Are the characteristic differences between Hindustani Music and Carnatic Music traceable to the ancient works?

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Was there a single system of classical music in India which later split into two (Hindustani and Carnatic)?

Some writers have claimed that there was only one system which later split into two. For instance in the book History of Indian Music by P.Sambamoorthy (Ref 1), it is claimed that the bifurcation came after the 13th century, citing the work *Sangita Sudhakara* of Haripala of the 14th century. Many web sites also carry this informaton. Apparently the reference is to a verse in the work of the same title by the 20th century writer Pandit Kashinath Appa Tulasi, wrongly attributing it to Haripala of the 14th century (Ref 3 and 3a). In *Sangita Sudhakara* of Haripala there is apparently no such mention of two systems.

The other view is that the music of South India could have originated independently. The musicologist T.S. Parthasarathy says in his article 'The unifying Role of Indian Music' that "the grass roots of what is now called Carnatic Music are to be sought in the music of the ancient Tamil" (Ref 3). Many writers who have studied the Tamil works having reference to musical theory have held similar views.

The two systems have many things in common, such as solfa notes 'sa ri(re) ga ma pa da(dha) ni' , the concepts of raga and tala, names for some ragas, the emphasis on extemporisation, continuity between notes, use of *gamakas* etc. but the styles are distinct and some of the musical terminology is also different. The terminology of note names (such as Suddha, Komal, Prati etc. to distinguish the varieties of notes with the same symbol) are different. As for style, for example, no one can confuse Carnatic *Sriranjani* with Hindustani *Bageshri* though they are mostly based on the same note combinations. Apart from the styles, the present *mela* system of Carnatic music is based on works about 400 years old while the That system of Hindustani music is of recent origin. The *Tamizh* works had their own nomenclature for many technical terms.

The *Thevaram* (or *Devaram*) music sung in south Indian temples is undoubtedly ancient. Anecdotes (Ref 4) would ascribe around 10-11th century AD for the *'panns*' (Tamizh term for *Ragam*) to which the *Thevarm* hymns are set. As these were sung by hereditary '*Odhuvars'* for whom the rulers had specified payments (mostly in kind) from the temple income, we can presume that the tunes and styles continued unchanged from generation to generation as the musicians own livelihood was assured. The present Carnatic music style, especially in the *gamakas*, is very close to the *Thevaram* music. The *Tamizh Isai Sangam*, Chennai in its annual conferences from 1949 onwards, had correlated the *Panns* of *Thevarams* with the present day *ragas* (Ref 6), which was possible because of the closeness of style. Though there are no parallels in *Thevaram panns* for many of the present day Carnatic *ragas*, those which are used in the *panns* are distinctly Carnatic in *raga bhava* - for instance (*raga*) *Sama* – (*pann*) *Andalikkuranji*, *Ahiri – Panchamam*, *Neelambari - Megharagakkuranji*, *Bhairavi - Kausikam*, *Kedaragaula – Gandharapanchamam* etc. This could be another evidence for the evolution of Carnatic music from the local regional music system.

This paper tries to find evidence in the ancient musical works in *Tamizh* for the style and system used in Carnatic music. Some of the premises may be hypothetical but the purpose is to initiate a process which could lead to discovery of more material and evidence.

Musical works in *Tamizh*

Admittedly, practically no musical work in *Tamizh* is available in its complete form. The only complete work published is *Panchamarabu* by *Arivanar* (Sakthi Aranilayam, Coimbatore, 1973)(Ref 9) but doubts have been expressed as to whether it is the original *Panchamarabu* by *Arivanar*, mentioned in the commentary of *Silappadhikaram* or a collection of known verses . As regards the other works we get quotations in many non-musical works like *Silappadhikaram* or commentaries on them. In his book 'Lost Tamizh works', Mylai Cheeni Venkatasamy lists 10 lost musical works for which references are found in later works. *Panchamarabu* is included in this list of 10 lost works.

