

Consonance and Dissonance

CONSONANCE AND DISSONANCE

In Indian Classical Music, tradition, notes of different ragas played or sung one after another. While in western music it is used simultaneously or one by one. So Indian Classical Music is known to base on Melody, while Western Music is known to base on Harmony.

Though the notes in Indian Classical Music played or sung one by one, their effects never subsidize instantly. This produce consonance and dissonance, between different notes.

I have find out consonance and dissonance pairs in different raga which is shown below frequency and interval table of each raga.

‘In the context of Indian classical music we consider consonance even when there is no simultaneous sounding. We believe that the remnant of the previous note, through some short term memory, can psychologically interact with the current note and the musical sense of consonance remains still active.’⁹⁷

In vocal music, the notes sung by an artist produce consonance and dissonance with accompanied instruments like Tanpura, Harmonium, Swarmandal. To produce melody it is necessary that raga should be based more on perfect consonance.

Consonance:

‘When two sound or notes played simultaneously will produce a particularly pleasant sensation when heard, one said to be consonance.

Dissonance:

If two sound or notes played together produce unpleasant sensation when heard, are said to be dissonance.

There are two type of consonance.

1. Perfect Consonance

When two notes are totally in melody while played together is called perfect consonance. The ratios between them are 1:2, 2:3, and 3:4

	Ratio	
i.e. (1)	sa-sa tar	1:2
(2)	sa-pa	2:3
(3)	sa-ma	3:4

⁹⁷ Journal Acoustical Society of India by A.K.Datta, vol.xxvi (3&4),Dec 1998

In Indian Music first one is known as shadaj – Shadaj swar samvad second is shadrj-pancham swar samvad third is shadaj-madyam swar samvad.

2. Imperfect Consonance:

When there is a ratio between two notes are 4:5, 5:6, 5:8 it is known as Imperfect Consonance.

		Ratio
i.e. (1)	sa-ga	4:5
(2)	sa-ga komal	5:6
(3)	sa dha komal	5:8

Dissonance:

There are two types of Dissonance first type of dissonance is between sa and re komal and second type of dissonance is produced when distance between two notes is nearly 30 Hz. i.e. sa-ma tivra, sa-ni komal⁹⁸

In Indian Classical Music consonance has great importance. Instrument like Tanpura, Violin, Sarangi are tuned on the basis of consonance. Even in Raga there is consonance (samvad) between Dominant (Vadi) and consonant (Samvadi) pair. Vadi-Samvadi pair usually have perfect consonance of ratio 2:3 and 3:4.

‘Consonance is called samvadtva in India. First there is the vadi, or sounding note or Sonant. Then the samvadi, the note consonant with the vadi. Swars between which there is an interval of nine or thirteen srutis are samvadi with each other. Swars at an interval of two srutis from the vadis are called vivadi or dissonant in relation to it. The sruti or microtonal interval is a division of the semitone.’⁹⁹

Helmholtz gave a more mathematical definition of these terms: ‘When two musical tones are sounded at the same time, their united sound is generally disturbed by the beats of the upper partials, so that a greater or less part of the whole mass of sound is broken up into pulses of tone, and the joint effect is rough. This relation is called Dissonance. But there are certain determinant ratios between pitch numbers, for which this rule suffers an exception, and either no beats at all are formed, or at least only such as have so little intensity that they produce no unpleasant disturbances of the united sound. These exceptional cases are called Consonances.’¹⁰⁰

⁹⁸ Raga Parichaya by Shri Harishchandra Srivastava, part 4, P.270

⁹⁹ The music of India by Herbert A. Pringle, P.26

¹⁰⁰ Hermann Helmholtz, On the Sensations of Tone, Dover, 1954