21. Karnatak Music—An Analysis

INTRODUCTORY

The beginnings of Indian music are lost in the mists of antiquity. There is evidence to show that this art had been developed to a very high degree of perfection even in very early times in the history of this country. All through historic and even pre-historic times music has been the cherished treasure of kings and noblemen of this land. Ancient cities were great centres of musical culture. All the famous musicians were attached to one court or another; some of our rulers were not only connoisseurs but were great musicians themselves. Travancore, Tanjore and Mysore were, and even now to some extent are, great musical centres.

THEORY OF INDIAN MUSIC

As far as the theoretical basis is concerned, there is very little difference between the North Indian and South Indian systems. Certain forms, modes of rendering and names vary, but the essential features are the same. As with every musical system, there are seven fundamental notes in the scale. The original scale was developed from the *Sama* chant. This is entirely different from the western Major scale. This was the original Suddha scale and corresponds to the modern Kharaharapriya raga of Karnatak music, (the *Kafi* scale of North Indian system). Starting

with these seven notes as basis all the required intervals of the scale were developed. For our practical purposes we use only twelve notes as in the west, but even these are slightly different from the corresponding notes of the western scale. The system of equal intervals (the chromatic scale of the west) is foreign to Indian classical music. The twelve notes with their names and the corresponding vibration-ratios are given below, along with the corresponding notes of the western scale:—

Shadja	C	1.000	1.000	1.000
Shuddha Rishabha	Db	1.055	1.059	1.068
Chatushruti Rishabha or Shudha Gandhara	D	1.125	1.122	1.125
Chatushruti Rishabha or *Sadharana* Gandhara	Eb	1.172	1.189	1.200
Antara Gandhara	E	1.250	1.260	1.265
Shuddha Madhyama	F	1.333	1.333	1.333
Prati Madhyama	R	1.406	1.414	1.423
Panchama	G	1.500	1.498	1.500
Shuddha Dhaivata	Ab	1.562	1.587	1.601
Chatushruti Dhaivata or Shuddha Nishada	A	1.667	1.682	1.687
Shatshruti Dhaivata or Kaishiki Nishada	Bb	1.778	1.782	1.801
Kakali Nishada	B	1.875	1.888	1.898
Shadja (Higher)	C	2.000	2.000	2.000

Over and above these 12 notes our classical treatises speak of 22 intervals* in the scale. These are not merely of theoretical interest but are actually used by experts in

(* See Note I).

Karnatak music. These minute intervals are not equal: they take three different values, 256/243, 25/24, 81/80, as occasion demands. Indian music without these short intervals will be wooden. It is the use of these very short intervals that makes the individuality of the Indian system. That is why it is so difficult to set Indian music to notation. The mere outline can be given in notation but the spirit of a composition or a melody-type is best expressed through the use of these minute divisions of the scale. The expertness of a musician depends to a large extent on his capacity to use them so as to add to the richness and sweetness of his songs.

RAGA: MELODY TYPE

The basis of Indian music is the Raga or melody-type, defined by Matanga as "that special combination of sounds beautified by colourful notes which charms the hearts of people". A scale is a theoretical concept and may or may not lend itself to be handled as a raga in the above sense. In a chosen scale, seven notes selected out of the 12 notes in the scale are used. The choice of these seven notes out of twelve under prescribed conditions gives 72 possibilities and thus we arrive at the 72 parent-scales enunciated by the great musicologist Venkatamakhi, whose scheme is generally followed at present. For purposes of mechanical codification, ragas or melodies are divided into two main groups: first the major or parent melodies (mela or janaka ragas) which take in regular sequence all the seven notes of a particular scale, both in ascent (arohana) and descent (avarohana), and then the derived melodies (janya ragas) which may omit some of the swaras or use some irregular (crooked) combinations of the swaras. While the possible number of parent scales is 72, there is no limit to the number of derived melodies.

Each raga is an entity with its own characteristic aesthetic expression; this aesthetic uniqueness of raga is

called its *bhava*. Bhava is the life of the raga, and a raga rendered without its appropriate bhava will be only a medley of sounds. Directions have been given as to how best the bhava of a raga can be expressed, what particular phrases bring it out prominently, what combinations are to be avoided, which particular notes are to be elongated and which slurred over and so on. These directions are based on actual experience and cannot be deviated from.

