

Deterrorizing Sanskrit

Infinitive and future forms

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Infinitives

The formation of the infinitive follows the general pattern

full-grade root + *tum*

Consider these examples where the full grade clearly shows:

√ in zero grade	3. pers. sg.	infinitive
<i>kṛ</i> ("to make")	<i>kar-ô-ti</i>	<i>kar-tum</i>
<i>hṛ</i> ("to take, to rob")	<i>har-a-ti</i>	<i>har-tum</i>
<i>vas</i> ("to dwell") (full grade)	<i>vas-a-ti</i>	<i>vas-tum</i>
<i>mṛ</i> ("to die")	<i>mri-y-a-tê</i>	<i>mar-tum</i>
<i>smṛ</i> ("to remember")	<i>smar-a-ti</i>	<i>smar-tum</i>
<i>bhṛ</i> ("to carry")	<i>bhar-a-ti</i>	<i>bhar-tum</i>

Infinitives

Also, roots with *i* regularly have full grade ê:

√ in zero grade	3. pers. sg.	infinitive
<i>i</i> ("to go")	<i>ê-ti</i>	<i>ê-tum</i>
<i>ji</i> ("to defeat")	<i>jay-a-ti</i>	<i>jê-tum</i>
<i>kṣip</i> ("to throw")	<i>kṣip-a-ti</i>	<i>kṣêp-tum</i>

while roots with *u* exhibit ô:

√ in zero grade	3. pers. sg.	infinitive
<i>stu</i> ("to praise")	<i>stâu-ti</i> (Narten)	<i>stô-tum</i>
<i>hu</i> ("to sacrifice")	<i>ju-hô-ti</i>	<i>hô-tum</i>
<i>śru</i> ("to listen")	<i>śṛ-nô-ti</i>	<i>śrô-tum</i>

Infinitives

backward assimilation

√ in zero grade	3. pers. sg.	infinitive
<i>vid</i> ("to be")	<i>vid-y-a-tê</i>	<i>vêt-tum</i>
<i>sad</i> ("to sit") (full grade)	<i>sīd-a-ti</i>	<i>sat-tum</i>
<i>khid</i> ("to suffer")	<i>khid-y-a-ti</i>	<i>khêt-tum</i>
<i>tyaj</i> ("to abandon") (full grade)	<i>tyaj-a-ti</i>	<i>tyak-tum</i>
<i>pac</i> ("to cook") (full grade)	<i>pac-a-ti</i>	<i>pak-tum</i>
<i>muc</i> ("to liberate")	<i>muñc-a-ti</i>	<i>môk-tum</i>
<i>tud</i> ("to hit")	<i>tud-a-ti</i>	<i>tôt-tum</i>
<i>nud</i> ("to push, to rush")	<i>nud-a-ti</i>	<i>nôt-tum</i>
<i>yuj</i> ("to join")	<i>yu-na-k-ti</i>	<i>yôk-tum</i>
<i>bhid</i> ("to break")	<i>bhi-na-t-ti</i>	<i>bhêt-tum</i>
<i>vac</i> ("to speak") (full grade!)	<i>vak-ti</i>	<i>vak-tum</i>

Infinitives

oi. roots ending in a nasal

√ in full grade	3. pers. sg.	infinitive
<i>gam</i> ("to go")	<i>gacch-a-ti</i>	* <i>gam</i> -to → <i>gan-tum</i>  root in zero grade
<i>tan</i> ("to stretch")	<i>tanôti</i>	* <i>tan</i> -to → <i>tan-tum</i>  root in zero grade
<i>nam</i> ("to salute")	<i>nam-a-ti</i>	<i>nan-tum</i>
<i>man</i> ("to think")	<i>man-y-a-te</i>	<i>man-tum</i>
<i>yam</i> ("to control")	<i>yacch-a-ti</i>	<i>yan-tum</i>
<i>ram</i> ("to enjoy")	<i>ram-a-te</i>	<i>ran-tum</i>
<i>han</i> ("to hit")	<i>han-ti</i>	<i>han-tum</i>

Infinitives

aspiration shift (Bartholomae's law)

oi. root	infinitive
<i>kṣubh</i> ("to be upset")	<i><u>kṣôbh</u></i> -tum → <i>kṣôbdhum</i> oi. root in full grade
<i>yudh</i> ("to fight")	<i><u>yôdh</u></i> -tum → <i>yôddhum</i> oi. root in full grade
<i>labh</i> ("to obtain", full grade!)	<i><u>labh</u></i> -tum → <i>labdhum</i> oi. root in full grade

Infinitives

both aspiration laws

✓ <i>bandh</i> ("to bind")	PPP * <u><i>bhandh</i></u> -tum → <i>band-dhum</i> root in full grade
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where

- the root initial *bh* becomes deaspirated because of Grassmann and
- the root final *dh* undergoes the aspiration shift due to Bartholomae.