Of the works which throw considerable light on the technical aspects of music, the epic *Silappadikaram* by Ilankovatigal (Ref 2), commentary **for** it by Adiyarkkunallar and notes by Arumpathavuraiasiriyar are a major sources of information. Many verses in *Panchamarabu* are quoted in these commentaries. Whether the published work *Panchamarabu* is the original or not, the verses are presumably very old (as they are quoted by authors ascribed to 10th century or earlier) and also throw light on some fundamental aspects. In addition to the above, *Nikantu*'s (dictionaries or encyclopaedias) *Pingala Nikantu, Choodamani Nikantu* and *Chenthaan Divakaram* (also a dictionary or encyclopaedia of the same type) provide some information.

Musicologists who have worked on the musical works in Tamizh have often drawn attention to the similarities in concepts found in the *Sanskrit* and *Tamizh* works, such as *Samvaditva* – *கிளை* (*KiLai* in *Tamizh)*, modal shift of tonic etc. "Tamizh Music in Silappadikaram" is a detailed study of musicology in *Silappadhikaram* by Dr. S.Ramanathan (Ref 4). However, it is not often that the differences have been highlighted and interpreted.

Nomenclature:

The *Tamizh* works had their own nomenclature for the 7 notes. They were *kural, thutham, kaikkilai, uzhai, ili, vilari, thaaram*. (*குரல், துத்தம், கைக்கிளை, உழை, இளி, விளரி, தாரம்*). There have been different interpretations but it is generally accepted that *kural* corresponds to *shadja, tuttam* to *rishabha* etc. (The other interpretation is that *ili* corresponds to *shadja*). The word *pann* was used to describe *ragas* (but some *pann* names end in the word '*ragam*' – ex. *Pann Pazhanthakka ragam*) The terms '*Inai*' (parallel), '*Natpu*' (friendship), were used to indicate '*samvadi*' and '*anuvadi*' whose definitions are similar but the definition of '*pagai*' (enmity) is quite different from the definition of '*vivadi*' (dissonant).

Here we will deal with 3 aspects of Carnatic music where we find evidence in the Tamizh works.

Vivadi notes.

The concept of consonance has been a fundamental part of the ancient Sanskrit works starting from Bharata's Natyasasthra and terms uses are संवादि (consonant), अनुवादि (assonant), विवादि (dissonant) with reference to वादि (dominant)). The Sanskrit works defined these on the basis of 22 *srutis* system. Notes at 9th or 13th *sruti* from the *vadi* are *samvadi* (having 8 and 12 srutis in between, for instance sa and ma, sa and pa), and notes at the second *sruti* (with one *sruti* in between) are *vivadi* (for instance ri and ga of the original suddha notes).

In the current theoretical apperoach of classification based on *mela* sytem and using12 positions in the octave as the basis for formation of scales, we may equate the *vivadi* of older Sanskrit works to the semitone i.e. the tone between adjacent notes. A 2 *sruti* or a semitone difference seems to introduce the sense of dissonance. Even in Western musicology, notes separated by a semitone are considered dissonant. (Ref 7). A detailed discussion on '*vivadi*' may be seen in Ref 18.

The concept of *vivadi* is now used in Carnatic Music theory even to cover scales ('*vivadi mela')*. The current *Mela* system of Carnatic Music with 72 scales was proposed by Venkatamakhi in *Chaturdandiprakasika* (17th century). Venkatamakhi placed the notes in such a manner that 32 scales do not have any pair separated by 2 *srutis* and consequently only the other 40 scales had *vivadi* pairs These 32 scales can be derived by choosing either of the 2 variations of ri,ga,ma,da and ni in a 12 note system (the black or white note on a keyboard with 'C' as tonic). In the revised nomenclature (which may be considered as definitions and which is now in use) proposed by Govinda in *Sangrahachoodamani* (c. 1750-1800) (Ref 14) every adjacent pair of notes has a 2 sruti difference (except for *prati madhyama-panchama* and *kakali nishada-shadja* pairs). This would make all melams except 65 as *vivadi* melams as they have one or more 2 *sruti* intervals. (In Govinda's placement of notes 36 of the 40 '*vivadi melams'* actually have triads of notes where the adjacent pairs of notes are separated by 2 *srutis,* or *2 srutis* and 1 *sruti* in a few cases*).*