It might look that such directions hamper a musician and interfere with his originality and improvisation. In reality it is not so. Side by side with all such rules, there is almost an unlimited scope for improvisation and display of originality on the part of the musician. This is the unique character of Indian music. Take for instance the raga *Sankarabharana* (which corresponds to the Western major scale). Its notes are given, its characteristic phrases are given in classical reference pieces called *Varnas* (Varna means the colour or charm peculiar to the raga); one dare not take liberties with these prescribed rules. Yet, as we know, one can display all his originality, ingenuity and power of improvisation in elaborating that melody. We have heard of some great musicians who could elaborate a melody-type for days without any repetition or deviation from prescribed rules. Let me quote what Leopold Stokowski says on this matter :—

> " One of the great characteristics of the music of India to my mind is its flexibility and freedom. While giving due consideration to traditions stemming from the past, Indian music is free and improvised so that all powers of imagination in the musician are brought into play. In this way the music of India is always creative, never a reproduction of what is written or played, as sometimes happens with the music of Western Countries."

A musician can reveal his innermost soul in his music, forget himself in it and experience a great peace and calm; at such moments he feels something from on high pouring into and permeating him and he senses the bliss of creative art activity.

It must be mentioned here that these ragas are not themselves compositions; they are the bases on which all compositions are built. In one raga we may have any number of different compositions. The ragas themselves can be sung without any words at all, and in some cases a raga can be sung for hours together.

One of the most important features of Indian music is the use of graces (*Gamakas*, as they are called). It is these graces that give the life to Indian music. They are not accidental to our system but essential. All the short intervals which were mentioned above are used in this connection. Round every note of the 12 intervals scale are grouped some of these short intervals, and these are used in the graces. That is why it is so difficult to produce real Indian music in a harmonium or in any equal tempered instrument. About 10 gamakas are generally used, though there is no reason why an expert may not improvise more.

LAYA-TALA; TIME-MEASURE

It is said that *Shruti* is the mother and *Laya* the father of Indian Music. The ancient treatises give an elaborate account of different measures of musical time. We hear of 108, 700 and 175 kinds of *talas*. There was an old gentleman in Kilimanur (in Travancore) who was able to demonstrate all these 175 varieties. But of these only about five or six are in constant use. In South India, they are *Adi*, *Triputa*, *Ata*, *Jampa*, *Rupaka* and *Eka*. They consist of 8, 7, 14, 10, 6 and 4 equal intervals marked by counting fingers, striking of one hand over the other or waving off of the hand. We may represent them as follows :—

Adi	—	I O O O I X I X
Triputa	—	I O O I X I X
Ata	—	I O O O O I O O O O I X I X
Jampa	—	I O O O O O O I I X
Rupaka	—	I O O O I X
Eka	—	I O O O

I represents a beat of one hand over the other.
O represents counting with fingers.
X represents the waving off of the hand that beats.

All musical compositions other than those which are sung as *ragas* are set in particular *talas*. There is almost no limit to the varieties of compositions in the some *raga* and in the same *tala*. A very common feat performed by expert musicians to show their proficiency in *tala* is to sing the same piece in the same *tala* and so on.

The word *Laya* used in connection with music has generally two meanings; one general and literal, and the other technical. The obvious literal meaning is fusion or unison or coalescence. When the voice merges with the drone, we say that the singer has achieved *Laya* with the shruti. When our mind is entirely absorbed in anything we say that it is in a state of *Laya*. In this sense it is used in various contexts.

