



GENERAL CLASSIFICATION OF MUSICAL INSTRUMENTS

(Detailed study of the structure and playing technique of Tanpura)

INDIAN Music is considered to be one of the oldest and important systems of music in the world. Though, formally we relate its origin with Vedic period i.e. 4th Cent. B.C.; the evidences shows its existence much before that. Archeological excavations give us the trail to believe different varieties of Musical Instruments used by Indians, which dates back to millions of years. An expedition throughout India will disclose hundreds of instruments, belonging to the stringed, wind and percussion groups, each with a distinct shape, quality of tone, and technique of play. Instruments made of wood, bamboo, metal, and mud all shows our ancestor's inclination towards music and expertise in making distinct varieties of instruments and the techniques in playing. Musical Instruments were seen in the hands of the rich as well as the poor. While popular and costly instruments like Veena, Violin, Tanpura and Drums were seen in the mansions of affluent and royal palaces; simple & cheap instruments like Tuntina, Ektar, flutes and other simple drums are found in the huts of the poor.



OBJECTIVES

After learning this lesson, the learner will be able to:-

- mention the basic characteristics of Indian musical Instrument;
- explain the origin and evolution of musical instruments;
- identify the different Musical Instruments of India;
- recognize each musical instrument according to their classification.



Notes

6.1 PECULIARITY OF INDIAN MUSICAL INSTRUMENTS

As Indian Music is blended with mythology and age old treatises like Epics and Purana, its instruments are also associated with Gods, Goddesses and other semi divine people of Indian ethos. While some instruments like Veena, Venu, Mridangam are associated with Goddess Saraswathi, Lord Krishna, and Nandi; some instruments like Mahati, Katchapi, Tumburu etc. are personified with their proponent. Musicians even worship these instruments in several occasions for the best music out of it.

Indian Musical instruments have some distinguishing characteristics. Most of them have developed in such a way that it can play minute embellishments on each and every note. This trend might have continued only when Indian Music started giving more importance to Gamaka. It is for the same reason only the ancient instruments like Yazh and many varieties of Harp fell out of use. Keyed instruments like Piano, Harmonium and Clarinet did not become popular in India due to the same reason. Indian music is based on melody in which the musical notes progress in one after one mode, with mild shakes on particular notes; which is not possible in the keyed instruments as they will produce musical notes or chords with fixed pitch and not capable of producing subtle gamaka and quarter tones which alone can bring out raga bhava in Indian concept.



INTEXT QUESTIONS 6.1

1. Name a few instruments that are associated with gods and goddesses.
2. Name some instruments personified to their proponent.
3. What are the distinguishing characteristics of Indian Musical instruments?
4. Why the foreign instruments didn't become popular in India?

6.2 MATERIALS USED FOR MAKING MUSICAL INSTRUMENTS

Different kinds of materials are used in the manufacture of Instruments; like Wood, Animal skin, Metals, Clay etc. Jack wood, Black wood, Rose wood, Khadira wood, Himalayan pine, Tamukku are the trees supplying woods; in spite of Bamboo and other soft materials. Metals like gold, Silver, Bronze, Copper, and Iron from the metal Kingdom and skins of Sheep, Calf, Buffalo, and the hair from the tail of horse, and bones and teeth of certain animals like Elephant, are used in some instruments. In ancient times Mridangam was believed to have been made of clay as its name signifies; and earthen pot called Ghatam is used to be made of a special kind of Clay. On the right head of Mridangam, a black paste made of



manganese dust, boiled rice and tamarind juice is applied; and on the left face, a paste made of Sooji and water is fixed at the time of performance and scraped off after it. Wax is used for fixing the frets in Veena. In the same way, the bowl of Tanpura, Veena and Sitar are made off a vegetable called bottle gourd, from which the flush is scooped out and seasoned to make it hard and resonant as well.

The woods, bamboo, and reeds used in the manufacturing of musical instruments are treated to an elaborate process of seasoning. Trunk of a matured tree of more than fifty years is cut out and preserved for a long time to harden it under the sun light and soil before the body of the instrument is shaped out of it. When Veena, Gottu Vadyam and Tanpura are made, special care is taken to obtain wood from the same tree for different parts like bowl, stem, and head piece, to ensure the quality of sound and resonance. Instrument~ making is a very delicate and intricate art, as the craftsmen should have a sound knowledge of the kind and quality of the material to be used and principles of acoustics etc. Places famous for the instruments making are Tanjore, Trivandrum, Manamadurai, Chennai, Bangalore.