In the *Tamizh* works the notes which are at the fifth or fourth position (in the 7 note system) and are termed as கிளை *kilai* (literal meaning 'branch' or 'related'). Thus *ili* (equivalent of *panchama*) and *uzhai* (equivalent of *madhyama*) are *kilai* to *kural* (which may be considered as *shadja*). While this is similar to the definition of *samvadi* in Sanskrit works , the description of *vivadi* (*pagai* in *Tamizh* – literally meaning enmity) is quite different.

The term *pagai* is explained in Adiyarkkunallar's commentary (Ref 2, 8:33-34 – p 232) as
கிளை - ஐந்தாம் நரம்பு , பகைஎன்றது - ஆறும் மூன்றும் .. கூடமெனினும் பகையெனினுமொக்கும்
(meaning) related (consonance)– fifth string, enmity – six(th) and three (third) – may be called enmity or prohibited.

Arumpathavuraiaasiriyar explains the 4 different *pagai'*s *sempagai*, *aarppu*, *kootam*, *athirvu* and that *kootam* does not make the music 'level' and it is playing the 6th string which is *pagai* to the original string.
கூடம் இசை நிறவாதது தன் பகையாகிய ஆறாநரம்பினிசையிற்குன்றித்தன்னோசை மழுங்கல் (Ref 2, 8:29-30 – p 220)

The third and the sixth notes considered as *pagai* in *Tamizh* works would correspond to *gandhara* and *dhaivata* (in a 7 note system based on present day Harikambodi *melam* or Khamaj *that*). S.Ramanathan (Ref 5, p 105) has explained this by ascribing the relative frequency of 81/64 for the third note *kaikkilai* (equivalent to *gaandhara*) and 27/16 for the sixth note *vilari* (equivalent to *daivata*) as these are not simple ratios and were considered as *kootam* (prohibited) or *pagai* (inimical). These would be the frequencies if these notes are arrived at by Cycle of Fifths from *shadja* and may be valid for the harp with simultaneous playing of more than one note. It is however, significant that there is no mention of *pagai* for the pairs of adjacent notes of third *kaikkilai*(ga) – fourth *uzhai*(ma) and sixth *vilari*(da)-(seventh) *tharam*(ni) in the basic scale of *Tamizh* music. These would be adjacent notes in a 12 note system. The *Tamizh* works did not consider a 2 *sruti* interval as dissonant at least in the melodies used earlier. The *Tamizh* works which speak of 22 *srutis* also assign 2 *sruti* difference between notes in these pairs (Adyarkkunallar in Ref 2, 8:31-32, p 220)

While the term dissonance is itself capable of different interpretations, the resolution of dissonance of semitone is a problem in both polyphonic and melodic monophonic music, though less so in the latter. In Hindustani music this is usually overcome by avoiding connecting such pairs especially in slow movements. A comparison of the two *ragas* Hindustani *Bageshri* carnatic *Sriranjani* can illustate this. Both use ri-ga (*Chatusruti rishabha-Sadharana gandhara* in Carnatic music and *Suddha rishabh-Komal gandhar* in Hindustani music) and da-ni (*Chatusruti Daivata-Kaisiki nishada* in Carnatic music and *Suddha Dhaivat- Komal nishad* in Hindustani music) pairs separated

by a semitone. In *Bageshri* the *gandhara* and *nishada* are oscillated upwards (even up to *madhyama* and *shadja* respectively) and not connected explicitly to *rishabha* and *dhaivata* by oscillation. (Fig 1 and Fig 2 – pitch graphs of live music – *Rag Bhageshri*)

