

How to study a music culture

Indian Classical Music

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What's this?



In theory...

Music theory is a collection of sets of rules which describe the culturally determined practice of people who create music in a particular culture during a particular period.

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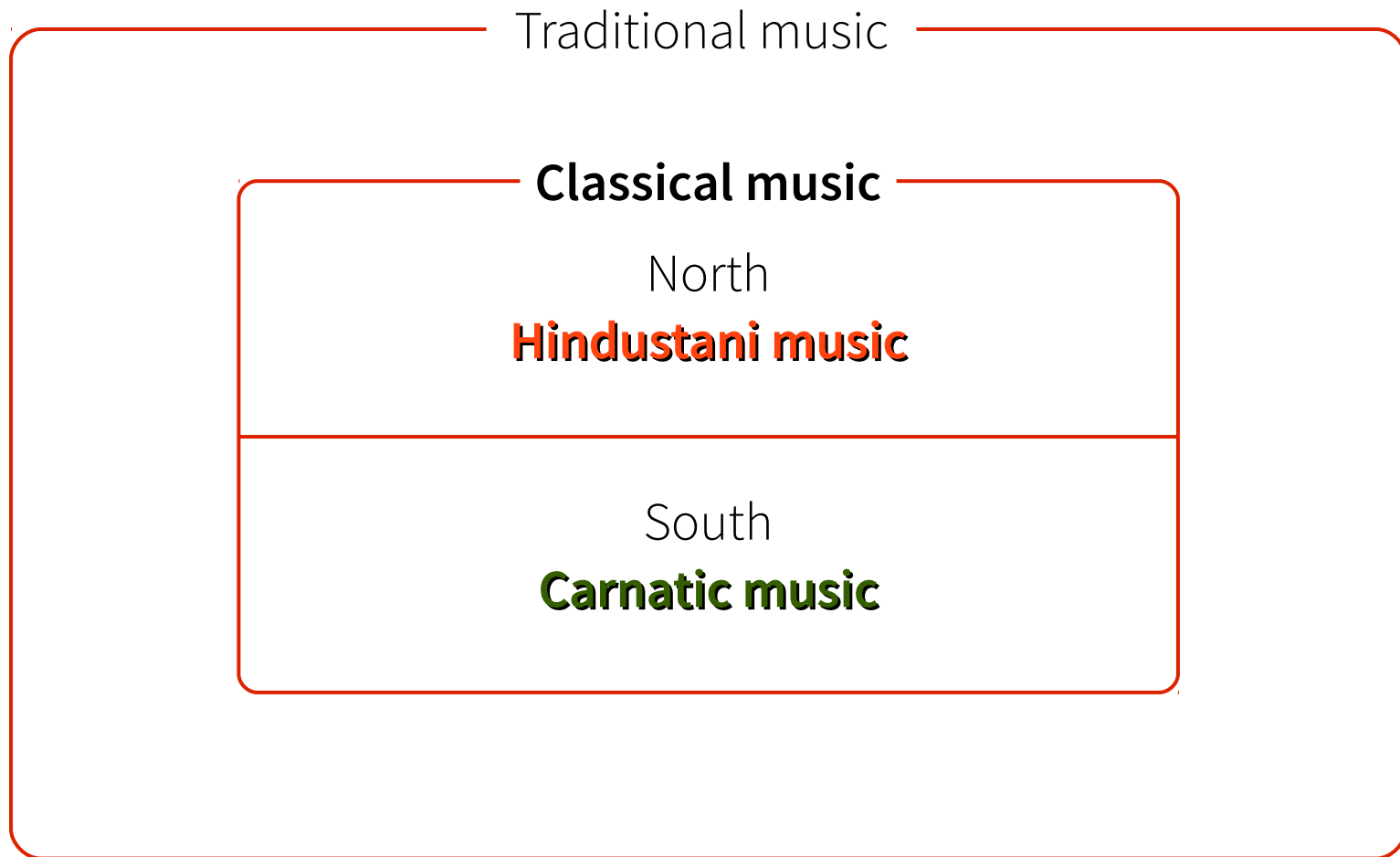
In theory...

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In theory...