Infinitives

both aspiration laws

Remember

ie. $gh/g^w h \rightarrow oi$. $\begin{cases} gh, & \text{bef. dark vowel or cons.} \\ h, & \text{bef. light vowel (sec. palatalization)} \end{cases}$

For example, we have

✓	3. pers. sg.	PPP
<i>snih</i> ("to love")	<i>snih-y-a-ti</i>	* $\underbrace{sneig^w h}_{\text{root}}$ -tum $\rightarrow snêgdhum$ in full grade
<i>dah</i> ("to burn")	<i>dah-a-ti</i>	* $\underbrace{dheg^w h}_{\text{root}}$ -tum $\rightarrow dagdhum$ in full grade

Infinitives

both aspiration laws

... and

√	3. pers. sg.	PPP
<i>duh</i> ("to milk")	<i>dôg-dhi</i>	* <u>dheugh</u> -to → <i>dôgdhum</i> root in full grade
<i>dih</i> ("to smear")	<i>dêg-dhi</i>	* <u>dheigh</u> -to → <i>dêgdhum</i> root in full grade

Infinitives

both aspiration laws

Or, in more detail,

sneig^w h-tum (full grade and *tum*-marker of past participle)

→ *snêgh-tum* (no sec. palatalization before *to*)

→ *snêg-dhum* (aspiration shift)

and

dheg^w h-tum (full grade + *tum*)

→ *dhagh-tum* (no sec. palatalization before *tum*)

→ *dagh-tum* (deaspiration)

→ *dag-dhum* (aspiration shift)

Infinitives

cerebralization laws

Remember

$$\text{oi. } \dot{s}/\acute{s} + t \rightarrow \dot{s}t$$

This is clearly seen in these verbs:

√	3. pers. sg.	infinitive
<i>dvīṣ</i> ("to hate")	<i>dvêṣ-ti</i>	<i>dvêṣ-ṭum</i>
<i>kruṣ</i> ("to cry out, to shriek")	<i>krôṣ-a-ti</i>	<i>krôṣ-ṭum</i>
<i>vṛṣ</i> ("to rain")	<i>varṣ-a-ti</i>	<i>varṣ-ṭum</i>
<i>tuṣ</i> ("to enjoy")	<i>tuṣ-y-a-ti</i>	<i>tôṣ-ṭum</i>
<i>krṣ</i> ("to plough")	<i>krṣ-a-ti</i>	<i>karṣ-ṭum, kraṣ-ṭum</i>
<i>pracch</i> ("to ask") ← ie. * <i>prek</i>	<i>prcchati</i>	<i>praṣ-ṭum</i>
<i>dīś</i> ("to show")	<i>dīś-a-ti</i>	<i>dêṣ-ṭum</i>
<i>drś</i> ("to see")	(<i>paśyati</i>)	<i>draṣ-ṭum</i>
<i>spṛś</i> ("to touch")	<i>spṛś-a-ti</i>	<i>sparṣ-ṭum, spraṣ-ṭum</i>

Infinitives

cerebralization laws + ruki

Remember

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

The infinitive of *yaj* “to sacrifice” is *yaṣ-ṭum*. However, ie. **yeǵ* should yield

yeǵ-tum (full grade and *tum*-marker of infinitive)
→ *yas-tum* (third *s-z* law before voiceless consonant)

levelling (from the PPP) should do the rest:

	<i>yas-tum</i>	
influenced by PPP	<i>iṣ-ṭa</i>	with cerebral <i>ṣ-ṭ</i>
turns into	<i>yaṣ-ṭum</i>	with cerebral <i>ṣ-ṭ</i>

Infinitives

cerebralization laws + ruki

ra rather than *ar* in some verbs:

✓	3. pers. sg.	infinitive
<i>dṛś</i> ("to see")	<i>paśy-a-ti</i>	<i>draṣ-ṭum</i>
<i>spṛś</i> ("to touch")	<i>spṛś-a-ti</i>	<i>spraṣ-ṭum</i> or <i>spaṛṣ-ṭum</i>

One may conjecture that *rṣ-ṭ* is a rather heavy combination of consonants that are avoided by using *ra* instead of *ar*.