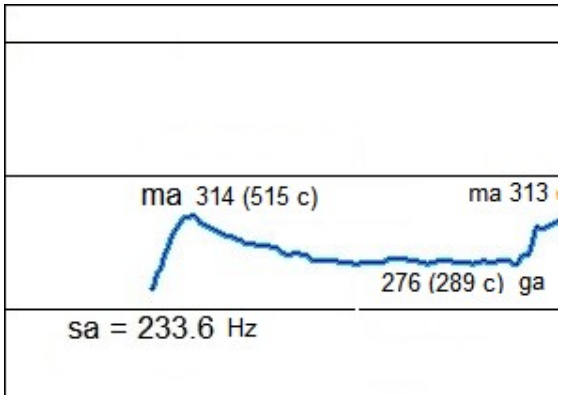

Fig. 1

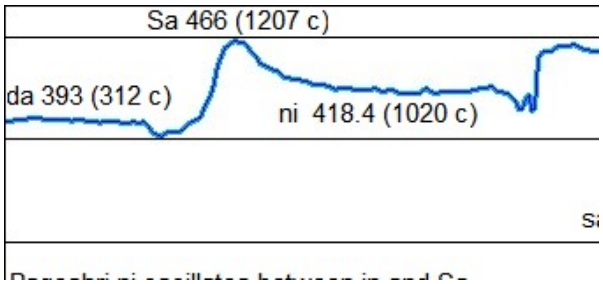

Fig. 2

In Carnatic music however, these two notes would be oscillated from the lower notes *rishabha* and *dhaivata* in *Sriranjani*. Ni of *Sriranjani* is shown in Fig 3. This manner of bridging notes separated

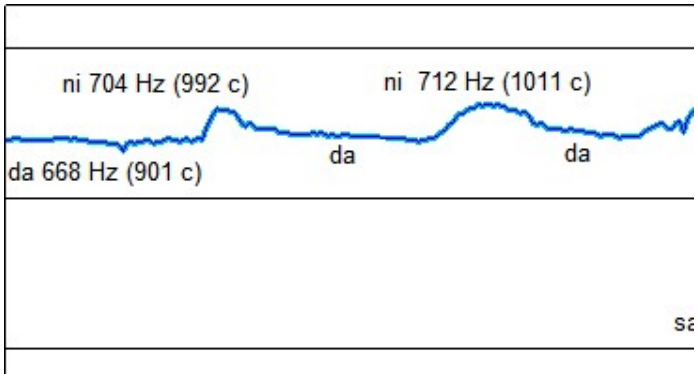

Fig 3

by a semitone (oscillating from the lower notes in case of suddha rishabha, saadharana gaandhara, suddha dhaivata and kaisiki nishadha and oscillating from pa downwards in the case of prathi madhyama, thus actually connecting through the semitone interval) to overcome the dissonance is a constant feature in Carnatic music. Thus the 2 *ragas Bageshri* and *Sriranjani* having same basic notes, have a remarkable melodic *bhava* difference due to the manner in which these 2 notes are held. In the case of Carnatic *suddha* ri (corresponding to Hindustani *komal* ri) it is oscillated from sa even twice or thrice if the note is prolonged (Fig 4 shows *Mayamalavagowla* ri). In Hindustani music the ri is held straight or oscillated up from its own position (Fig 5 - Hindustani *Bhairav).*

