शिखागोविश्वविद्यालये

प्रारम्भिकसंस्कृतम्

FIRST-YEAR SANSKRIT

AT THE UNIVERSITY OF CHICAGO

अल्लटाचार्योद्भावितः पाठक्रमः  *Designed by Andrew Ollett*

EXTERNAL CONSONANT SANDHI

hal-sandhiḥ हल्सन्धिः

EXTERNAL SANDHI

To **review**:

- **Internal sandhi** refers to the processes that take place when sounds come together **within a single word** (e.g., when suffixes are added to nominal or verbal stems).
- **External sandhi** refers to the processes that take place when **the final sound of one word** comes together with **the initial sound of the following word**.

EXTERNAL SANDHI

Some of the same processes are involved, but keep in mind:

- A word can only end in one of the **permitted final sounds** (vowels, *k, ṅ, t, n, ṭ, p, m,* and *ḥ*). Hence you will never see (e.g.) aspirate + sibilant combinations in external *sandhi*.
- **External sandhi applies between the elements of a compound word**.

EXTERNAL SANDHI

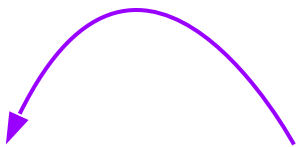
We'll break up our discussion of external *sandhi* into three parts:

- what happens when the first word ends in a consonant (*other than ḥ*);
- what happens when the first word ends in *ḥ*;
- what happens when the first word ends in a vowel.

CONSONANTS OTHER THAN Ḥ

The most fundamental and distinctive feature of external *sandhi* is the **regressive assimilation of voicing**. If a word ends in a voiceless stop (*k, ṭ, t, p*), it will necessarily become **voiced** before any voiced sound (including stops, nasals, semivowels, and vowels):

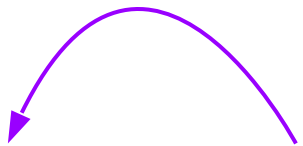
REGRESSIVE VOICE ASSIMILATION



tat # yathā

॥वृद्धिः॥
sanskrit at uchicago

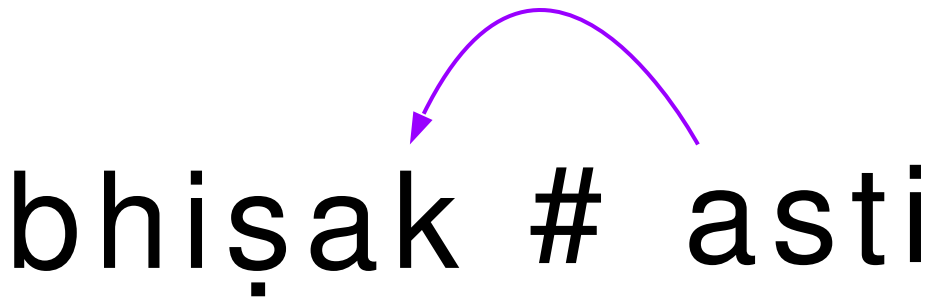
REGRESSIVE VOICE ASSIMILATION



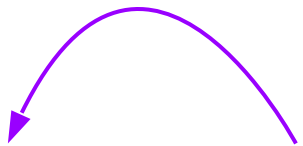
tad # yathā

“that is as follows”

REGRESSIVE VOICE ASSIMILATION



REGRESSIVE VOICE ASSIMILATION



bhiṣag # asti

“he is a doctor”

॥वृद्धिः॥
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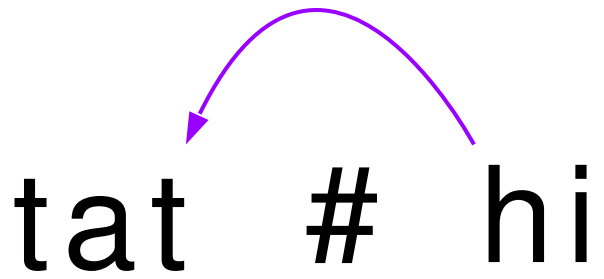
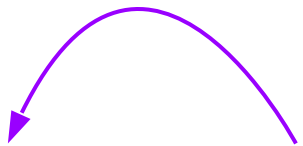
FOLLOWING ASPIRATES