I propose to deal in this article with the special aspect of "*Laya*" considered as *Rhythm*. It is in this sense that we use the word laya as the basis of all talas. Rhythm is the basis of all activities in nature. From the movement of heavenly bodies in space to the gentle quiver of a blade of grass, all movement in nature is based on certain fundamental laws. Philosophers will say that rhythm is the basis of Divine manifestation and it is that basic rhythm which is symbolised in the Dance of Nataraja. In any case we cannot escape the fact that rhythm has profound influence on a sentient being. Regular ticking of a clock at times

induces languor and drowsiness; the regular sound produced by a moving train helps many to sleep. Rhythmic swaying of a swing lulls a child to sleep. It can be proved by mathematics that under certain conditions bridges can be broken and glasses shattered to pieces by the use of regulated movements or sounds. The effect of rhythm on human nature is more profound and one can work wonders by a judicious use of rhythm. In music, the *Tala* aspect is as important as, if not more important than, the *Raga* aspect. In fact, the evolution of music as an independent art was later; originally it was part of Dance. The old definition of sangita suggests that in the earliest stages, dance, song and instruments went together. The earliest treatise on music, Bharata's NATYASHASTRA, is a work on DANCE and only a few chapters are devoted to music proper. And in DANCE, the tala aspect dominates. In ancient India, the Dance art was widely studied and practised. When later on music began to develop as an independent art, this emphasis on the tala aspect was kept up, so much so that we, especially in South India, revel, as it were, in tala display. I have heard of a late Maharaja of Cochin who used to sit whole nights enjoying the play of drums only. Even today people going to ecstasies over a long-drawn-out-Mridangam-Kanjira-Ghatam display is a matter of common occurrence in the South. Even when there is no obvious tala display, a rhythmic background even to Raga alapana seems to provide a natural atmosphere. In our Nagaswaram performances, we know that when Raga alapana is going on, the 'tavil' (drum) is being played to some rhythm all the time. This is rather a remarkable phenomenon. Never for a moment does this tala background distract us from the employment of the Raga alapana; on the other hand, it seems in some way to enhance the effect of the Raga. No wonder then that in Karnatak music we lay so much emphasis on tala (or laya). Perhaps in no

other musical system in the world does tala (or time measure) assume such an important role or allow of such wide and intricate manipulation as in Karnatak music! Oh! what a variety of tala instruments have been in use and also associated with great saints and Devas! In some verses describing music we have references such as these: Prahlada handles the cymbals; Uddhava plays the tala instrument called Kamsya; Indra, the king of devas, plays Mridangam; Brahma, the Creator, and Prahlada keep time with cymbals; great ones like Nandi, Bhringi play varieties of drums, and all these keep in tune with the great Cosmic Dance of Nataraja!

Now I come to an important aspect of tala (or laya) which does not at present receive the attention it deserves. We speak of RAGABHAVA meaning thereby that which constitutes the essential aesthetic uniqueness of the Raga. Ragabhava is entirely different from Rasa which is closely related to human emotions. The Bhava of a Raga may cover a variety of Rasas. But we know that a real Raga has its own Bhava. So also a tala has its own Bhava, that is, its own characteristic aesthetic response. People often neglect this Tala-bhava. Various types of talas have varying aesthetic effects. Nay, changes of tempo in a tala may bring about a change in its bhava. It is a matter of common experience that a medium tempo tala if used in very slow tempo, produces a remarkably different aesthetic reaction. In North Indian music, they recognise this possibility even in ragas. A particular set of swara phases which bring out the bhava of a raga, begins to reveal the bhava of another raga if sung in a slower tempo. It is a well-known fact that elongation or contraction of a note in a raga may change its bhava altogether. What does this mean? It means that time element has a great effect on the bhava of a musical phase. This aspect of tala is fully exploited in our classical Dance Art. This is generally referred to as *Kala-pramana* which

means the tempo suitable to the purpose in view. In any musical composition the balancing of the sahitya, the raga, the tala and the kalapramana of the piece is of paramount importance. Every piece has its own kalapramana; some are Madhyamakala kritis, which means that medium tempo is best suited to it; similarly, we hear of Vilambhakala kritis and Durita kala pieces. If a Madhyamakala piece is sung in Vilambhakala, it would not be so effective as when sung in its appropriate kala.

Kalapramana also depends to some extent on the nature of the voice as also on the nature of the instrument. Veena requires a slight lowering of the tempo while flute needs some speeding up for producing the adequate effect. To play a Madhyamakala piece on the flute in a long-drawn-out tempo, is to commit aesthetic mutilation of the piece. So also in some voices, some comparative speeding up may be needed for effect, while some voices shine best if the speed is slightly slackened.