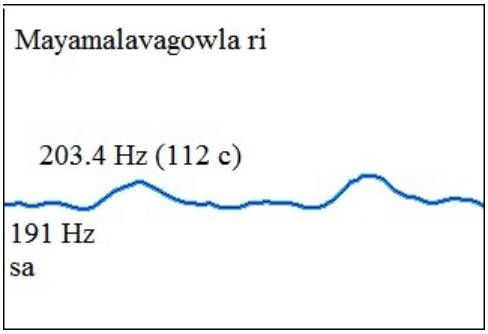

Fig 4

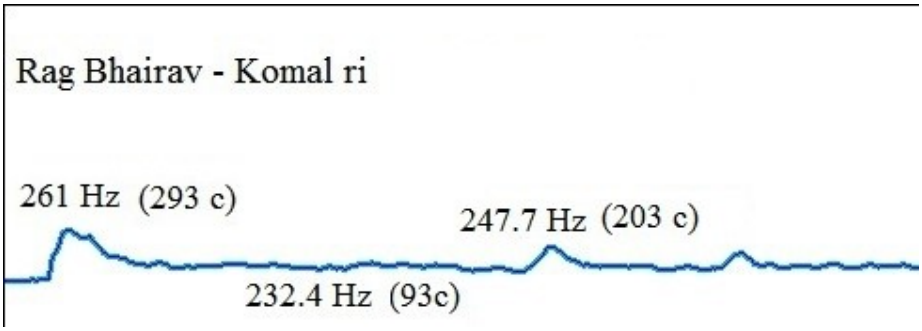

Fig 5

Similar difference may be noticed between Carnatic *Chakravaham* and Hindustani *Aahirbhairav* in the notes ri and ni. In his article on 'Gamakas in Hindustani Music', Ratanjankar says "For instance, the raga Bhimpalasi is a Janya, a derivative of the Kaphi thata.....the Komal or Kaishik Ni of this raga when it is sung in an Arohi passage, i.e., a passage up the scale, it rises up slightly, simply because it is always sung with the grace note of the Sa of the top octave attached to it. All Komal ni's occurring in the Alapas of Bhimpalasi in the passages up the scale will have this grace of sa atached to them" (Ref 15). Another strategy adopted to avoid 2 semitone difference is the usage of phrases like ni-ri or ma-da in *rags* like *Todi.* This difference in style is so well known that it has not been written about much!

A Thanjavur style Carnatic *veena* player practically never touches the *kaisiki nishada* fret when playing *ragas* like *Sriranjani* or *Chakravaham*. Even in a *raga* like *Madhyamavati* which does not have 'da' the note *kaisiki nishada* is played by deflection of the string from 'da' fret. Playing 'ni' in its own position or oscillation from 'ni' to 'sa' would completely deviate from *Madhyamavati* and introduce a Hindustani flavour.

The basic scale of *Mayamalavagowla* taught to beginners in Carnatic music has 4 pairs separated by semitones and when the student is ready to sing with gamakam, he is taught to connect pairs sa-ri, ga-ma, pa-da and ni-Sa by gamakam and and a student of *veena* is asked to play ri and da by deflecting the string from sa and pa respectively and ga and ni are held with gamakam often touching ma or Sa.

Carnatic ragas where such a strategy is not possible (like Hindolam which has sadhaarana ga but does not have the lower note chatusruti ri) often project a Hindustani music like mood.

Thus the handling of semitones is basically different in the two systems and we find evidence in the ancient *Tamizh* works for the current style of handling semitones in Carnatic music, since semitone is not *pagai* in Tamizh works, while a semitone (*dvisruti*) is *vivadi* in Sanskrit works. It may also

be noted that the strategy of oscillating from a lower note is not possible for more than one note in a triad of notes where 2 adjacent pairs have 2 srutis difference unless the middle note is sa or pa. The 36 scales which have such triads are considered *vivadi* in the 72 scale system.

The absence of associating a semitone with dissonance in old *Tamizh* works would appear to support the current style of singing or playing notes separated by a semitone.

