CHAPTER II

2.0 GAMAKAS

The impact of gamaka and tonal movement

We begin with the definition of the term Ga ma ka –
Gama - Gacha – to go – the motivation. Ka – to do. This explains its essential nature with reference to any tonal movement generated by either voice or instrument. Our ancients have aptly coined the word Gamaka to identify tonal movement in music and to make such movements in music meaningful.

The incidence of these movements are empirically measurable and constitute the layathwam in the anibadha (unbound or unmeasured) or nibadha state (bound or measured) music. Gamaka is also known as vega – movement in speed. The devices – to be applied, may make the musical sound go forwards – up bilaterally i.e. upwards or downwards (aroha or avaroha).

Much has been written about gamakas by almost all musicologists from Saranga Deva (12th Century) to Subbarama Dikshitar (19th century). There are the dasavidha (10 types), panchadasa (15 types) etc.

For this project I prefer to follow the sangita chandrika’s delineation on Gamakas, as it is lucid and less complicated than other works. The Sangita Chandrika is an extensive musicological work in the footsteps of sangita siromani (1428 AD) written by a great scholar Sri Krishna Chandra Pisharodi of Trichur - a great friend of my father Prof.T.G.Viswanatha bhagavathar, who was the professor of music in Kerala Varma college Trichur at the time. I had to wait many decades to realise the momentous contribution to Karnatic music through this research work.

The majority of Gamakas obviously appear relevant for instrumental music. Gamakas like humpita, mudrita, namitha etc are vocal oriented. Despite these classifications, one should realize that the tonal and musical variations possible in the voice go beyond analysis.
2.1 GAMAKA TYPES

2.1.1 Trirupam

*Vidruthardha vegena*

*Anya srutiyamsa dwaya darsanath thriroopa*

The fast tonal movement which brings about the tonal colour of basic sruti from which it moves and also show the two shades of the sruti to which the movement moves up and down. The whole movement happens within half akshara as anudruthardha.

**Comment:**
Trirupa signifies the display of 3 identifiably different sruthis (microtones) hence trirupa (within the time measure of anudruthardha or half akshara).

According to Parswadeva

“Srutayo yatra vegena spuranthyavartha rupaval thamahum thripum”

Note: This sloka substantiates the previous statement on thrirupa which is known differently as tiripum, tirupam and thiripu in other texts. The original works were written when the concept of 22 srutis were given credence – and hence the mention that 2 or 3 srutis are not swara yet!

2.1.2 Spuritam

*Druta thritheeya bhagavegena*

*Sruthyamsa spurena spuritha*

**Comment:**
This is a tricky explanation of the gamaka spuritha! The movement has to be completed within the one third part of the druta kala unit (akshara) and this movement should indicate the other sruti shades by vibrate- kampanam – eg –

SS – if it is forward movement (arohi) it would be S, RS (uthara churana)

SS – if it is backward movement (avarohi) it would be S,NS (poorva churana)

So Spuritam can be two fold – uthara spurita (S₁,RS) or poorvaspurita (S₁,NS).
2.1.3 Kampitham

_Drutardtha vegena kampanath thathatha karani kampitha:_

Comment:
Here it is half the speed of druta (1 akshara) – the movement has to bring out (gamaka) the shades of another sruti within the time frame of half druta – is kampitham. Though the vibrato (kampanam) is the basic technique of tonal movement, this particular time bound movement identifies kampanam as a variety of gamaka!

2.1.4 Leenam

_Drutamanavegena leena_

Comment:
This is the normal process of making a gamaka movement! the movement (gamaka) should depict the shades of anya (different) srutis (anya srutiYamsa : ie shades of anya sruti) within the anudruta time frame – ie half of druta kala- also with this movement, there should be a tonal endowment – (nada masrunam) – It means that the movement should be towards a stable swara- parswadeva substantiates the above:

_Drutamanena masruna swaro_

_Yathra vileeyathi swaranthara kramenai_

_Sa bhaveth leena samjnaka:

2.1.5 Andolitham

_Laghumana vegena andolitha:_

Comment:
This is a gamaka which needs performing expertise – The movement comprises the four akshara (laghumana) kala laghu, to depict the anya srutiamsa! The other sruti intervenes
during its movement – there is a school of thought that andolitham includes three different speed movements within the laghu – (anudrutham moving completing the laghu) – but in reality the next gamaka trithinnam takes the name for this exact movement.

2.1.6 Thribhinnam

_Vibhinna vegena muhu: kampanath thribhinna:_

Comment:
Literally it means that the movement executes three or four vibrato (kampanam) in different speed – note that here there is no mention of time frame! There is another interpretation to thribhinna, the movement in (kampanam) three sthayis (three strings) – of any one swara from Sa Ri etc – continuously – sangita ratnakara says

_Thribhinasthu thrishu sthaneshu_  
_Visrantha Ghana swara:_

Comment:
Heavy slow vibrato (kampanam) in three sthanas – here it should mean sthayis or chord positions –  
The Sangitha Sudhakara says: raga gati Prabhinna vega: tribhinna  
This vaguely supports the definition of the Sangita Ratnakara

2.1.7 Vali

_Vakrasya Ghana swaranthara pradarsanath vali:_

Comment:
Here the movement is a pull from a swara sthana to any two or three swaras forward (arohikrama) without a break , and it returns to swasthana (its original position). It is easily demonstrated on a stringed instrument like veena or violin. In Vocal it is a very common gamaka, which acts as a link in musical phrases! It is also known that a few have transposed symbols for vali as thribhina and vice versa!
2.1.8 Kurulam

_Granthito vali: kurula:_

**Comment:**
This gamaka is an advanced application of vali. In this tonal movement, which is upward or arohi two or three swaras are contacted in the smooth manner from the base swara – as in vali- the difference is that at each nodal point the stabilised tone of this swara is displayed and move forward to next swara smoothly and repeat the same and return to the original swara from which the movement began – this is known as kurala:

A swara kampah in three positions on a swara without a stop (break in tone!) is thribhinna. Obviously this should be only for a stringed instrument with a minimum of three playing strings. A more detailed explanation is given in sangita chandrika later:

Kurula.