INTEXT QUESTIONS 6.2

1. Which are the trees that supply wood for making Musical Instrument?
2. Paste of what substance is put on the right head of Mridangam?
3. What material is used to fix the frets of Veena?
4. Which are the places famous for making Musical Instruments?

6.3 FOREIGN INSTRUMENTS

Indians, who are known for their tolerance, hospitality have accepted several religions, missionaries, and trader turned rulers, over the ages; and adapted several languages and culture along with them. In the same way, our music also received the instruments like Violin, Mandolin, Saxophone, Guitar, Clarinet and Harmonium and made a part of our own music. The effort of Baluswamy Dikshitar, and Vadivelu, should be lauded in this regard. Except violin, the other instruments entered in to the field of Indian Classical Music in the mid of twentieth century only. Some of these instruments are believed to have existed in India very long ago. However it is very clear that, we have not accepted any percussion instruments from abroad. We have made certain minute changes to these instruments to practice with our music at ease and perfection. While we have changed the order of strings in violin and playing technique, the Guitar is played with a piece of object-plectrum, like Gottuvaadyam- a very old Indian instrument.



Notes



Fig. 5.1: VIOLIN

**INTEXT QUESTIONS 6.3**

1. Which are the foreign instruments that we adapted in to our music?
2. Who all are responsible for the introduction of violin in Indian Music?
3. When the instruments other than violin became popular in Indian Music?

6.4 CLASSIFICATION

In general, musical instruments were classified into four heads from very ancient times, such as “Tatam, Avanadham, Sushiram, and Ghanam”. Musicologists like Bharata, Matanga Narada, Saranga Deva and others upholds this classification through their illustrated works.

*“tatamchaivaavanadham cha ghanam sushiramevacha
Chaturvidham tu vijneyamaatodhyam lakshanaanvitam”*

- Natya Sastra Ch.28 V.I

6.4.1 Tata Vaadya or Stringed instruments. (Chordophone)

Tata Vaadya or Stringed instruments are those in which sound is produced by setting strings into vibration. Music can be played in several ways in stringed variety of instruments. These may again be of various kinds according to the manner in which the vibrations are caused.

1. Plucked instruments, are those in which the strings are made to vibrate and produce sound, by plucking them with the fingers or with a plectrum. Examples of this type are- Veena, Gottuvadyam, Sitar, Sarod, Guitar, Tambura, Ektar and Dotar. These may also be called as Nakhaja.



2. The bowed varieties are those in which sound or vibrations are caused by the bow. Examples are Violin, Sarangi, and Dilruba. This may be said to be Dhanurja.
3. The plucked and bowed varieties may again be classified into those which have plain finger board. Here there are no frets to indicate the swarasthanas. Example- Violin, Gottuvaadyam etc.

The second variety is with frets as in the Veena, Sitar, etc.

4. Stringed instruments may also be like the Tampura, Tuaturia, Ektar and Dotar, where the notes are played on open strings. Here the entire length of the string will vibrate and it will not be manipulated by the left hand fingers. These instruments are mainly used for providing the sruti accompaniment



Fig. 6.2 : VEENA



INTEXT QUESTIONS 6.4

1. Under how many heads Musical Instruments have been classified & which are they?
2. What is Tata Vaadya or Stringed Instrument?
3. In which way Stringed Instruments are classified?
4. Give one example of all types of string Instruments?

6.4.2 Wind Instruments or Sushira Vaadya (Aerophone)

In Sushira Vaadya or wind instruments the sound is produced by the vibration of a column of air in a tube. The column of air is set to vibration by a blast of air directed into the tube.

Wind instruments are of two varieties:

1. Those, wherein the wind is supplied by the breath of the performer as in the Flute, Nagaswaram, Kombu, Ekkalam, Conch, Magudi and many others.



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2. Those, wherein the wind is supplied by some mechanical contrivance, commonly blown, as in the Harmonium and Piano.

The former is again classified into those where in the breath blown through mouth and blown through Nose. In ancient period, the Music Instruments were considered as very celestial and any instrument touched by the mouth considered as polluted.