However, there is no explicit mention in the earlier *Tamizh* works about *gamakams*. The only reference is in Adiyarkkunallar's commentary (Ref 2, 3:26, p 105). Satisfactory interpretations of the different finger actions on the *yazh* (the stringed instrument described in Tamizh works) described in various works are not available. However, lutes with fingerboard were perhaps in use even in the *Silappadhikaram* period as there is a reference to s*enkottiyazh* (a *yazh* with straight *kodu* or *dandi*) in the main *Silappadhikaram* itself (Ref 2 , 13:106, p 334). Archaeological evidence also shows existence of fingerboard instruments during 5th Century. Such instruments would allow playing of *gamakams* which would not be possible in a harp like instrument.

A direct link between the historical works and current style is difficult to establlish. However, considering that art comes first and grammer later, the descriptions may be said to reflect the styles then existing and continuing till date.

The system of twelve note positions in an octave.

The Sanskrit works assigned to period prior the 16th century use the 22 *sruti*, *grama* and *jathi* system along with *amsa*, *graha*, *nyasa*, usage of *vikrita* notes and *alpatva* and *bahutva* to describe a *raga*. The position of notes were obtained by a *suddha* note 'sacrificing' one or more of its *srutis* to another note.(which process could be perhaps thought of as moving a note up or down). It was only in the Sanskrit works (all of them from Southern India) written around or after the 16th- century, the *mela* system (attributed to *Vidhyaranya* of 14th century whose work *Sangita Sara* is not available) was conceived. *Swaramelakalanidhi* by *Ramamatya* (16th century) and *Ragavibodha* by Somanatha (17th century) used 14 and 16 positions to describe the melams but the *Veenas* described by them mention 12 positions in an octave. Eventually the current system of 12 positions in an octave as a theoretical foundation was used by Venkatamakhi in *Chaturdandiprakasika* to propose 72 scales and has been in use since then. Though Venkatamakhi used the original nomenclature of s*uddha* swaras and names such as *shadsruti* to indicate the positions he uses only 12 positions in the 22 srutis to define his Melas (though they had 16 names – some positions having 2 names the alternative chosen according to the context). Practically every other system of music also uses 12 positions in an octave. The Hindustani classical music system adopted the same principle in the *That* system proposed by Bhatkande. It is the realisation that the notes sung could be grouped into 12 (perhaps with fine variations in pitch) that has led to systematisation of the theory. The use of fretted instruments with 12 frets in an octave could also have aided the process.

The *Tamizh* works also refer to the 22 sruti system (sruti is called '*alaku*') assigning 4 srutis for *kural*, *tuttham* and *ili,* 3 srutis for *kaikkilai* and *vilari* and 2 srutis for *thaaram* and *uzhai*. This would correspond to s*hadjagrama* if *kural* is taken as *madhyama*. However, in the *Tamizh* works (written centuries before the Sanskrit works mentioned above) the concept of 12 positions in an octave is also present. This is done by drawing a chart of the 12 constellations of the zodiac and assigning positions to notes in 7 of these 12 'houses' (There is no equivalent of this in any older Sanskrit work). Thus a verse can describe the notes without the use of any special adjectives like *suddha* or *chatusruti*. A stanza from Panchamarabu is given below:

> ஏத்து மிடப மலவனுடன் சீயம்
> கோற்றனுக்கும்பமொடு மீனமிவை பார்த்துக்
> குரன்முதற் றார மிறுவாய்க் கிடந்த

நிரலேழுஞ் செம்பாலை நேர்.

(Panchamarabu, Ref 8 – 1:23, p 31, also quoted by Adiyarkkunallar in Ref 2, 17:13, p 449)
(meaning) "The notes *kural* to *thaaram* arranged in order, reside in Taurus (constellation *Rishabha*), Cancer (*Karkata*), Leo (*Simha*), Libra (*Tula*), Sagittarius (*Dhanus*), Aquarius (*Kumbha*), Pisces(*Meena*) and result in *Chempalai* "

The layout will be (occupied houses in bold starting with 'kural')
Mesha, **Rishabha**, Mithuna, **Kataka**, **Simha**, Kanya, **Tula**, Vrischika, **Dhanus,** Makara, **Kumbha**, **Meena**.