Correct determination of the kalapramana of a piece having in mind all these aspects of the matter, will help considerably in getting the best out of the piece. Thus we see what an important part LAYA (tala) plays in our musical system.

MUSICAL PIECES

(1) The *raga alapana* is the most important aspect of Indian music. A *raga* is sung without any words at all; at times some verses are also sung in ragas without *tala*.

(2) *Pallavi* is the next in importance, and expertness in it makes the real musician. A few words—almost like an aphorism—are chosen and sung in a particular *raga* and in a particular *tala* (at different speeds). All kinds of combinations of the notes of that *raga* are allowed, provided the aphorism begins at the same point in the *tala* range.

(3) Then come the *Kirtanas*, classical devotional songs, composed by famous musicians. Though the whole theme is

set by the composer, singers introduce their own variations within the limits allowed by the compositions.

(4) Then we have the *Padas* and the *Javalis* which are usually erotic compositions. They are generally looked upon as the out-pouring of the human soul in ecstatic love towards the Divine.

(5) The *Tillana* is another variety. This is a composition like *Javali* or *Kirtana*, but without words. Certain combinations of sounds alone are used, such as *tadhim*, *nadridhim*, *tom* and so on.

(6) *Varnas*, *Gitas*, *Alankaras*, *Swarajatis* and so on are technical compositions intended to train the voice and give a sound basis for musical knowledge.

DRAVIDIAN SONGS

A very old system of music seems to have existed in the South even before the Aryanisation of South India. It has been slowly absorbed into the Aryan system. *Tevaram*, *Tiruvachagam*, *Tiruppugazh*, and *Tiruvaimozhi* are the more serious of the Dravidian compositions, *Kavudichindus*, *Temmangus* and *Kummis* being the lighter ones.

FOLK MUSIC

Folk music of a nation is a natural expression of the mass soul of the people making the nation. In fact any national art is, or at any rate ought to be a true expression of the cultural soul of the nation. And music being the highest of the fine arts is the best and most vital expression of the nation's soul. While the higher and more elaborate musical expressions correspond to the higher and more intellectual section of the people, folk music expresses effectively and in simple, direct and straight-forward manner the emotional experience of the general population. I have heard it said by people who have travelled wide that, while there is marked difference between the various kinds of musical techniques obtaining in different parts of the world, there

is a sort of similarity in folk music all over the world. This is but natural as the basic impulses of humanity are similar all the world over. It is only in the sophisticated conventional society that a lot of artificial differences become manifest.

In India, especially, where music has played an important part in the day-to-day life of the nation, folk music is inextricably woven into the life of the people. Indian people are essentially a musical people. They use music for almost every function in life; whether it is a religious ceremony or a social function or an agricultural pursuit they do not hesitate to use music to lighten their hearts and make their burden less heavy. They have a song for harvest, another for lifting water, and yet a third for loading a van and so on. In temples and on marriage occasions music is an indispensable factor. A train-motor collision occurs in the morning; by noon the incident is set to music and printed as a leaflet, and in the afternoon it is sold in the trains and buses. This is a common phenomenon in South India.

Here music has always been recognised as handmaid of religion and a help for the realisation of the Supreme. In such a country it is no wonder that music is used freely for every possible purpose, in villages, in the paddy fields, in work houses and so on.

Several varieties of these folk songs are found all over Southern India, especially in the Tamil districts. The most important of these are Kummi, Thambangu, Tappa. Lavani and Chindu with several varieties like Vazhinadaichinthu, Nondichinthu, Kavadichinthu, etc. Of these the Kavadichinthu (so called on account of its association with the carrying of Kavadi by the devotees on their shoulders) has attained great popularity and importance among the folk songs for various reasons. It has an intrinsic musical charm of its own; it depicts the universal longing of the human

soul for union with the object of its devotion, the Nayaka-Nayaki bhava bhakti which is the background of all devotional literature—the Deity in this case being Lord Subramania, the most popular Deity in Tamil Nad. (Tradition has it that it was Lord Subramania who gave us the *muttamil*, Iyal, Isai and Nataka (literature, music and dance-drama).