When a final consonant is followed by a *voiced aspirate* (including the consonant *h*), then we have “Buddha *sandhi*” or Grassmann’s Law, where the **first** consonant is voiced, and the **second** gets the place of articulation of the first:

FOLLOWING ASPIRATES



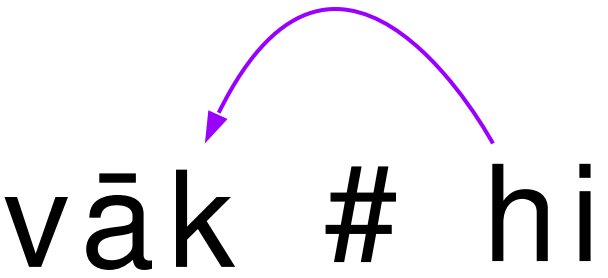
FOLLOWING ASPIRATES



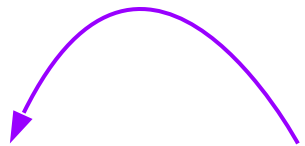
tad # dhi

“for that…”

FOLLOWING ASPIRATES



FOLLOWING ASPIRATES



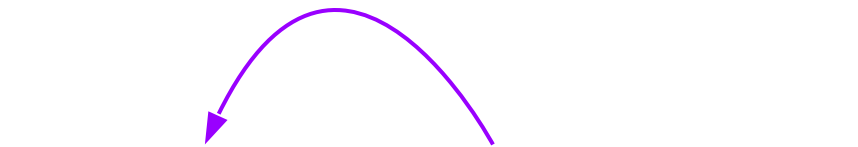
vāg # ghi

“for speech…”

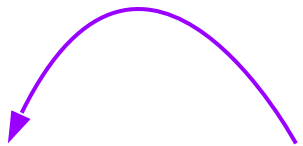
FOLLOWING NASALS

When a word-final stop is followed by a nasal consonant, it becomes the **nasal of its place of articulation:**

FOLLOWING NASALS



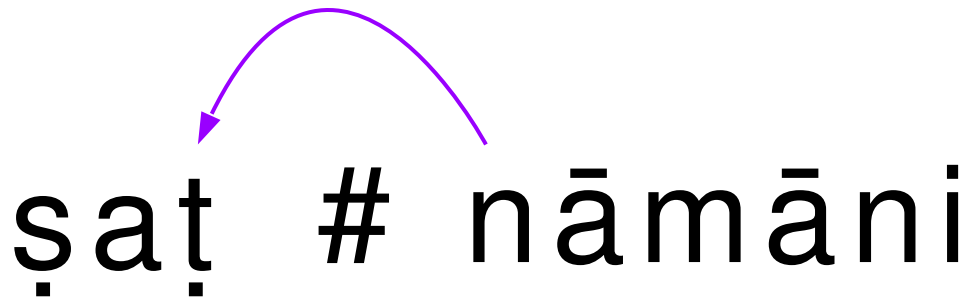
FOLLOWING NASALS



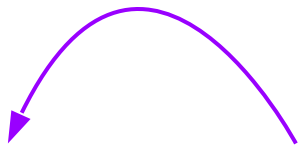
vāṅ # mama

“my speech”

FOLLOWING NASALS



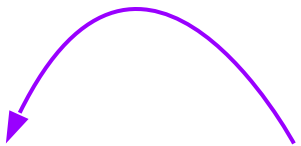
FOLLOWING NASALS



ṣaṇ # nāmāni

“six names”

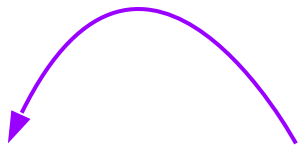
FOLLOWING NASALS



tat # nāma

“that is the name”