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Indian Classical Music



Indian Classical Music

Format

Continuous pitch ground

Main melodic line

Secondary melodic support

Percussion rhythmic accompaniment

Indian Classical Music

Hindustani classical music

Kaustuv K. Ganguli



Carnatic classical music

Vignesh Ishwar

Indian Classical Music

Format

Continuous pitch ground

Main melodic line

Secondary melodic support

Percussion rhythmic accompaniment

Musical principles

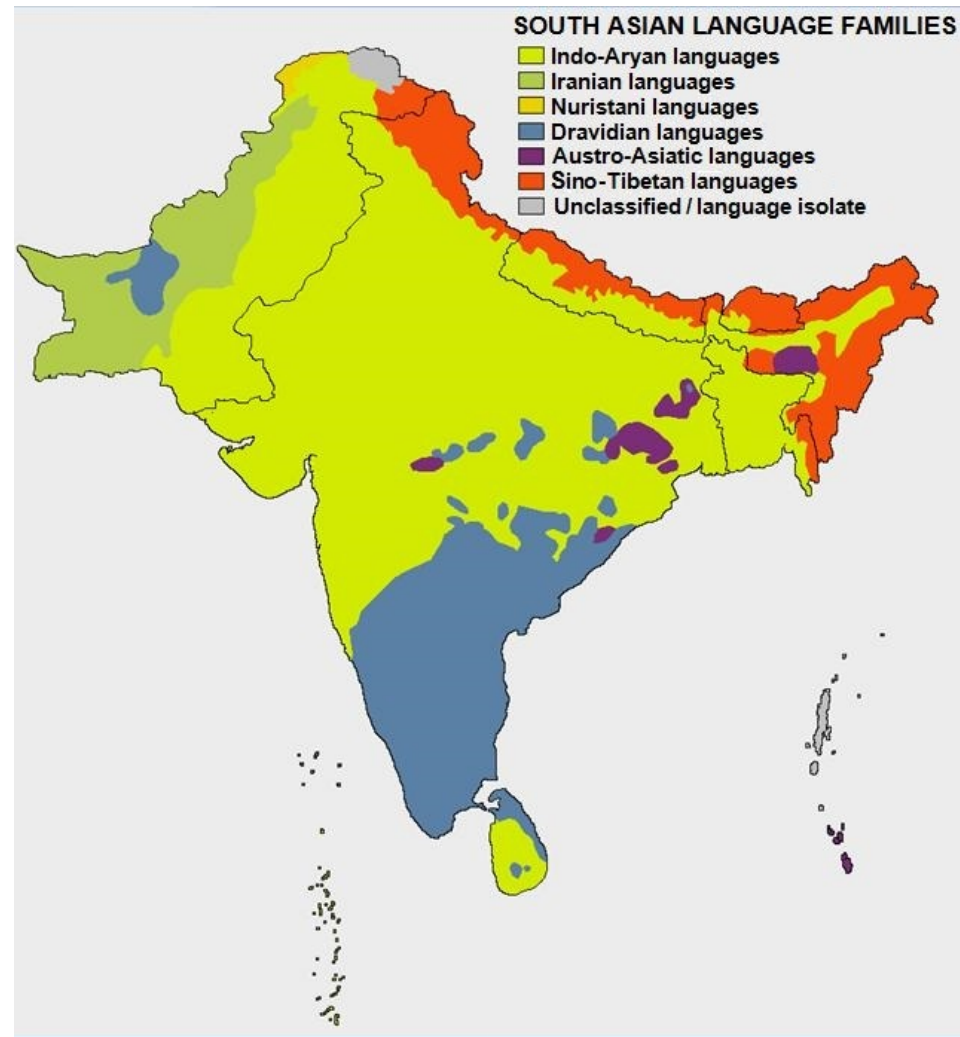
rāga tāla

North / South division

Hindustani music

Carnatic music

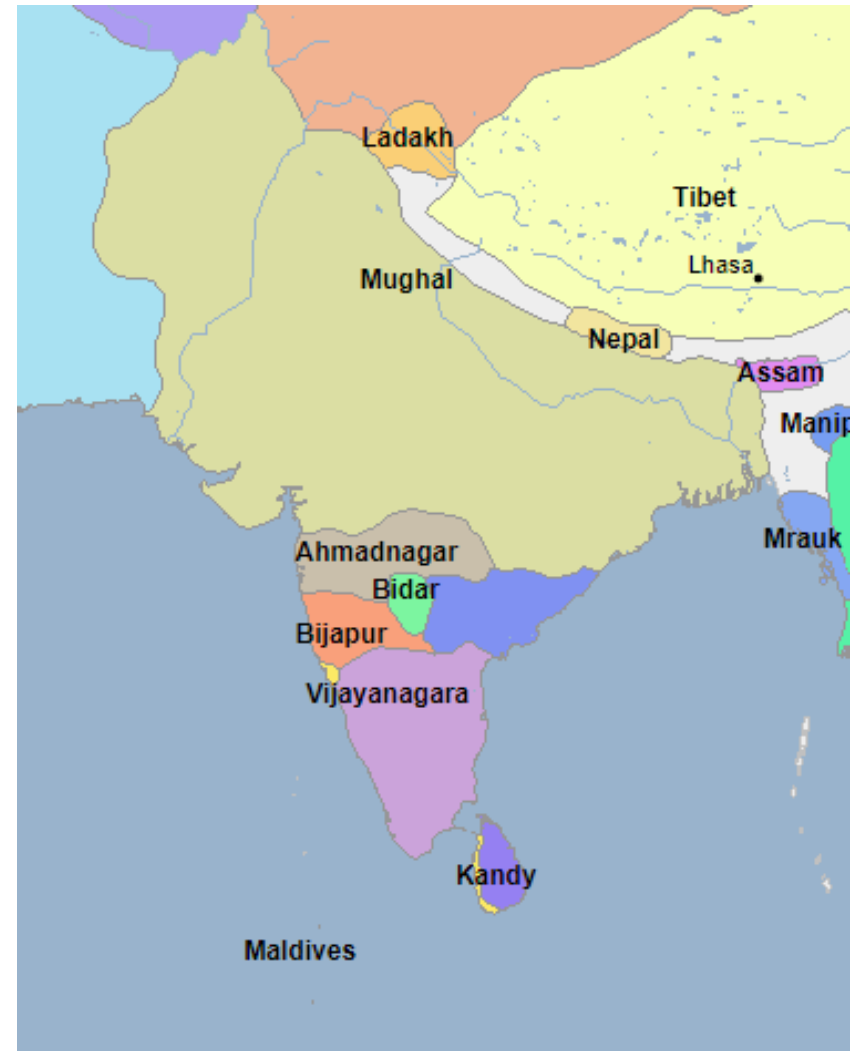
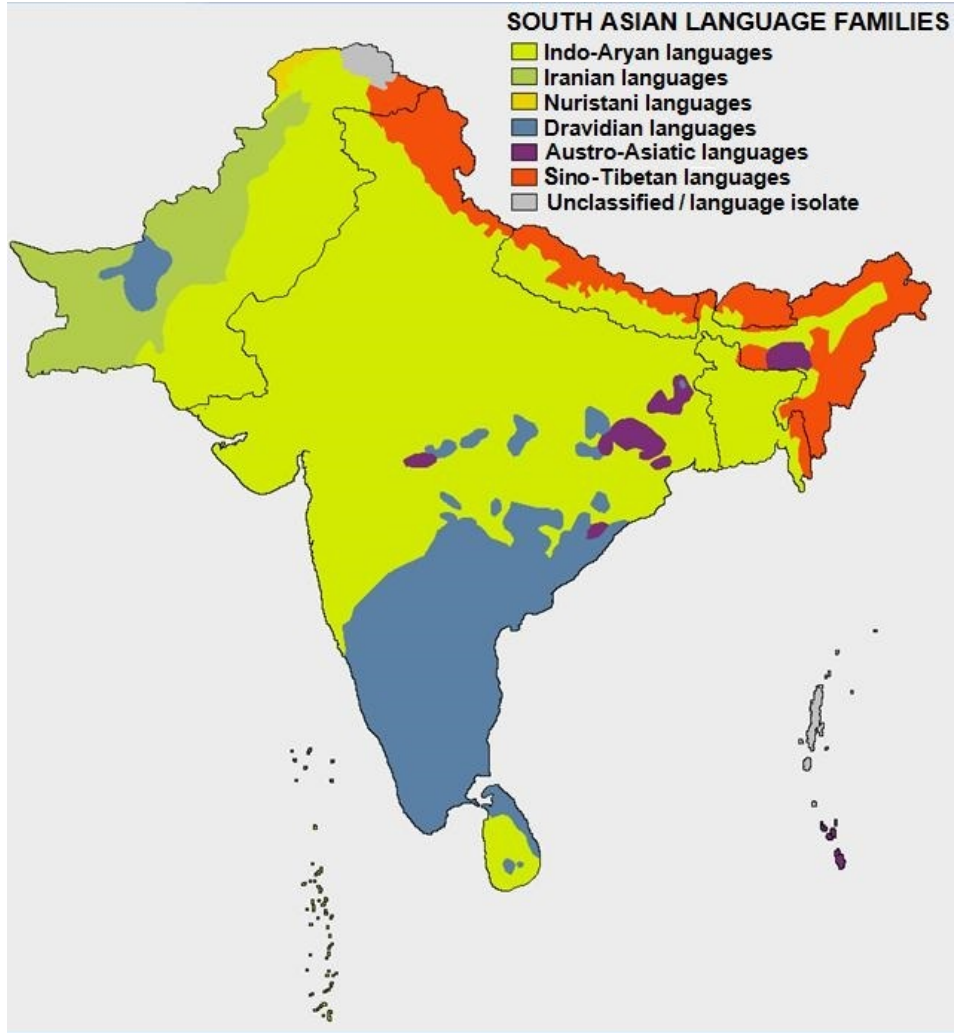
North / South division