Annamalai Reddiar—blessed be his memory—the famous author of Kavadichindu has laid the Tamil Nad under a deep debt of obligation by his great gift of the Kavadichindu which is classical in its theme, diction and rendering.

There are also other varieties of folk-songs which convey moral and philosophical truths, teach proverbs and narrate historical events and so on.

One striking act which emerges from a study of the folk songs is that, while the tunes may not conform to the rules of Lakshana, they are not lacking in aesthetic quality; on the other hand it almost looks as if their very charm and beauty are the result of this apparent disregard of the requirements of technique.

PERFORMANCES

1. First we have the *Classical* performance of an expert musician in which stress is laid on the technical side of music.

The general structure of the programme of a typical Music Concert in the South is significant. It generally begins with a *Varna* (a technical piece whose entire form has already been fixed by the composer and in which the singer is not expected to do anything on his own). Then follow a number of kritis, also composed by great musicians; here the singer has freedom to add his own decoration and ornamentation within the limits set by the composer. Then comes the climatic part of the programme, Ragalapana and Pallavi, where the singer is free to improvise and reveal his creative faculty. The programme generally ends with

some miscellaneous pieces which include devotional songs. In this arrangement we have an epitome of the growth of the human soul towards perfection. At first he follows rigidly the rules of conduct laid down by more evolved persons. He then takes himself in hand and tries to adapt the rules to changing conditions and varying degrees of response to higher impulses. Finally he becomes completely free, a true mukta, who in turn makes his own laws and laws for others to follow. He creates his own world of music and revels in it.

2. *Bhajana* in which simple devotional songs are sung in groups, experts as well as laymen, is very common in the South.

3. *Kathakalakshepam* (musical story telling) is a very popular and useful institution. It is a matter for deep regret that this institution is going out of fashion nowadays. It is the duty of every serious-minded person to see that it is restored to its proper place. We have also the *purana-patanam*, which is prose story-telling with a musical background.

4. In India music has always been associated with the *stage*. *Drama* as distinct from *Opera* was still recently almost foreign to us here.

5. *Dance* is another important institution in which music plays a very important part. In fact, as has been said, the Dance art developed earlier and comprised music as a component part; only latterly music developed as an independent art.

6. *Orchestra**, as is understood in the west, is entirely alien to Indian music, whose basis is the raga based on a succession of notes and not, as in the case of harmony, on the simultaneous sounding of several notes. Harmony is the antithesis of melody. But we have had in ancient times what we may call *melodic orchestras* in which a number of instru-

(* See Note II).

ments were used and several singers also took part. They were called *Vrindas*. I would suggest that this word Vrinda may be used in Indian music instead of *orchestra*, so as to avoid possible misunderstanding.

SOME OUTSTANDING FIGURES IN MUSIC

Bharata, author of the famous "Natya Sastra", is perhaps the earliest known musicologist. Matanga, Parswadeva, Narada, Sarngadeva, Ramamatya, Somanatha, Venkatamakhi (author of the treatise "Chaturdandiprakasika"), Ahobala, Tulajaji are among the prominent lakshanakartas. Among the composers in the South, Talapakkam Chinnayya, Purandaradas, Narayanatirtha, Kshetrajna, Sadasiva Brahmendra, Margadarsi Sesha Iyengar (who is referred to by Maharaja Swati Tirunal as providing the model basis for his own compositions), Pachamiriyam Adiappayya and Gurumurti Sastri stand out prominently in the pre-Thyagaraja period. The famous Trinity, Thyagaraja, Shyama Sastri and Muthuswami Dikshitar flooded the whole of South India with their brilliant and heart-moving lyrical compositions. Swati Tirunal was another brilliant composer, almost contemporary to the Trinity. Among other composers may be mentioned Arunachala Kavi, Anayya, Gopalakrishna Bharati, Muthu Thandavar, Subbaraya Sastri, Kavi Kunjara Bharati, Mysore Sadasiva Rao, Tanjore Ponnayya, Karur Dakshinamurti Sastri, Sabhapati Iyer, Tachur Singaracharulu, Tiruvottiyoor Thyagarajaiyer, Pattanam Subrahmania Iyer, Ramnad Srinivasa Iyengar and others. Among the living composers two stand out as striking personalities. Mysore Vasudevacharya, the 93 years old veteran, is happily amongst us and is still composing and also giving training to deserving disciples. Kalakshetra where he is now doing his service to Goddess Sarasvati may be justly proud of him. The other composer whose songs have moved and are still moving the hearts