Meena Taaram ni	Mesha	Rishabha Kural sa	Mithuna
Kumbha Vilari da			Karkata Tuttam ri
Makara			Simha Kaikkilai ga
Dhanus Ili pa	Vrischika	Tula Uzhai ma	Kanya

Mesha	Rishabha Kural	Mithuna	Kataka Tuttam	Simha Kaikkila	Kanya	Tula Uzhai	Vrischika	Dhanus ILi	Makara	Kumbha Vilari	Meena Taaram
	sa		ri	ga		ma		pa		da	ni

Another reference puts the notes somewhat differently (this can be obtained by starting with ma as sa in the above arrangement)

இளி இடபம் கற்கடக மாம் விளரி சிங்கம்
தளராத்தாரமதுவாம் தளராக்குரல் கோற்றனுத்
துத்தங்கும்பங்கிளையாம், வரலாலுழை மீனமாம்

[*Arumpathavurai* - Ref 2, 17:13 p 439]
(meaning) *Ili Rishabham, Kataka Vilari, Simha Thaaram, Kural Tula, Dhanus Thuttham, Kumbha Kaikkilai, Uzhai Meena.*

Mesha	Rishabha	Mithuna	Kataka	Simha	Kanya	Tula	Vrischika	Dhanus	Makara	Kumbha	Meena
	ILi		Vilari	Taaram		Kural		Tuthtam		Kaikkilai	Uzhai
	pa		da	ni		sa		ri		ga	ma

Two more stanzas describing similar arrangements are found in the commentaries of *Silappadhikaram*, one corresponding to *Kharaharapriya* Melam of today (in Adiyarkkunallar – Ref 2, p 439) and the other corresponding to the *Harikambodi* Melam (in *Arumpathavurai* – Ref 2, p 449). *Arumpathavurai* is itself assigned to 9th century or earlier.

The use of zodiac positions to define notes has been noted and discussed by many writers who have researched into the *Tamizh* works. The usage of both 22 sruti system and the 12 note system was considered to be a contradiction by Lewis Rowell (Ref 11). A careful examination would however, show that in the main text of *Silappadhikaram* itself there is no reference to the zodiac arrangement

and the references are only in the commentaries written later. A harp like instrument enabling harmony may require a complex method of tuning. In a lute with or without frets, pitch can be varied at will. In the case of fretted lute deflection of the string would provide for variations in pitch. With such instruments a musical theory grouping pitches into 12 positions would be more appropriate (corresponding the the 12 frets in an octave). B.C.Deva has observed "The tendency to describe musical scales in terms of 12 notes …. may be traced to the influence of finger board instruments" (Ref 12). In spite of the usage of *sruti* values in Sanskrit works of the *mela* period (16th century and later), classification itself was based mostly on 12 positions.

It would appear that the idea had its origin in the south well before the 12th century (the latest date ascribed to Adyarkkunallar) and even before 9th century which is the date ascribed to *Arumpathavurai*. This would be well before the *mela* system of Sanskrit works, but later than the period of *Silappadhikaram* which is ascribed a date of 5th century or earlier.

The idea of using 12 positions for classification does not seem to have been taken to the next logical step of describing scales other than those obtained by modal shift of tonic from the basic scale (which can give only 7 modes) and defining *panns* (*ragas* including *janya* ragas) in the period before 16th century. Perhaps the concept was used in some of the lost works. See Appendix for one instance of use of this method for describing more ragas in a palm leaf manuscript ascribed to 16th century.

The concept of classification based on 12 notes in an octave and selection of notes from them has led to adoption of a larger number of 'scales' in Carnatic Music and development of new *ragas* from them. In fact the recognition of 12 positions around which notes could be grouped in an octave as the basic structure for musical grammar has greatly influenced the subsequent development of musicology in the Sanskrit works of 16th century and later. The *Tamizh* works mentioned above had made this approach centuries earlier.