The mouth blown varieties are again of two kinds:

- 1) Those in which the air is blown in through the hole on the wall of the instruments, as in the Flute.
- 2) Those wherein the wind is blown in through vibrating reeds or mouth pieces, as in the Nagaswaram, Shehnai, Mukhaveena, Clarinet and Oboe.

In some wind instruments, the sruti is fixed to the instrument itself. Example- the Magudi, where there are two tubes, one for producing the sruti and the other for producing the melody. These tubes are known as sruti nadi and swara nadi. These are known as compound wind instruments. The Nedunkuzhal also comes under this group.



Fig. 6.3 : NAGASWARAM



Fig. 6.4 : FLUTE



INTEXT QUESTIONS 6.5

1. What is Sushira Vaadya or wind instrument?



2. How the wind instruments are classified?
3. How did the nose blown instruments came in to existence?
4. Which are the two tubes in the instrument called Magudi?

6.4.3 Percussion Instruments or Avanadha Vaadya (Membranophone)

Avanadha Vaadya or Percussion instruments are those in which the sound is produced by the vibration of a stretched skin or by the vibration caused by striking two solid pieces of metal or wood together. Percussion instruments are generally used for regulating the speed of the music.

Based on the manner of playing, drums may be classified into:

1. Those played by two hands. Example - Mridangam.
2. Those wherein the heads are struck by two sticks, Example- Damaram, Nagara,
3. Those in which one face is played by the hand and the other by a stick. Example-- Thavil.
4. Those in which only one side of the instrument is played with hand or stick like in Khanjira, Timila, Edaikka and Chenta.

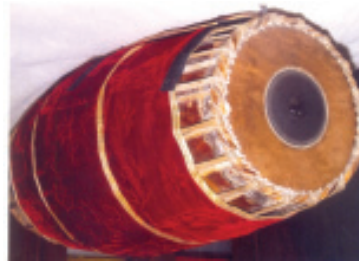
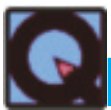


Fig. 6.5 : MRIDANGAM



INTEXT QUESTIONS 6.6

1. What is Avanadha Vadya or Percussion Instruments?
2. In which way are percussion instruments classified?
3. Name the Instruments that are played only on one side?
4. Name the instrument played with both the hands?



Notes

6.4.4 Ghana Vaadyas (Idiophone)

Many kinds of cymbals made of metal or stone are also used for keeping time. Examples - Jalra, Talam, Brahmatala, Nattuva talam, ilattalam and others. Jalra is used in bhajans and kalakshepams. Brahmatalams, which are larger in size, are used during temple rituals. Nattuva talam is used by the dance masters and Ilattalam is a part of kathakali band. Gongs like Semakkalam are used during temple and funeral processions. Chipla or castanets belong to the kathakalakshepam. Earthen pots made off clay mixed with several metals are also used to keep the time. This typical instrument is called as Ghatam. Musician keeps this instrument in his lap and plays with his both hands. All these are Ghana vadyas and they also belong to the percussion group.



Fig. 6 : GHATAM

6.4.4 IN TEXT QUESTIONS

1. What is Ghana Vaadya?
2. Give examples of Ghana Vaadyas that are used in different occasions?
3. Chipla or Castanet belongs to which type of art form?
4. Gongs like semakkalam are used in which occasions?

6.5 SHRUTI VAADYAS - DRONES INSTRUMENTS

Drones are musical instruments which provide the sruti accompaniment for any performance - Vocal, Dance or Instrumental music concert. Drones give out the key tone or adhara shadja to the singer or player. It is an indispensable part of a concert. Drones give stability and richness to a performance and are of a great help in creating a musical atmosphere. It is said that great singers like “Maha Vaidyanatha Iyer” was in the habit of making his Tambura player, start playing the



instrument on the stage, fifteen minutes before the actual beginning of the performance, so as to get the listeners attuned to the music which is to follow. The hall itself would be filled with the sruti and this would enable the artist to start his performance without taking much time to get into form.

Sruti vaadyas are always tuned to the pitch which is most suited to the singer's voice. He is at liberty to choose that sruti which will enable him to sing in all the three sthayis without any effort. An instrumentalist, giving a solo performance, also has the freedom to tune his vadya to the pitch in which he will be able to play easily. An accompanist like Violinist or Mridangist has to tune his instrument to the pitch of the main artist. This is not the case in Western music, where music is composed for a particular pitch or key and all the performers have to conform to that pitch.