of many is Papanasam Sivan. It is my belief that after Thyagaraja few have achieved such a standard of lyrical beauty, musical excellence and spontaneous aesthetic appeal.

Among the performing musicians of the present day, who have achieved eminence, may be mentioned Ariakudi Ramanuja Iyengar, Musiri Subramania Iyer, Semmangudi Srinivasa Iyer, Madurai Mani Iyer, G. N. Balasubrahmaniam, M. S. Subbulaxmi, D. K. Pattammal, Karaikudi Sambasiva Iyer (Veena), Palghat Mani Iyer (Mridangam), Nagaswaram Veeruswami Pillai, Nagaswaram Tiruvizhimazhalai Brothers, Mysore Doraiswami Iyengar (Veena), Devakottai Narayana Iyengar (Veena), Palni Subrahmania Pillai (Mridangam), Papa Venkataramiah (Violin), Kumbakonam Rajamanikkam Pillai (Violin), Kalyanakrishna Bhagavatar (Vocal and Veena), Tiruvalangadu Sundaresa Iyer (Violin), T. N. Krishnan (Violin), Lalgudi Jayaraman (Violin) and Umayalpuram Kodandarama Iyer (Ghatam and Mridangam).

This list is obviously not full, nor does it suggest any preference. At best it is only a sort of random selection.

Some South Indian musicians specialised in particular ragas and on that account came to be called after their special ragas; as for example, Todi Sitaramayya, Begada Subramania Aiyar, Kedaragowla Narasimhachariar and so on.

INSTRUMENTS

Hundreds of musical instruments are mentioned in our ancient works. The popular ones, however, current at present in the South are Vina, Violin, Gotuvadyam, Mukhavina, Flute, Nagaswaram, Mridangam, Tabala, Tavil, Jalatarangam, Kanjira and Ghatam. Most of these are used as accompaniments, but some of these like Vina, Flute, Nagaswaram and Gotuvadyam play the leading part in concerts. The Vina stands unique and is unrivalled for richness, delicacy and sweetness. The Violin, though a comparatively new instru-

ment, has been accepted as one of our avowedly important instruments, almost indispensable to concerts in South India.

It may be mentioned here that Indian music is based entirely on human voice. All compositions are confined to the range of human voice and so they range only in three octaves—not even over the entire range of three octaves; the actual range works out only to about two octaves, i.e., the middle octave (madhyasthayi), about half of the lower (mandarasthayi) and half of the higher (tarasthayi) octaves. Instruments only follow the voice and even when they are played solo they re-produce only vocal music.

SOME UNRECOGNISED ASPECTS

Music was recognised as having wider and deeper influences than are obvious. The effect of music on human emotions was studied carefully and relations established between some ragas and some typical emotions. Our ancient scholars and teachers have always recognised this inner, subtler and deeper aspect of music. It can calm a troubled mind and bring it peace; it can quieten a restless child and lull it to sleep; it can even subdue wild animals and serpents; it can cure certain types of physical and emotional ills. In a recent article under the title "Doctors now use Musical Therapy" I read a number of cases in which famous physicians and surgeons used music with great success in their work. Certain ragas were associated with certain periods of the day and also with certain seasons of the year.

Miraculous powers have also been attributed to music; it is believed that some ragas can cause rain and others fire and so on. Actual occurrences of such phenomena have also been recorded. The power of music to cure mental and physical disorders has been recognised; here is an interesting and useful field of research.