North / South division



North / South division



North / South division

Hindustani music

Muslim musicians

court

low castes

paramparā

profession

ustād-shāgird

Carnatic music

Hindu musicians

temple

high castes

śāstra

religion

guru-śisya

particular realization of common principles

rāga

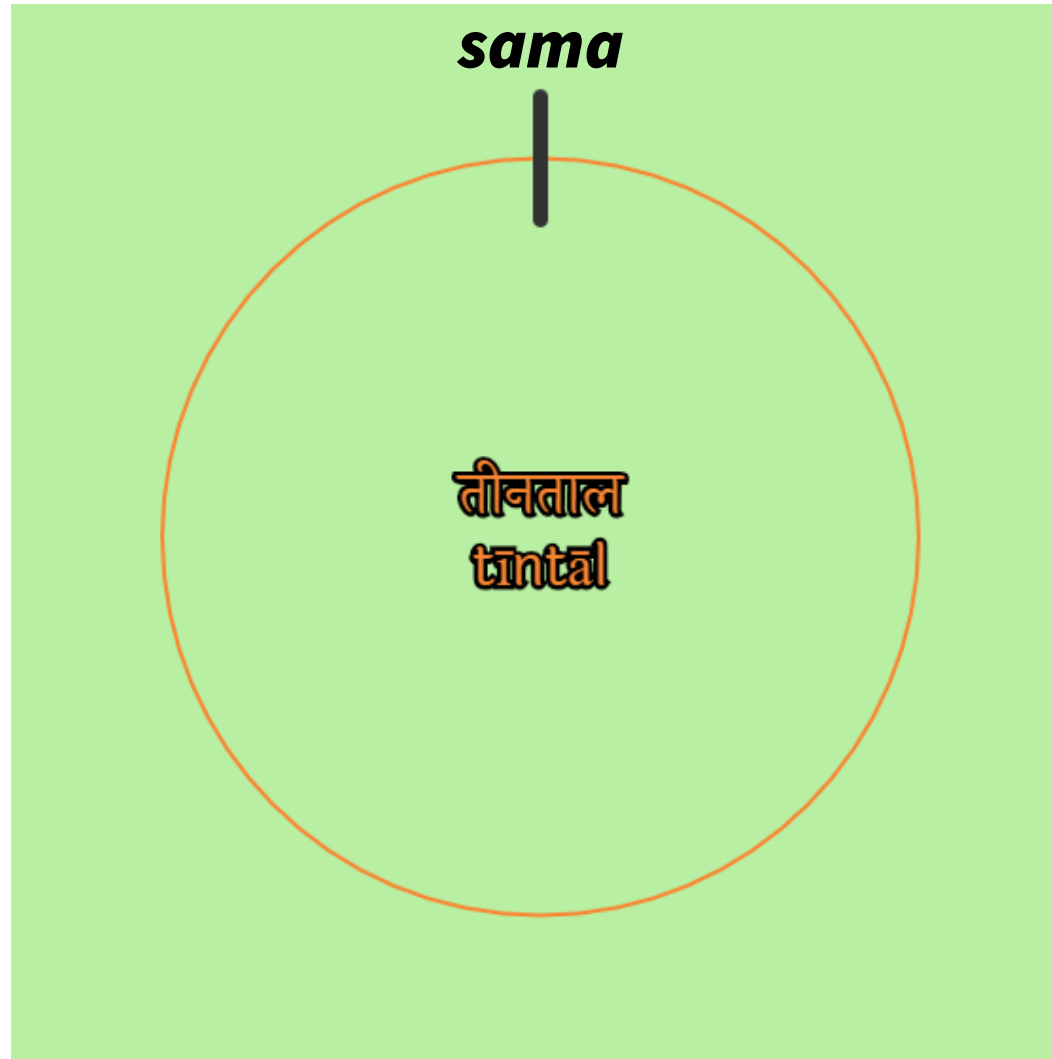