Infinitives

aspiration and cerebralization laws

The infinitive *vôḍhum* from *vah*, *vah-a-ti* (“to flow, to drive”) goes back to ie. **veǵh*. Here, cerebral *ḍh* should result from ruki? No, instead of *vôḍhum*, we should have obtained:

- veǵh-tum* (full grade and *tum*-marker of infinitive)
- *vaǵ-dhum* (aspiration shift)
- *vaz-dhum* (second *s-z* law before voiced consonant)
- *vô-dhum* (*z* drops with comp. lengthening)

Here, there is no need for cerebralization (ruki does not apply). Thus, from the point of view of sound laws, there is no justification for the cerebral *ḍh*. However, the PPP is, regularly, *ū-ḍha* whence the cerebral sound spread.

Infinitives

aspiration and cerebralization laws

Similarly, but with Grassmann's law, *guh*, *gūhati* ("to hide") goes back to ie. **gheuǵh* and we get

- gheuǵh-tum* (full grade and *tum*-marker of infinitive)
- *gôǵ-dhum* (deaspiration and aspiration shift)
- *gôz-dhum* (second *s-z* law before voiced consonant)
- *gôṛ-dhum* (ruki)
- *gôṛ-dhum* (forward cerebral assimilation)
- *gô-dhum* (*z* drops with comp. "lengthening")

Note that *ô* is long already so that *ṛ* drops without further changes.

Infinitives

aspiration and cerebralization laws

Here the infinitive *lê-ḍhum* of *lihati* (“he licks”):

- leíḡh-tum* (full grade and *tum*-marker of infinitive)
- *lêḡ-ḍhum* (aspiration shift)
- *lêz-ḍhum* (*s-z* law before voiced consonant)
- *lêṛ-ḍhum* (ruki)
- *lêṛ-ḍhum* (forward cerebral assimilation)
- *lê-ḍhum* (*z* drops with comp. “lengthening”)

Infinitives

larnygeals

Remember

ie. **CHC* → oi. *CiC*

ie. *C_oH* → oi. *Cā*

Thus,

√	PPP
<i>bhū</i> ("to be")	* <i>bhev</i> - <i>H-tum</i> → <i>bhav-i-tum</i> root in full grade without larnygeal
<i>jan</i> ("to be born")	* <i>ġen-H-tum</i> → <i>jan-i-tum</i>

An others by analogy: *paṭh-i-tum*, *êṣ-itum*, *côray-itum*, *lêkh-itum*

Infinitives

larnygeals

Remember

ie. $*eH \rightarrow oi. \bar{a}$

Thus,

√	PPP
$p\bar{a}$ ("to drink")	$* \underbrace{peh_3}_{\text{root}} -tum \rightarrow p\bar{a}-tum$ in full grade
$sth\bar{a}$ ("to stand")	$*steH_2-tum \rightarrow sth\bar{a}-tum$ (levelling!)
$d\bar{a}$ ("to give")	$*deH_3-tum \rightarrow d\bar{a}-tum$
$dh\bar{a}$ ("to set")	$*dheH_1-tum \rightarrow dh\bar{a}-tum$

Masculine action nouns with suffix *a*

√	m. action/agent noun with full grade
<i>vr̥</i> ("to choose")	<i>var-a-s</i> ("boon")
<i>kr̥</i> ("to make")	<i>bhas-kar-a-s</i> ("light-maker → sun")
<i>gam</i> ("to go")	<i>sam-ā-gam-a-s</i> ("meeting")
<i>bhañj</i> ("to break")	<i>bhañg-a-s</i> ("breaking, defeat")
<i>ar</i> ("to fit, to connect")	<i>ar-a-s</i> ("spoke" (of a wheel))

and

√	m. agent noun with lengthened grade
<i>kr̥</i> ("to make")	<i>kumbha-kār-a-s</i> ("pot-maker → potter")

Masculine action nouns with suffix *a*

Remember

ie. *ai/ei/oi* → *oi*. $\begin{cases} \hat{e}, & \text{bef. consonant} \\ ay, & \text{bef. vowel} \end{cases}$

Thus,

√	m. action noun with full grade
<i>vid</i> ("to know")	<i>vêd-a-s</i> ("sacred knowledge")
<i>khid</i> ("to be depressed")	<i>khêd-a-s</i> ("tedium")
<i>bhid</i> ("to split")	<i>bhêd-a-s</i> ("separation, split")
<i>diś</i> ("to show")	<i>dêś-a-s</i> ("country")

Masculine action nouns with suffix *a*

Remember

ie. *au/eu/ou* → oi. $\begin{cases} \hat{o}, & \text{bef. consonant} \\ a\hat{v}, & \text{bef. vowel} \end{cases}$