In an Indian concert, the drone is kept sounding from the beginning to the end of the performance. The non-stop sounding of the sruti does not create a feeling of monotony, but on the other hand, it enriches the music, and gives stability to the whole performance. In some instruments, the pitch of the instruments is not adjustable like Flute. Without the drone, the pitch is liable to go up or down slightly, whenever a new song or raga is started, since there is no standardizing medium. Hence it is imperative that a sruti vadya should be employed in musical performances of all kinds.



INTEXT QUESTIONS 6.5

1. What is Drone?
2. Why Indian musicians need accompaniment of Drone throughout the time of concert?
3. What is the use of drone in the Indian musical concert?
4. Why western music do not require a particular Drone instrument?

6.5 TAMBURA

Tambura is the classical drone Instrument of Indian Music. A musical programme will not be complete without the continual accompaniment of this instrument. South Indian Tambura is made completely of wood; while in the North Indian Tambura the bowl is made out of bottle gourd and this instrument can be decorated with ivory and other costly materials. Tambura, made out of a single block of wood gives finest tone; but due to the non availability of such kind of wood, different



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parts are made out of the same wood and joined together. The different parts of Tambura are :-

1. Kudam (Belly) bridge, Naagapaasam, tuning beads and jeevali.
2. Dandi and neck.
3. Tuning pegs and strings.

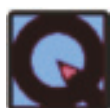


Fig. 7 : South Indian Tanpura



Fig. 8 : North Indian Tanpura

1. **Kudam Or Bowl** - This is the delicate part of the Instrument. This portion of instrument is carved out of a big piece of wood, which scooped out and covered with a thin sheet of the same. This portion helps the instrument to resonate the sound made by plucking the strings; as it is hollow. Four strings are tied to “Naagapaasam” which is fixed below of this belly and pass over the Bridge which situate over this. Some thin threads are used to keep these strings vibrate without touching the metal part of the bridge, which gives good resonance to the instrument. This is called as “Jeeva” or “Javaari” in north.
2. **Dandi and Neck** - Dandi is separated from the bowl by means of a projecting ledge of wood. This long portion is also scooped out and covered by a thin sheet of the same wood.
3. The Neck resume as Tail piece on which the four tuning pegs are attached in the holes meant for that and four strings are tied to these pegs and can be adjusted by, tightening and loosening of these pegs, the other end of these strings are tied to Naagapaasam. Normally the strings are tuned in the order of Madhya Panchamam - Two Taara Shadjam - Saarani, Anusaarani and finally mandra Shadjam.



INTEXT QUESTIONS 6.6

1. Which are the different parts of a Tanpura?
2. What is “Kudam,” in Tanpura ?



3. What is the longest portion of a Tanpura is called?
4. What is Naagapaasam in a Tanpura?
5. How many strings are there in a usual Tanpura?

WHAT YOU HAVE LEARNT

India is a rich country in musical instruments. Since pre historic period several kind of musical instruments are in use for different occasions of life. Since early period musical instruments are classified into four i.e. Tata, Avanadha, Sushire & Ghana according to the nature of the instruments and the way it is being played. Indian music adapted several foreign instruments and incorporated into our music system such as violin, Harmonium, mandolin etc.

Indian Music, which believed to be one of the oldest systems of Music in the world over and have originated during VEDIC Period; is very rich in its varied aspects like, Raga, Tala, Compositions and Instruments as well. In the process of evolution, it established certain principles which make it distinct from the other systems of Music. Its serenity in nature made the literature of all its compositions, sacred in nature and the Gamaka -minute embellishments, used for the Music, compelled other instruments, like Harmonium, Piano, Accordion etc. vanished from the music scene.

As human being Started using musical Instruments by imitating the nature and animals or birds; he procured the natural materials for making Instruments, like Bamboo, logs of special kind of woods, skin of certain animals and minerals. Teeth and horns of several animals are also utilized for making parts of quite a few Instruments.

Wide varieties of Indian musical instruments like Veena, Mridangam, Flute, Cymbal etc. are classified in to four types like Tata, Avanadha, Ghana, Sushira etc. These Instruments became an integral part of Indian Myths as every Instrument has got some connection with any celestial character of the Purana. Our ancestors have adapted several foreign Instruments of different civilizations. Stringed and wind variety of Instruments -emanate the melodic type of music; while the Avanadha and Ghana variety of Instruments are played to provide the rhythmic accompaniment to the former as well as Vocal Music.