tāla

Essential musical concepts

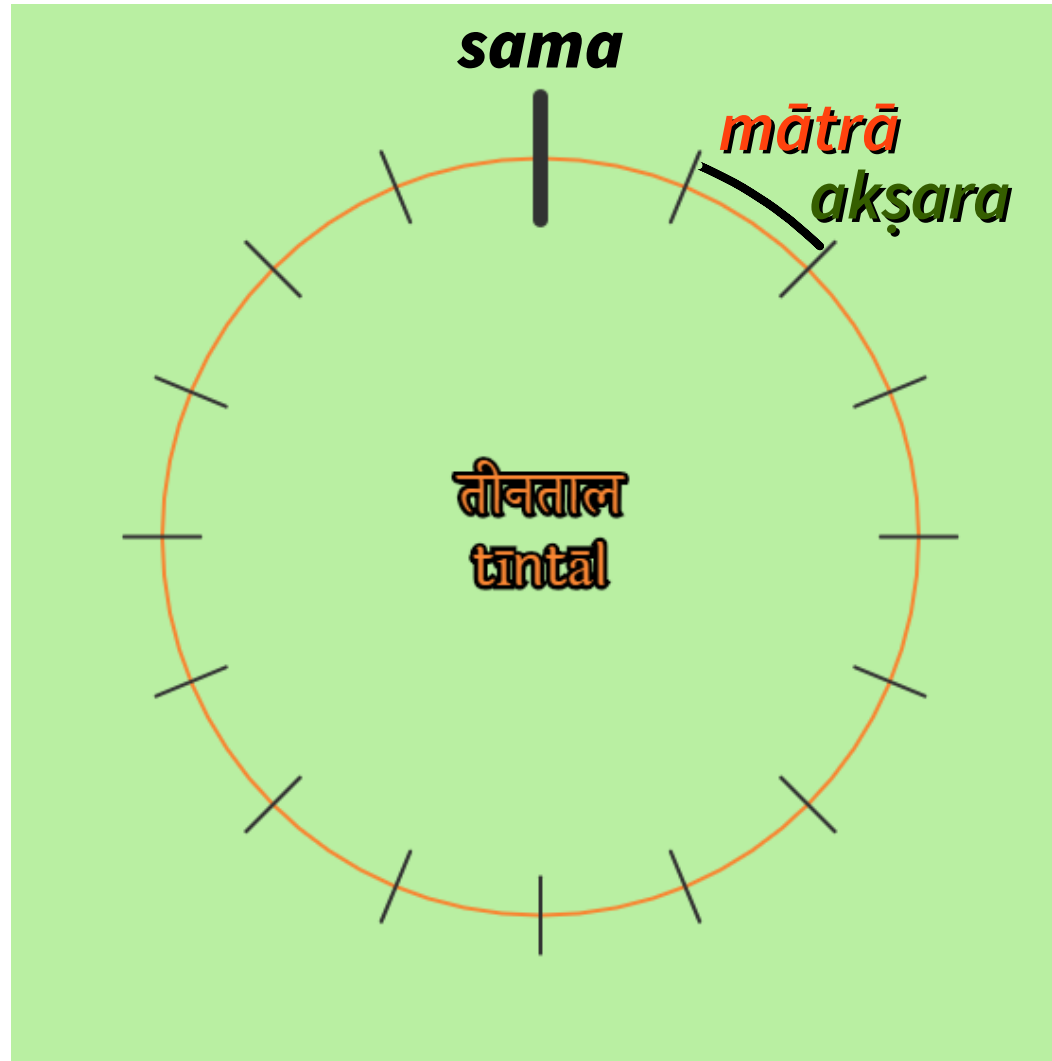
rāga

tāla

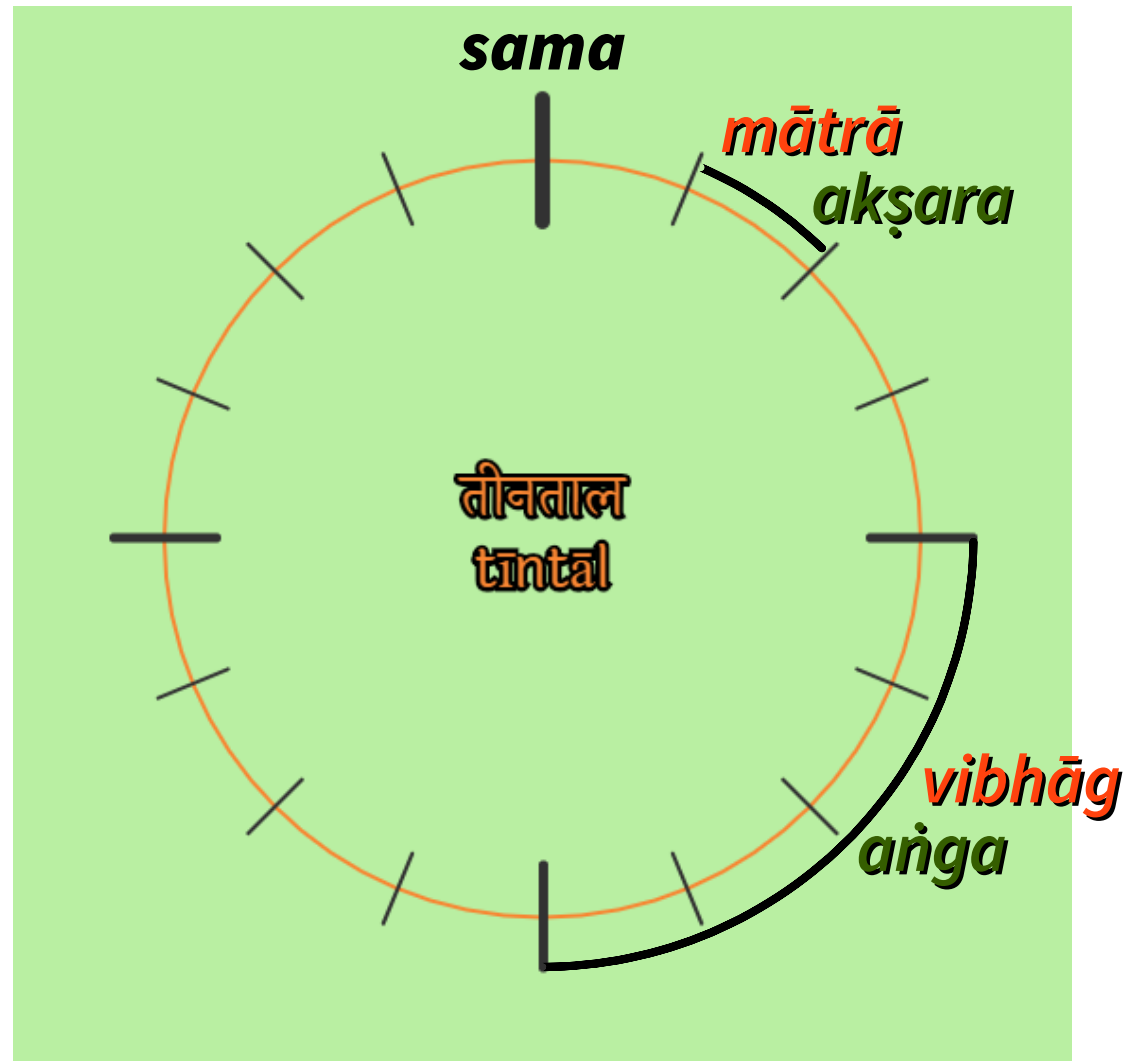
tāla



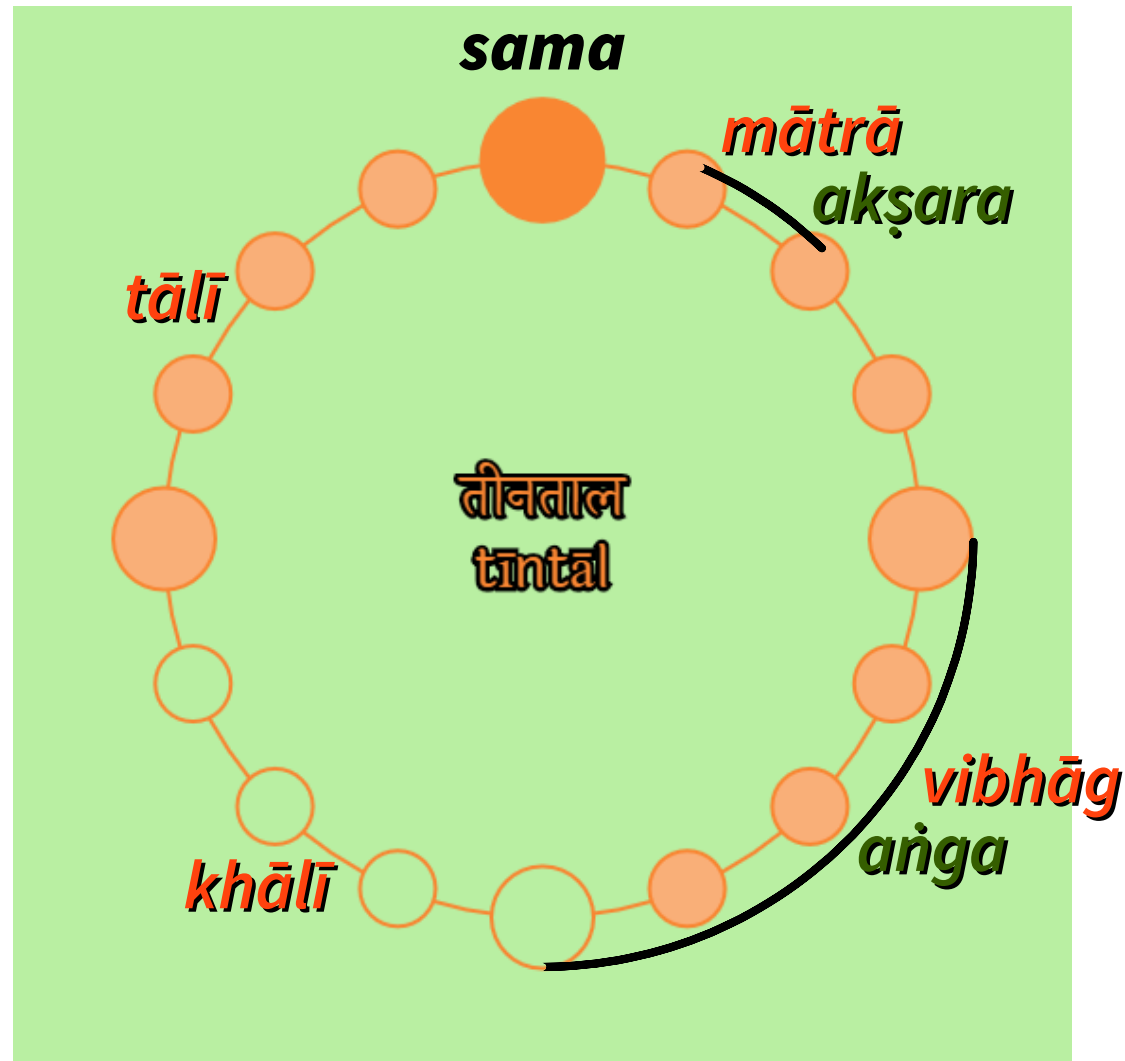
tāla



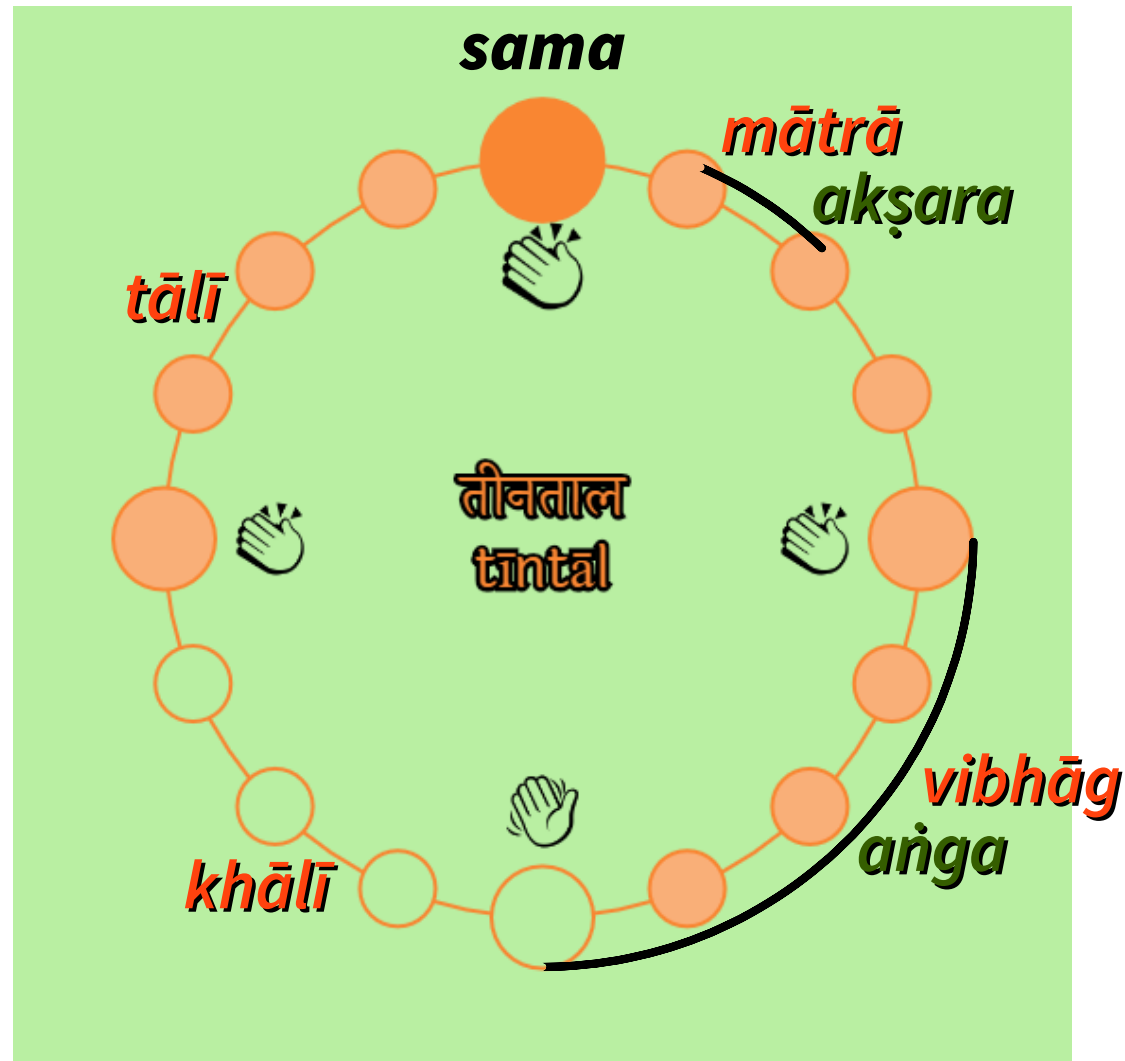
tāla



tāla



tāla



North / South division

Hindustani classical music



Carnatic classical music

Percussion accompaniment

tablā



mṛdaṅgaṁ



vilambit vilamba
(slow)

madhya madhyama
(medium)

drut dhuridha
(fast)

rāga

tāla

Essential musical concepts

rāga

rañj

“to be coloured, to be redden”

“to be affected, moved, charmed, delighted”

svara

sargam



Niṣād	Ni	N
Dhaivat	Dha	D
Pañcam	Pa	P
Madhyam	Ma	M
Gāndhār	Ga	G
Ṛṣabh	Re Ri	R
Ṣadja	Sa	S