Style of singing Alapana (Alap)
The following stanza from Panchamarabu explains the manner of singing '*Alatti 'ஆளத்தி (Alap):*

மகரத்தினொற்றாற் சுருதி விரவும்
பகரிற் குறினெடிலாற் பார்த்து நிகரிலாத்
தென்னா தெனாவென்று பாடுவரே லாளத்தி
மன்னாவிச் சொல்லின் வகை

(Ref 8, 1:43, p 80, also quoted without source by Adyarkkunallar Ref 2, 3:28, p 104)
(meaning) The *sruti* is blended with '*makara*' and the incomparable *alatti* is sung using 'Thenna', 'Thena' and (judiciously) applying long and short vowels.

The next verse in *Panchamarabu* (Ref 8, 1:44, p 80) also speaks of usage of the consonants 'tha', 'na', and 'ma' in *alatti*.

The present style of singing *alapana* in Carnatic music liberally uses the consonants 'tha' and 'na' and judicious mixture of short and long vowels (tempos) in contrast to the Hindustani style of using only *akara* for singing Alap. Though this may appear to be a trivial aspect, it throws light on continuity of traditions in the style of singing.

The use of the word '*sruti*' to indicate 'drone' rather than intervals is also significant and may indicate the early use of the concept of Adhara Sruti or fixed Tonic in music.

Appendix

Palm leaf manuscript using Zodiac chart for describing *Ragas/ panns*

The idea of using the astronomical chart for describing the notes selected seems to have been attempted subsequently in the 16th century to explain more ragas. In the annual conference of the Tamizh Isai Sangam held in 1960 at Chennai one Sri S.Iraasan of Malaysia, spoke of a palm leaf manuscript in his possession, describing about 24 *panns* by ascribing the positions of the notes to the constellations. (Ref 6, Discussions 1960, pp 168-171). While the references in old *Tamizh* works using zodiac chart referred only to 2 scales (with all the 7 notes), the palm leaf manuscript has dealt with equivalent of *janya* ragas. An example is *pann Nattapadai*. The verse quoted by Sri Iraasan puts *kural* in *Tula*, *kaikkilai* in *Kumbha*, *uzhai* in *Meena*, *ili* in *Rishabha*(rasi), and *thaaram* in *Kanya (*corresponding to modern *Carnatic Gambiranata,* a pentatonic *raga).*

Tula	Vrischika	Dhanus	Makara	Kumbha	Meena	Mesha	Rishabha	Mithuna	Karkata Simha	Kanya
Kural				Kaikkilai	Uzhai		Ili			Taara
sa				ga	ma		pa			ni

In the discussions of the conference the verses corresponding to *Nattapadai*, *Pann Thakka ragam* and *Indalam* have been quoted and for others the results of the assignment as in the verse are mentioned with the names of the corresponding modern *raga*. The discussion went on to *ragas* for which the manuscript's description was at variance with the current practice of singing. For instance the description of the *Pann Panchamam* in the manuscript as given by Irasan corresponds to modern *Malayamarutham* whereas the *Thevaram* verses in *Pann Panchamam* are sung in modern *Ahiri*. The description of *Indalam* in the manuscript would correspond to modern *Hindolam* whereas *Thevaram* verses in Indalam are sung in modern *Mayamalavagowla*. As regards the dating of the manuscript it was said to contain mention of the year 'kali 4700'. If this is taken as the *Kaliyuga* calendar in use in South Indian almanacs, it would correspond to 1598 A.D. - near about the time the Mela system was taking shape in the southern Sanskrit works. Although Sri Irasan attended the next year's conference there was no talk about the manuscript. It is a pity that no attempt was made to obtain and preserve the palm leaf manuscript and publish it.

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