‘Tampura’, is the another specialty of Indian Music as it provide pitch for the other Instruments and Vocal Music as well. Indian music, unlike other types of music, does not change the frequency in between a Music Concert. Tampura fulfils the purpose of giving drone throughout the time of a music concert.



Notes

**TERMINAL QUESTIONS**

1. Classify the Musical Instruments elaborately with examples.
2. Briefly explain the construction and playing technique of Tanpura.
3. Elucidate the kind of materials used for making Avanadha variety of Instruments.
4. Write about the different types of stringed Instruments.

**ANSWERS FOR IN TEXT QUESTIONS****6.1**

1. Veena, Venu, Mridangam are some of the Instruments connected to Gods.
2. Mahathi, Katchapi, Tumpuru are some of the Instruments personified with their proponent.
3. Indian Musical Instruments have developed in such a way that it can play minute embellishments on each and every note which can play one after the other, in a melodic way.
4. Because the foreign Instruments can't play Gamaka or minute embellishments.

6.2

1. Jack wood, Black wood, Rose wood, Khadira, Tamukku and Himalayan pine are some of the trees that supply woods for making Musical Instruments.
2. A paste of manganese dust, boiled rice and Tamarind juice put on the right head of the Mridangam.
3. Wax is used for fixing frets in Veena.
4. Tanjore, Trivandrum, Maanaamadurai, Chennai and Banglore are the places, famous for making Musical Instruments.

6.3

1. Violin, Saxophone, Mandolin, Clarinet, and Harmonium are the foreign. Instruments, that we adapted.
2. Baluswami Deekshitar and Vadivelu adapted Violin to Indian music.
3. In the mid of twentieth century only other Instruments became popular.



6.4

1. Indian musical Instruments are classified in to four categories such as Tata, Avanadha, Sushira and Ghana.
2. Tata Vaadya or Stringed Instruments are those in which sound is produced by setting strings in to vibration.
3. Stringed instruments are classified in to plucked, bowed, Plain fingerboard, Fretted etc.
4. Sitar, Veena for the first variety; Violin, Sarangi for the second variety and Sarod, Tanpura for the third variety and Guitar for the fourth variety.

6.5

1. Sushira Vaadya or Wind Instruments are those in which the sound is produced by vibration of a column of air.
2. Two; The instrument in which the air blown by mouth like in flute and those in which the air blown by the mechanical forces like Harmonium.
3. Nose blown instruments came in to existence because of the belief that any thing touched with lips are considered to be polluted.
4. The two tubes are shruthy naadi and Swara Naadi.

6.6

1. Avanadha Vaadyas or Percussion Instruments are those, in which the sound is produced due to the vibration of a stretched skin.
2. By the manner in which it is played, the percussion instruments are classified in to four types; Those placed on one side, those played on both side, those played with hand as well as stick and those played only by stick.
3. Khanjira, Timila, Edaika, and Chenta.
4. Mridangam, Ghatam etc.

6.7

1. Ghana Vaadyas are those rhythmical instruments made of metal or stones.
2. Jaalra, Brahma taalam, Ilattaalam, Nattuvataalam etc.
3. Chipla or Castanet belongs to Kathaakaalakshepam.
4. Gongs like Semakkalam used during Temple or Funeral processions.



Notes

6.8

1. Drones are the musical instruments that used for Shruthi accompaniment for all types of musical concerts in India.
2. Drones give stability and richness to the musical performances and helps the musician from slipping out of the original pitch.
3. Drone gives out the key tone or Aadhaara Shruti to the musician during the time of Concert.
4. In western music concerts, each and every composition is set to a particular pitch, which all the musicians have to confirm to that pitch.

6.9

1. Kudam, Naagapaasam, Bridge, Dandi, Neck, Tuning pegs and Strings are the different parts of a Tanpura.
2. Kudam is the round shaped hollow part in a Tanpura, which gives resonance to the Instrument.
3. The longest part in a Tanpura is called Dandi.
4. Naagapaasam is the small part from which the strings are originated in a Tanpura.
5. In a usual Tanpura, there will be four strings.

SUGGESTED ACTIVITY

1. Collect maximum number of pictures of Musical Instruments of India, and segregate them according to their classification.
2. Make a chart of musician's names, along with the Instruments in which they specialised.
3. Visit museum and collect the pictures of ancient and Music Instruments related to folk music.