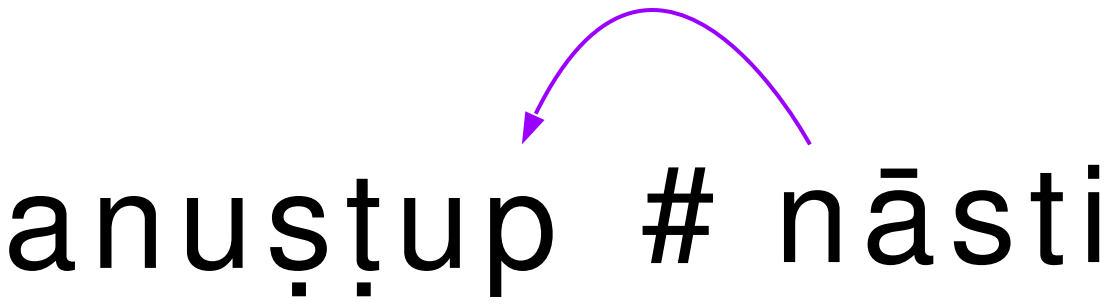
FOLLOWING NASALS



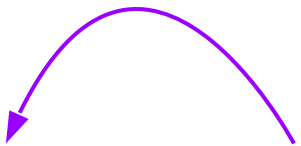
tan # nāma

“that is the name”

FOLLOWING NASALS



FOLLOWING NASALS



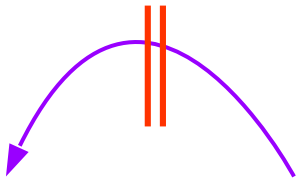
anuṣṭum # nāsti

“it’s not an *anuṣṭubh*”

CORONAL ASSIMILATION

Of the possible stop consonants, *k*, *ṭ*, and *p* will only change their **voice** features before another sound. But *t* will also change its **place of articulation**. Specifically, *t* assimilates to the place of articulation of **any following coronal** (palatal, retroflex, or dental):

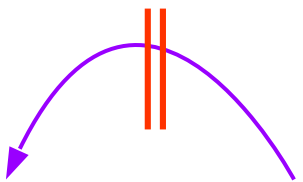
CORONAL ASSIMILATION



tat # kāraṇam

“that is the cause”

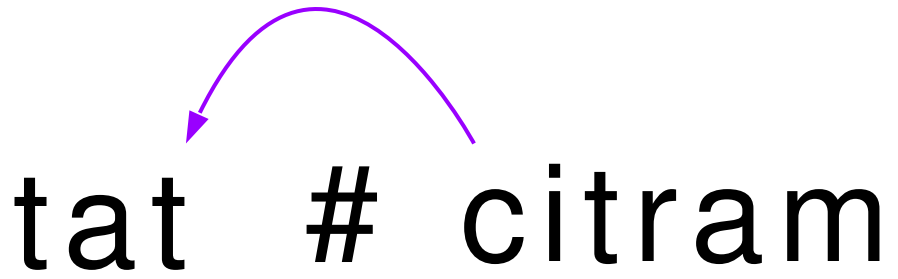
CORONAL ASSIMILATION



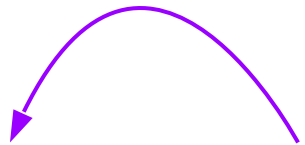
tat # phalam

“that is a fruit”

CORONAL ASSIMILATION



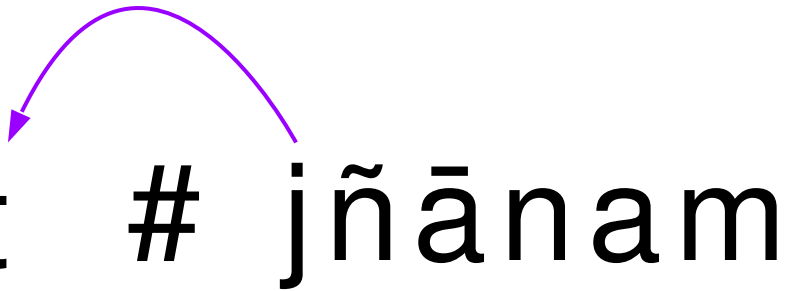
CORONAL ASSIMILATION



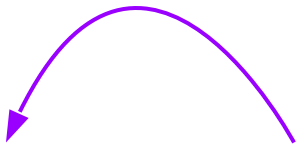
tac # citram

“that is a picture”

CORONAL ASSIMILATION



CORONAL ASSIMILATION

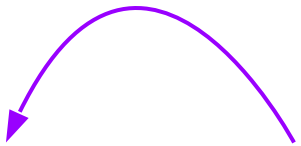


taj # jñānam

“that is knowledge”