Thus,

√	m. agent noun with full grade
<i>kup</i> ("to be angry")	<i>kôp-a-s</i> ("anger")
<i>krudh</i> ("to be angry")	<i>krôdh-a-s</i> ("anger")
<i>lubh</i> ("to be excited, to desire")	<i>lôbh-a-s</i> ("greed")

Masculine action nouns with suffix *a*

Also

✓	m. action noun with full grade
<i>jī</i> (“to conquer”)	<i>jay-a-s</i> (“victory”)

and with prepositions before *i* (“to go”):

	m. action noun with full grade
<i>ud-i</i>	<i>ud-ay-a-s</i> (“appearance (of a star), success”)
<i>abhi-i</i>	<i>abhy-ay-a-s</i> (“arrival of darkness → sunset”)
<i>upa-i</i>	<i>upāy-a-s</i> (“means, approach”) ← <i>upa-ay-a-s</i>
<i>vi-i</i>	<i>vy-ay-a-s</i> (“loss, cost”)
	<i>a-vy-ay-a</i> (“invariant”)
	<i>a-vy-ay-a-s</i> (“the eternal one, god <i>viṣṇus</i> ”)
	<i>a-vy-ay-a-m</i> , n. (!) (“indeclinable”)
<i>adhi-i</i>	<i>adhy-ay-a-s</i> (“chapter, section”)
<i>anu-i</i>	<i>anv-ay-a-s</i> (“succession, progeny, cause and effect”)

Masculine action nouns with suffix *a*

Remember

ie. $*CHV \rightarrow$ oi. CV ,

where the consonant is *v* or *y* here:

√	action noun with full grade
<i>bhū</i>	<i>bhav-a-s</i> , m. (“being, state”) ← ie. $*bheuH-om$
<i>bhī</i>	<i>bhay-am</i> , n. (!) (“fear”) ← ie. $*bheiH-om$

Masculine action nouns with suffix *a*

Why

3. pers. sg.	action noun
<i>yuj-a-tê</i> , palatal <i>j</i>	<i>yôg-a-s</i> , non-palatal <i>g</i>

Remember

ie. *k/g/gh* → oi. *c/j/h* before light vowels (secondary palatalization)

ie. *k/g/gh* → oi. *k/g/gh* before dark vowels or cons. versus

They explain

- palatal consonant *j* in *yuj-a-tê* (the ie. thematic vowel is *e*) versus
- non-palatal consonant *g* in *yôg-a-s* (the suffix vowel *a* goes back to ie. *o*)

Masculine action nouns with suffix *a*

This pattern can also be seen in

	✓	m. action noun (no pal.)
ie. <i>k</i>	<i>śuc</i> ("to grieve")	<i>śôk-a-s</i> ("grief")
ie. <i>g</i>	<i>srj</i> ("to release")	<i>vi-sarg-as</i> ("release, <i>visarga</i> ")
	<i>yuj</i> ("to yoke, to join")	<i>yôg-a-s</i> ("mental concentr.")
	<i>bhaj</i> ("to divide, to allot")	<i>bhag-a-s</i> ("wealth, happiness")
	<i>bhuj</i> ("to enjoy")	<i>bhôg-a-s</i> ("enjoyment")
ie. <i>gh</i>	<i>mih</i> ("to urinate")	<i>mêgh-a-s</i> ("rain")

Neuter nouns with suffix *ana*

✓	n. action noun
<i>gam</i> ("to go")	<i>gam-ana-m</i> ("going")
<i>han</i> ("to kill")	<i>han-ana-m</i> ("killing")
<i>śru</i> ("to hear")	<i>śrav-ana-m</i> ("hearing")
<i>vad</i> ("to speak")	<i>vad-ana-m</i> ("means of speaking → face, mouth")
<i>su</i> ("to press")	<i>sav-ana-m</i> ("pressing Soma")
<i>sū</i> ("to beget")	<i>sav-ana-m</i> ("childbirth")
<i>nī</i> ("to lead")	<i>nay-ana-m</i> ("means of leading → eye")
<i>vac</i> ("to speak")	<i>vac-ana-m</i> ("speech")
<i>bhuj</i> ("to enjoy")	<i>bhôj-ana-m</i> ("enjoyment")

where the last two roots point to *ana* from ie. **eno*

Neuter nouns with suffix *ana*

The oi. root *adhi-i* (“to study”) gives rise to these examples:

m. action noun with full grade

rāmāy-ana-m ← *rāma* + *ay-ana-m* (“concerning (the hero) *rāma*”)

adhy-ay-ana-m (“learning, reading”)