_Valih kantya (throat) komala ched granthila kurulo matah_

When vali is used as a gamaka in the voice – an internal delicate tone in the throat region (kantya komala) intricate in structure (granthila – knotted or convoluted) it is known as kurula.

2.1.9 Ullasitam

_Uttarotharam kramakramad ullahita swarah_

The movement (kampanam) from the base swara moves upward and upwards in the arohakrama in ullahita.

2.1.10 Ahatah – Aahatam

_Agrimamswaram ahatya yo vegena nivarthathe_
Ahato gamakah sa syad ahatam thah pravahavat iti ahatah

Comment:
Ahata gamaka is the tonal movement upwards to the next swara and returns quickly to base – when properly executed the sound resembles the s..

2.1.11 Humpitam

Hrdya humkaragambhiro humpito gamako matah

Comment:
This gamaka is particular to voice – Humpitham is generated with chest resonance and deep tonal richness. Hrdya means from the heart or region of the heart!

2.1.12 Plavita

Plavitah pluthamanah syat

Comment:
The vibrato (kampanam) takes the duration of a pluta! A plutam is of 12 aksharas and this gamakam has to be a long drawn out movement and should be intended for voice!

2.1.13 Mudritam

Mudrito mukha mudranat

Comment:
Mudrita means – sealed, marked, impressed, stamped- other meanings are closed, and unblown. In the present context mudrita means sealed or closed. It is a vishesha (special) gamaka for voice – closed mouth singing of different varieties of gamakas (for the voice) and create an echo effect for the tone.
2.1.14 Namitham

Nam nibhavah swaranam yah anvartho namitho mатаh

Comment:
Naman literally means a name, appellation. But here it says nam nibhavah – ie making the tone imitate a bowing sound. Actually in later periods Humpita, Mudrita and namitha were understood to be pertaining to different ways of closed mouth singing.

Incidentally, I have to state that the Chembai school of vocal music gained tremendous repute from 18th century onwards, for its superlative sadhana and performance of all the different varieties of tana and gamaka like vali, kurula, plavita, humpita, mudrita, namitha, misrita, etc.

2.1.15 Misritam

Ethesham misranat jneyo misritah

Comment:
The mixing of any of the above gamaka in any manner make a misrita gamaka.
2.2 CONCLUSIONS

The enumeration and explanation of the 15 gamakas conclude fittingly with the following verse:

\[ \text{Ragasya vego gamakah stayeshu avayavo matah} \\
\text{Tatra pradarsitam lakshma vegenam. Adhunochyate} \]

Vega ie gamaka (sthyavega) is an essential component of the sthaya – which denotes the musical phrases which structurise and build up a raga.

If the same movement originates as avarohi it is also kurula – one could say arohi kurula and avarohi kurula.

Eg . Arohi kurula – S R G M – MGR;
S RSRR GRGG MGMM - MGRS

Avarohi kurula
S R, NS, DN, PDP PDNS

After detailing all the above gamakas one can assume that they generally cover almost all the different ways of maneuvering the musical tones either in instruments or in the voice - within time-frame or otherwise. The basic materials and tools for creating music are gamakas and the tala pranas which we will explore next. It is very difficult to classify the gamakas which are normally and naturally produced in the delineation of Karnatic music through the human voice. The prominent gamakas like the arohi ,avarohi, jaru, namitham , humpitham etc are to say the least, the basic material. A properly trained voice makes use of these gamakas in multifarious ways .The limitations being only the ability or flexibility of the voice. Gamakas are the tools or vehicles on which the musical tones travel upwards (arohi) or downwards (avarohi) in organised patterns as explained above.

They are identified by the measured rhythmic flow such as:

a) Anudrutha ardha - Half a beat.

b) Ardha and tirtheya bhagavegena - one third time of a drutam

c) Druthardha Vegena - half druta - ie 1 akshara
d) Druta mana vegena leena - druta (2 beats)
e) laghumana Vegena Andolika - laghu 4 beats
f) Gamakas 6 to 10 - tribhinna(6) Vali(7), Kurula(8), Ulasita(9) and Ahatha(10), describe the different playing or handling techniques in the instruments (timeframe is not mentioned).
g) Gamakas 11 to 15 mainly pertain to vocal music (11)Humpita, (12) Plavita (13) Mudrita (14) Namitha (15)Misrita - these are different ways of producing specific tonal effects in the human voice.

This study of gamakas with reference to tonal movements has been limited, only because a truly in-depth study of gamakas in Indian music is an ocean by itself, requiring a doctoral study of its own!

The intention here has been to create an awareness that in these tonal movements, there is a “method to the madness” as the saying goes, and therefore, gamaka movement is a time tested scientific procedure, to enable an organized and purposeful tonal movement.

The use and relevant application of the gamakas explained above, do indeed offer the performer many options to keep the music moving forward by the judicious use of the gamaka and the underlying rhythm.

To create music either in the form of alapana, tanam, neraval, and manodharma swara (to a limited extent), the performer enriches his capacity by the mastery over these gamakas and the inbuilt undercurrent of logical application of Layathwam!