CORONAL ASSIMILATION

CORONAL ASSIMILATION



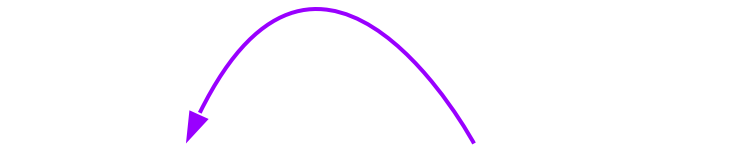
tat # ḍhaukatē

“that is approaching”

CORONAL ASSIMILATION

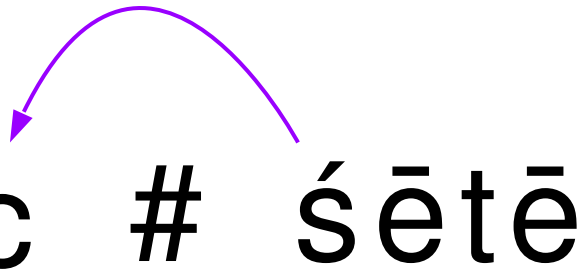
Note that assimilation also takes place before the palatal **sibilant**, *ś*. In this case, the *t* becomes a palatal stop (*c*), which in turn converts the palatal sibilant into a voiceless palatal stop (*ch*):

CORONAL ASSIMILATION



“that is lying down”

CORONAL ASSIMILATION



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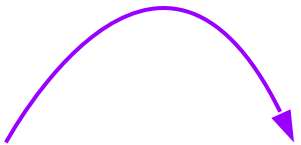


tac # chētē

“that is lying down”

CORONAL ASSIMILATION

You might expect assimilation before *ṣ* as well, but it's extremely rare at the beginning of a word, and when it does occur *t* stays the same before it.

CORONAL ASSIMILATION

A final *t* is also assimilated entirely to a following *l* (which is also a coronal consonant):

CORONAL ASSIMILATION

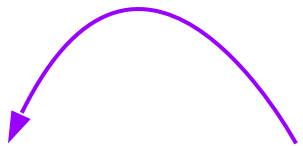
CORONAL ASSIMILATION

“that is discerned”

FINAL NASALS

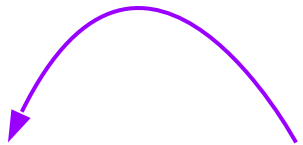
A final *m* is written as *ṁ* before a consonant and *m* before a vowel:

FINAL NASALS



tam # paśyāmi

FINAL NASALS



taṁ # paśyāmi

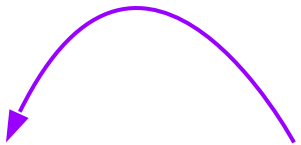
“I see him”

FINAL NASALS

Final *n* is tricky, because it is both a nasal consonant and a coronal consonant. It therefore undergoes the same kinds of assimilation as *t*. But it has a few additional peculiarities:

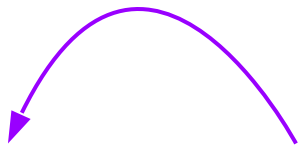
- before **voiced coronals** (*j/jh, ḍ/ḍh, d/dh*) it simply matches the following place of articulation;
- before **voiceless coronals** (*c/ch, ṭ/ṭh, t/th*) it becomes *ṁ* followed by a sibilant that matches the following place of articulation.

FINAL NASALS



tān # jahāmi

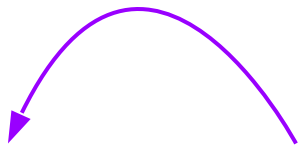
FINAL NASALS



tāñ # jahāmi

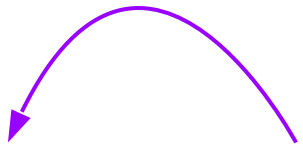
“I leave them”

FINAL NASALS



tān # cinōmi

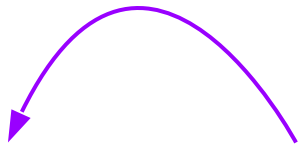
FINAL NASALS



tāṁś # cinōmi

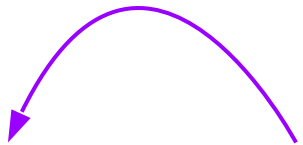
“I pile them up”