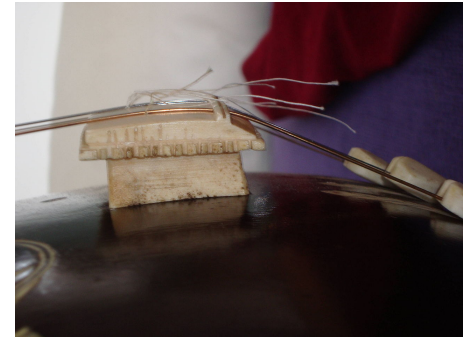
svara

↑	Niṣād	Ni	N	
	Dhaivat	Dha	D	
	Pañcam	Pa	P	
	Madhyam	Ma	M	
	Gāndhār	Ga	G	
	Ṛṣabh	Re Ri	R	
	Ṣadja	Sa	S	“that which gives birth to six”

ektāra



tānpūrā / tambūra



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Carnatic classical music

svara

svara

sa
S

re
R

ga
G

ma
M

pa
P

dha
D

ni
N

svara

sa	re	re	ga	ga	ma	ma	pa	dha	dha	ni	ni
S	r	R	g	G	M	m	P	d	D	n	N

svara

sa	re	re	ga	ga	ma	ma	pa	dha	dha	ni	ni
S	r	R	g	G	m	M	P	d	D	n	N

“The ornament in Karṇāṭak music is not considered an add-on to the basic note; *gamaka* is an integral structural part of *svara*”

rāga

- *svara*
- function
- *āroḥ* /
avaroh
- characteristic
movements
- *samaya*

rāg bhūpālī

- *svara* sa *re* re *ga* ga ma *ma* pa *dha* dha *ni* ni
- *function* vādī: ga saṁvādī: dha
- *āroḥ / avaroh* S R G P D Ś
Ś D P G R S
- *characteristic movements* GRG, PG, DP, ŚDPG, PGRG, GRS
- *samaya*

rāg bhūpālī

- *svara* sa *re* re *ga* ga ma *ma* pa *dha* dha *ni* ni
- *function* vādī: ga saṃvādī: dha
- *āroḥ / avaroh* S R G P D Ś
Ś D P G R S
- *characteristic movements* GRG, PG, DP, ŚDPG, PGRG, GRS, SD, DS, SR, RDS, RG, RGPG, PRG, PS, RPG, RGP, DGP, SRG
- *samaya* 9pm – midnight

rāg toḍī

- *svara* sa re re ga ga ma ma pa dha dha ni ni
- *function* vādī: dha saṃvādī: ga
- *āroḥ / avaroh* S r g M P d N Ṣ
Ṣ N d P M g r S
- *characteristic movements* d, Nsrg, Mrg, rS, Nsd, NdP, gMd, dS, gr, grS, Nd, PMd, rgrS, MdNS
- *samaya* 9am – noon

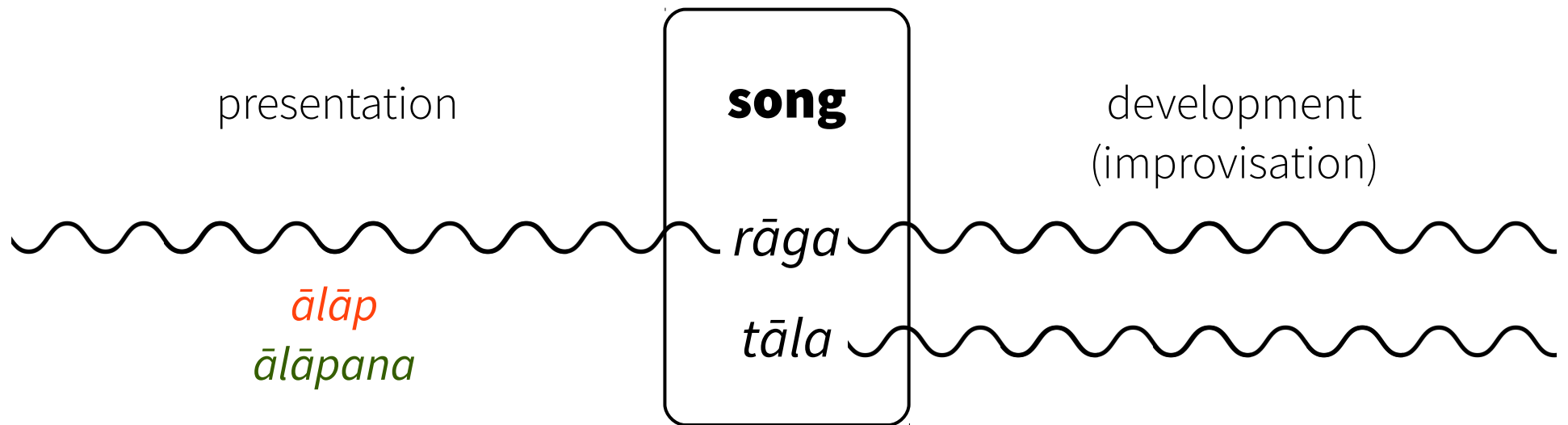
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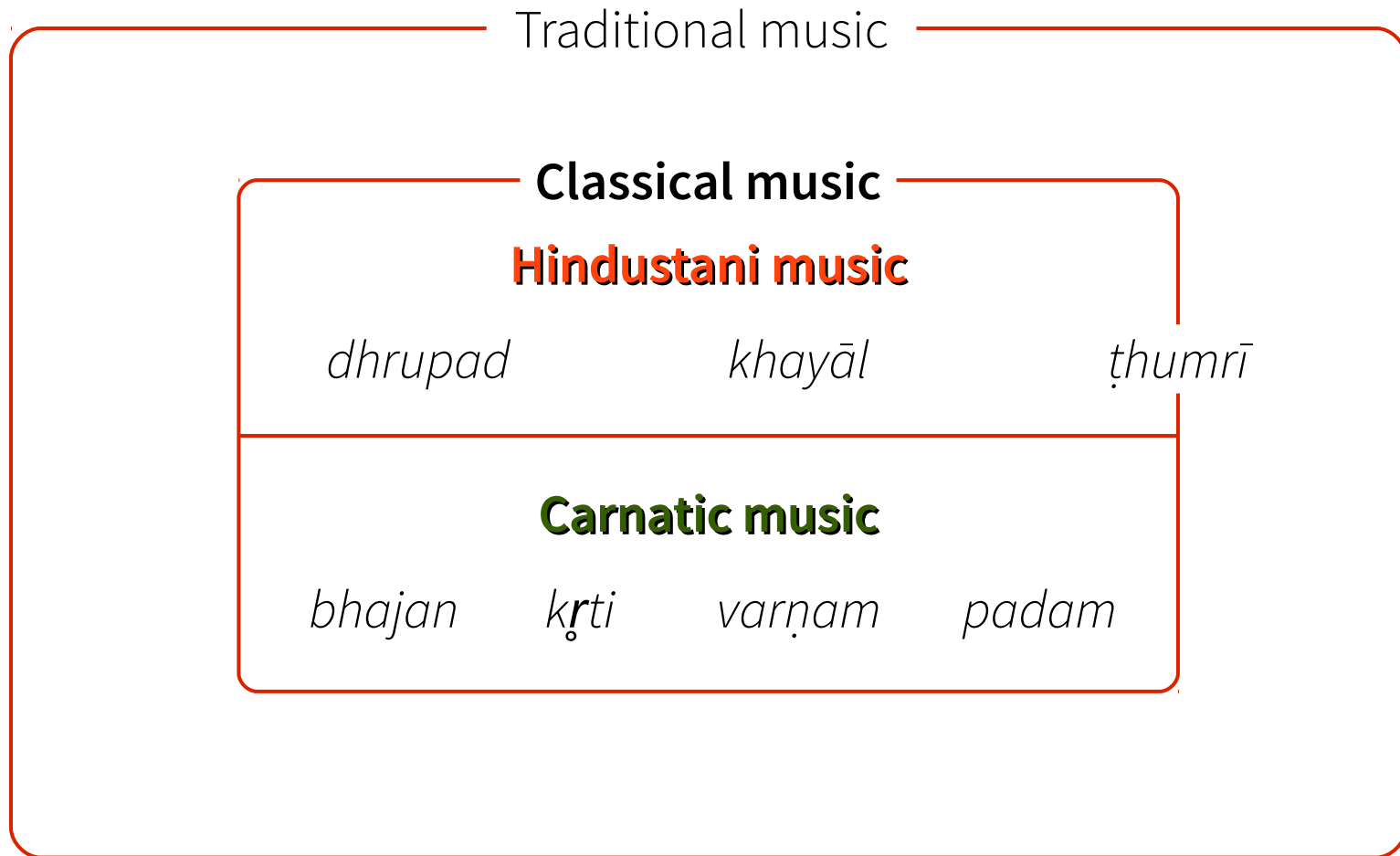