Above all, there is something inherently noble, beautiful and spiritual about Indian music. There can be no enjoyment more impersonal and sublimating than what it offers. It

prepares our very soul for something higher. While we are under its influence, our nature is open to higher influences. It is at such moments that we get glimpses of Divinity.

Indian music never loses sight of this high purpose—the realisation of Divine Bliss through beauty of sound. All the ramifications of the system are developed with this end in view. Indian music is not meant just to give a pleasurable sensation to the ear and stop there. Of course it pleases the ear, but that is only the first step. The vibrations in the air which cause this titillation in the ear set up corresponding vibrations in our nature; our emotions are affected; our mind is also influenced; even the vital currents in our body are affected by these vibrations. In the memorable words of the Chinese author Ya Ki :

> "..... When the spirit of conformity manifests itself, harmonious music appears..... under the effect of good music, the fine social duties are without admixture, the eyes and the ears are clear, the blood and the vital spirits are balanced, habits are reformed, customs are improved, the Empire is in complete peace."

As a nation has its own characteristic musical expression, one should be wary of introducing any new style in the musical system of that nation. Anything which goes counter to the basic culture of the nation should be discarded. Minor changes are of course inevitable; human society changes and new modes of living and feeling arise, but all this should fit in with the characteristic spirit and culture of the nation. That was why Plato warned people against changing the established musical style of a nation lest such a change should affect the very life of the nation and its established ideals. India has a great future and its music has also a great future; let us see to it that this future is not marred by any acts of commission or omission on our part.

In conclusion, I should like to make one suggestion. The Sangita Nataka Akademi which is making laudable efforts to help all phases of Culture in the country, will do well to organise an Annual Festival of Karnatak Music, in co-operation with other music institutions in the south. In such festivals opportunities may be afforded for the best exponents to be heard by all who like to hear them and also for rising artists to reveal their hidden talents to the music-loving public. Also recitals by North Indian musical experts should be arranged so as to give opportunity for mutual understanding and appreciation between the North and the South. After all Indian Music is essentially one unique system, only rendering varies in the North and the South. These two different styles of rendering only go to enrich the musical culture of the nation.

NOTE I

The names and the vibration ratios of the 22 intervals in the scale.

Sl. No.	Name.	Ratio
1.	Shadja	1
2.	Ekasruti Rishabha	256/243
3.	Dvisruthi Rishabha	16/15
4.	Trisruti Rishabha or Suddha Rishabha	10/9
5.	Chatusruti Rishabha	9/8
6.	Suddha Gandhara	
7.	Sadharana Gandhara	6/5
8.	Antara Gandhara	
9.	Chyutamadhyama Gandhara	5/4 81/64
10.	Suddha Madhyama	4/3
11.	Tivra Madhyama	45/32

Note:—

1. The name adopted here are those with regard to which there is greatest agreement.
2. The ratios are (70 cents) and more or less derived from the directions given by Ahobala.

12.	Prati Madhyama	64/45
13.	Chyutapanchama Madhyama	40/27
14.	Panchama	3/2
15.	Ekasruti Dhaivata	128/81
16.	Dvisruti Dhaivata	8/5
17.	Trisruti Dhaivata or Suddha Dhaivata	5/3
18.	Chatusruti Dhaivata	27/16
19.	Suddha Nishada	16/9
20.	Kaisiki Nishada	9/5
21.	Kakali Nishada	15/8
22.	Chyutashadja Nishada	243/128
23.	Tara Shudja	2

3. A careful study of Bharatha's Natya Sastra indicates that he recognised three different kinds of Ekasruti (micro-tone) of values:
(90 cents.
256
243
25
24
(22 cents).
81
80
(22 cents).

4. Chyutapanchama madhyama (40/27) is the Panchama of Ma-Grama.

NOTE II

It is possible that in earliest times in the history of Indian music the ideas of harmony and melody were both current. There are references in ancient Tamil literature to attempts at harmonisation. But subsequently they must have come to what might be called the parting of the ways. They must have found that harmony and melody could not co-exist and so they had to choose between them. As by then the raga concept had taken root (being in line with the characteristic Indian temperament, which is essentially individualistic), harmony had to be given up and melody began to hold the entire field.