FINAL NASALS



tān # tudāmi

FINAL NASALS

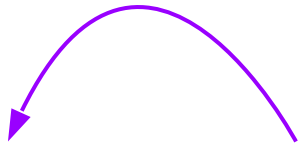


tāṁs # tudāmi

“I hit them”

FINAL NASALS

Like *t*, it becomes *l* before *l*, but in this case it retains some of its nasality, which is written with an *ardhacandraḥ* (a mark of nasality):



tān # lakṣē

FINAL NASALS

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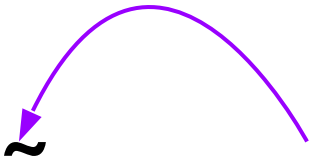

tāl̃ # lakṣē

"I observe them"

FINAL NASALS

Like *t*, it becomes *l* before *l*, but in this case it retains some of its nasality, which is written with an *ardhacandraḥ* (a mark of nasality):

तल्ँक्षे

"I observe them"

FINAL NASALS

And like final *t*, it becomes a palatal before the palatal sibilant, and converts it in turn to an aspirated palatal stop:

FINAL NASALS

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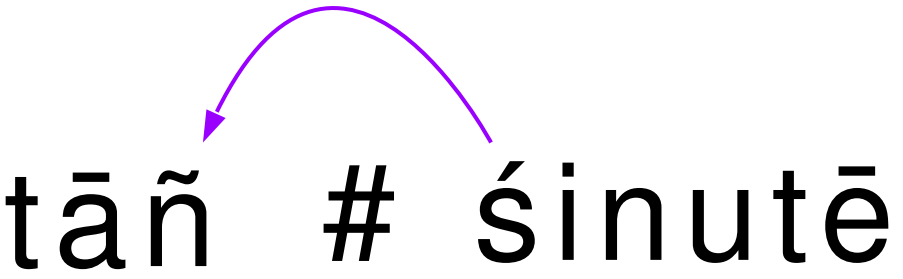

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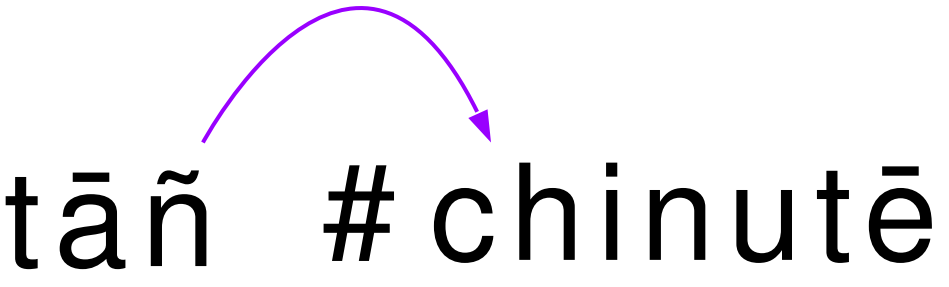
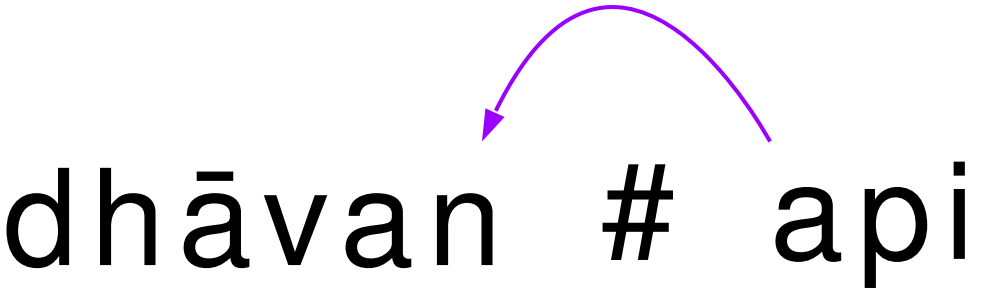


“He sharpens them”

FINAL NASALS

Finally, when a final *n* (or *ṅ*) is preceded by a *short* vowel, and followed by any other vowel, it is doubled:



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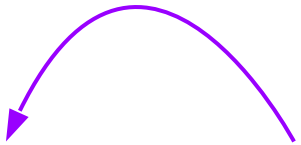

dhāvann # api

“Though running”

FINAL NASALS

If it is preceded by a *long* vowel, nothing happens:

bhavān # api

“You too”