui* before voiced consonant $\longrightarrow$ oi. *r*

- the neuter noun *havis* (“oblation”)
  - with instr. pl. *havir-bhis* before voiced consonant
  - but loc. pl. *haviḥ-ṣu* before unvoiced consonant
- the neuter noun *āyus* (“life”) with instr. pl. *āyur-bhis* before voiced consonant,
- but *duh-kham* (“misfortune”) before unvoiced consonant

Aspiration shift (due to Bartholomae)

ie. *dh t* $\longrightarrow$ oi. *d dh*

ie. *bh t* $\longrightarrow$ oi. *b dh*

ie. *gh t* $\longrightarrow$ oi. *g dh*

- oi. *budh, bôdhati* "awaken, understand" with PPP *bud-dha* $\longleftarrow$ *budh-ta*
- oi. *labh, labhati* "obtain" with PPP *lab-dha* $\longleftarrow$ *labh-ta*

Aspiration shift (due to Bartholomae)

But, in future forms with *sy*:

$$\begin{aligned} & \text{ie. } dh\,s(y) \\ \longrightarrow\ & d\,s(y) \text{ (aspiration shift, but } s \text{ not aspiratable)} \\ \longrightarrow\ & \text{oi. } t\,s(y) \text{ (backward assimilation)} \end{aligned}$$

and hence the sound laws

$$\begin{aligned} \text{ie. } dh\,s(y) &\longrightarrow d\,s(y) \longrightarrow \text{oi. } t\,s(y) \\ \text{ie. } bh\,s(y) &\longrightarrow b\,s(y) \longrightarrow \text{oi. } p\,s(y) \end{aligned}$$

Therefore, the *sy*-future for *labh-a-ti* (“he obtains”) is *lap-sy-ati.*

Deaspiration shift (ascribed to Grassmann)

ie. *bh_dh* → oi. *b_dh*

- From oi. *bhū* ("to be"), we have the perfect *ba-bhūva* ("he was").
- The present tense for "to stand" is reduplicated: *sthā*, *ti-ṣtha-ti* (with ruki after *i*).
- Verbs of class 3 are reduplicated and provide the examples
  - *dhā*, *da-dhā-ti* ("to put")
  - *bhī*, *bi-bhê-ti* ("to be afraid")
- Perfect forms also use reduplication:
  - From oi. *dhāv*, *dhāvati*, the reduplicated perfect is *da-dhāv-a*.
  - From oi. *bhaj*, *bhajati*, the reduplicated perfect is *ba-bhāj-a*.

Deaspiration shift (ascribed to Grassmann)

Oi. *budh, bôdhati* provides a further example because it goes back to ie. **bheudh*. Interestingly, the word initial *bh* appears in the future form *bhôt-sy-ati*. Think about it this way:

- *dh* lost its aspiration in the consonant cluster and became voiceless before voiceless *s.*
- *sy* could not assume the aspiration.
- Aspiration dissimilation did not take place because the second syllable does not contain an aspirated consonant (any more).

Deaspiration shift (ascribed to Grassmann)

- nom. *kāma-dhuk*, f. (“wish fulfillment”) with
- acc. *kāma-duh-am*

Backward assimilations

motivation	example
voicelessness	*yuk-ta* ← ie. **yuǵ-to*
	tat kamalam ← *tad*

motivation	example
voice	*gramād vanam* ← *gramāt*
	ab-das, m. (“water giver → cloud”) ← *ap* (“water”) + *d*

motivation	example
nasalizing (of dentals)	*tan mitram* ← *tad*
	un-mārgas, m. (“a wrong or evil way”) ← *ud-*
	śaṇ-māsas, m. (“period of six months”) ← *śa*

Forward assimilations

1. Aspiration shift: PPP *bud-dha* ← *budh-ta*
2. Cerebralization:
   - of dentals after *ś* or *ṣ:* PPP *dṛṣ-ṭa* of *dṛś*, *paśyati* (“to see”)
   - by ruki: loc. pl. *nadīṣu* of *nadī*, f. (“river”)
   - of *n* after *r*: *maraṇam*, n. (“death”)
3. Palatalization of *n* after *j*: instr. sg. *rāj-ñ-ā*