Carnatic classical music

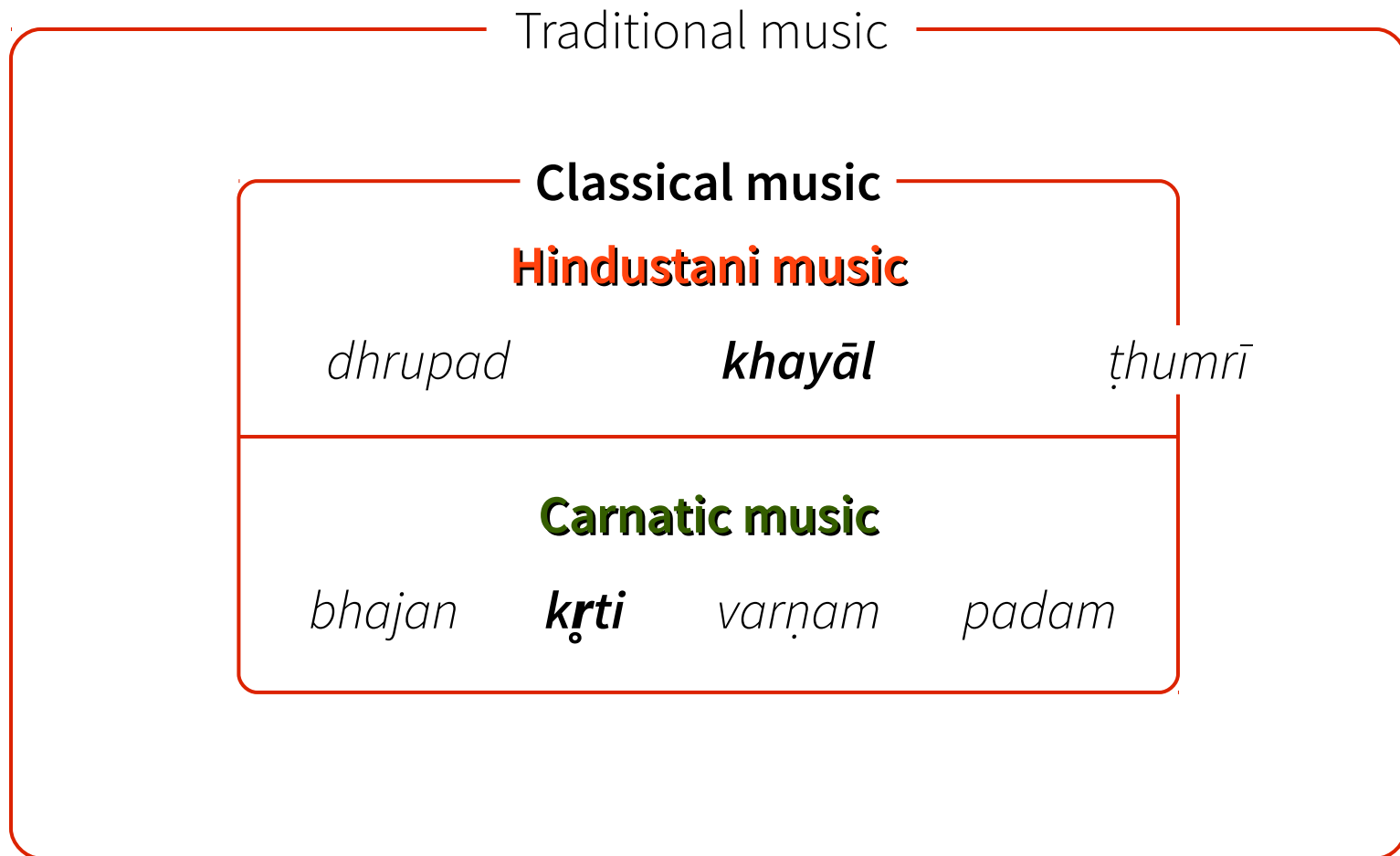
Form



Indian Classical Music



Indian Classical Music



How to study a music culture

- Which new tasks are brought in, and which existing tasks are not applicable?
- Should existing tasks be re-approached, or re-defined?
- **How should the results be represented** (whom is the research intended for? in which cultural context are the results presented? accuracy – understandability)

Some examples

Serrà et al., “Assessing the tuning of sung indian classical music,” *ISMIR*, 2011

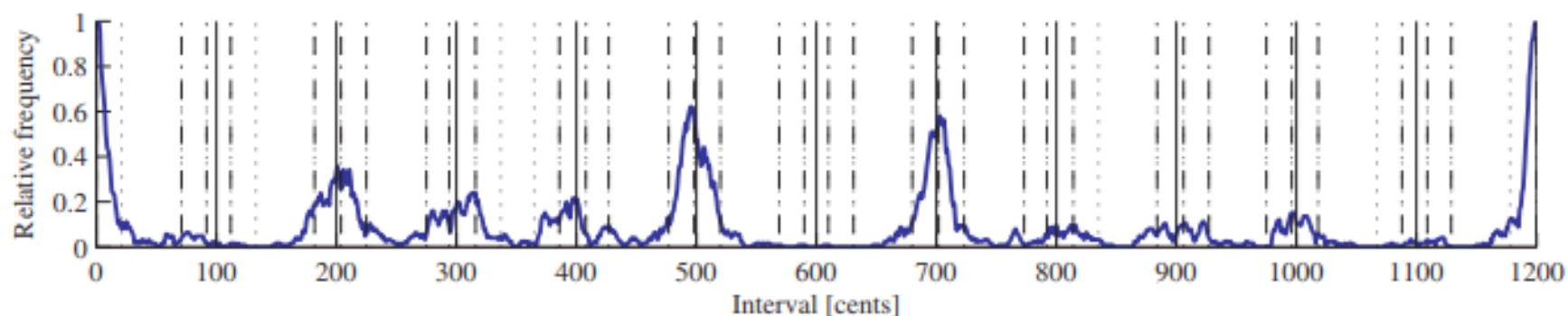


Figure 3. Interval histogram for Carnatic music (\mathbf{h}_C ; bold line).