Neuter nouns with suffix *ana*

Some common laryngeal roots also use the *ana* suffix which looks like a *na* suffix. For example, from *dā* (“to give”), we obtain

$$*dā-ana-m \rightarrow dā-na-m$$

and similarly

√	n. action noun
<i>pā</i> (“to drink”)	<i>pā-na-m</i> (“drinking, drink”)
<i>sthā</i> (“to stand”)	<i>sthā-na-m</i> (“standing, place”)
<i>dā</i> (“to give”)	<i>dā-na-m</i> (“giving, gift”)
<i>dhā</i> (“to put, to place”)	<i>dhā-na-m</i> (“container”)

Neuter nouns with suffix *as*

✓	n. action noun with full grade
<i>nam</i> ("to bow")	<i>nam-as</i> ("bowing, homage")
<i>tap</i> ("to burn")	<i>tap-as</i> ("austerity")
<i>man</i> ("to think")	<i>man-as</i> ("thought")
<i>vac</i> ("to speak")	<i>vac-as</i> ("speech")
<i>cit</i> ("to observe")	<i>cet-as</i> ("thought")

Neuter nouns with suffix *is*

√	n. action noun with full grade
<i>hu</i> ("to sacrifice")	<i>hav-is</i> ("oblation")
<i>jyut</i> ("to shine")	<i>jyôt-is</i> ("light, star")

Neuter nouns with suffix *tr̥*

√	infinitive	m. agent noun, stem
<i>gam</i> (“to go”)	<i>gan-tum</i>	<i>gan-tr̥</i> (“goer”)
<i>nī</i> (“to lead”)	<i>nê-tum</i>	<i>nê-tr̥</i> (“leader”)
<i>bhṛ</i> (“to bear”)	<i>bhar-tum</i>	<i>bhar-tr̥</i> (“husband”)
<i>duh</i> (“to milk”)	<i>dôg-dhum</i>	<i>dôg-dhṛ</i> (“milker, exploiter”)
<i>kṛ</i> (“to make”)	<i>kar-tum</i>	<i>kar-tr̥</i> (“doer, maker”)
<i>kruś</i> (“to shriek”)	<i>krôṣ-ṭum</i>	<i>krôṣ-tr̥</i> (“shrieker → jackal”)
<i>vac</i> (“to speak”)	<i>vak-tum</i>	<i>vak-tr̥</i> (“speaker”)

Neuter nouns with suffix *tṛ*

√	infinitive	m. agent noun, stem
<i>śru</i> ("to hear")	<i>śrô-tum</i>	<i>śrô-tṛ</i> ("hearer")
<i>pā</i> ("to drink")	<i>pā-tum</i>	<i>pā-tṛ</i> ("drinker")
<i>vah</i> ("to drive")	<i>vô-ḍhum</i>	<i>vô-ḍhṛ</i> ("bridegroom")
<i>jī</i> ("to conquer")	<i>jê-tum</i>	<i>jê-tṛ</i> ("conqueror")
<i>sū</i> ("to beget")	<i>sav-i-tum</i>	<i>sav-i-tṛ</i> ("activator, father, sun")
<i>av</i> ("to help")	<i>av-i-tum</i>	<i>av-i-tṛ</i> ("helper, friend")
<i>hu</i> ("to sacrifice")	<i>hō-tum</i>	<i>hō-tṛ</i> ("priest")

Instrument nouns with suffix *tra*

✓	n. instrument noun
<i>nī</i> ("to lead")	<i>nê-tram</i> ("means of leading → eye")
<i>vas</i> ("to clothe")	<i>vas-tram</i> ("means of clothing → clothing")
<i>gā</i> ("to go")	<i>gā-tram</i> ("means of going → body limb")
<i>śru</i> ("to hear")	<i>śrô-tram</i> ("means of hearing → ear")
<i>pā</i> ("to drink")	<i>pā-tram</i> ("means of drinking → cup, vessel")
<i>śās</i> ("to instruct")	<i>śās-tram</i> ("means of instruction → scientific text")
<i>chad</i> ("to cover")	<i>chat-tram/chatram</i> ("means of covering → umbrella")
<i>pat</i> ("to fly")	<i>pat-tram/patram</i> ("means of flying → wing, leaf")

Action nouns with suffix *man*

✓	n. agent noun	
	stem	nom. sg.
<i>chad</i> ("to cover")	<i>chad-man</i> ("roof, protection")	<i>chad-ma</i>
<i>kr̥</i> ("to make")	<i>kar-man</i> ("action")	<i>kar-ma</i>
<i>jan</i> ("to beget")	<i>jan-man</i> ("birth")	<i>jan-ma</i>