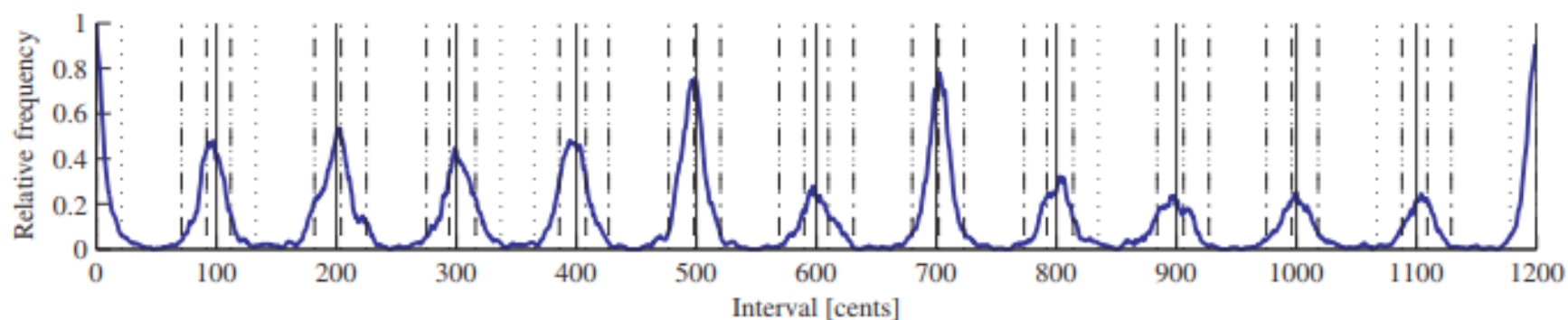
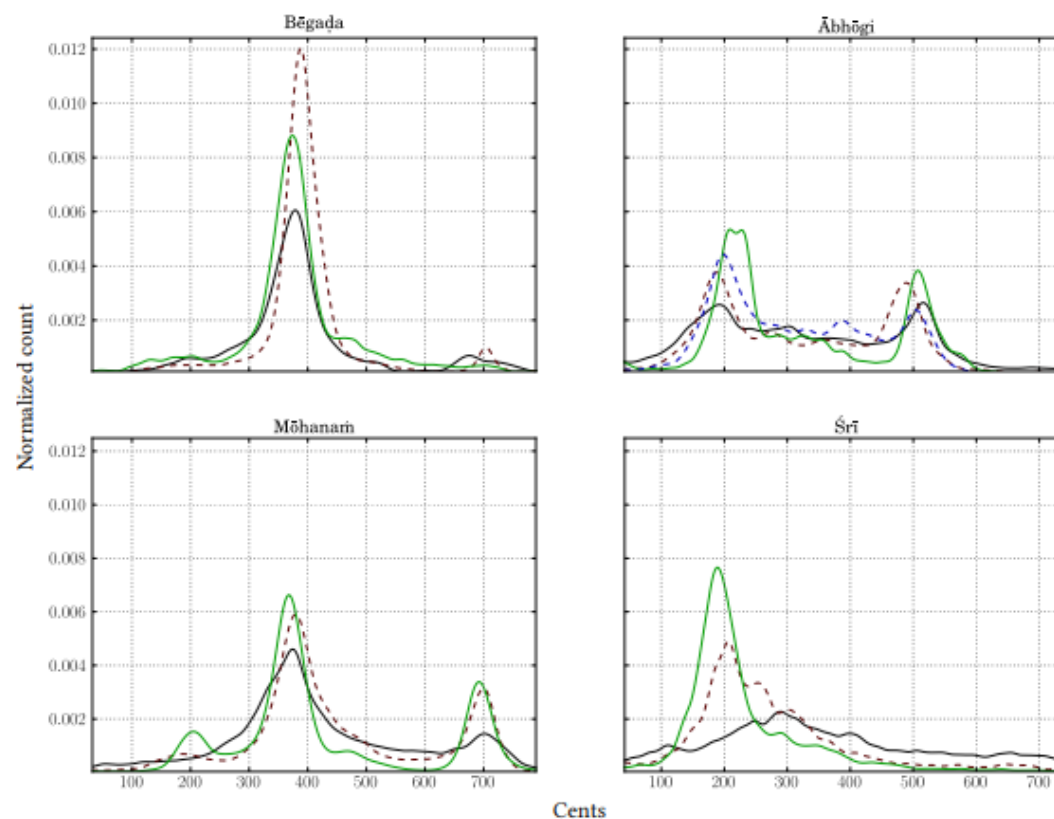


Figure 4. Interval histogram for Hindustani music (\mathbf{h}_H ; bold line).

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Serrà et al., “Assessing the tuning of sung indian classical music,” *ISMIR*, 2011

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Ishwar, *Pitch Estimation of the Predominant Vocal Melody from Heterophonic Music Audio Recordings*, Master diss, 2014

Gupta et al., “Discovery of syllabic percussion patterns in tabla solo recordings,” *ISMIR*, 2015

Gulati et al., "Time-delayed melody surfaces for rāga recognition," *ISMIR*, 2016

Gulati, *Computational Approaches for Melodic Description in Indian Art Music Corpora*, [PhD diss](#), 2016

Ganguli and Rao, “On the Distributional Representation of Ragas: Experiments with Allied Raga Pairs,” *TISMIR*, 2018

Links to the Musical Bridges tools

Tools for aiding understanding of Hindustani classical music:

- <https://dunya.upf.edu/hindustani-tools/>

Prototype tools for aiding understanding of Carnatic tāḷa:

- <https://rafael-carro.github.io/carnatic-classroom/index.html>



Links to example videos

Demonstration of tablā bols by Prasad Ajarekar:

- <https://youtu.be/AVDupDQwkSg>

Lecture on tānpūrā by Nitin Amin:

- https://youtu.be/fBah5h_u7EY

Lecture on rāga bhairav by Ajoy Chakrabarty:

- <https://youtu.be/YBPVbFlijFU>