Classification of Indian Musical Instruments

With the general background and perspective of the entire field of Indian Instrumental Music as explained in previous chapters, this study will now proceed towards a brief description of Indian Musical Instruments.

Musical Instruments of all kinds and categories were invented by the exponents of the different times and places, but for the technical purposes a systematic-classification of these instruments was deemed necessary from the ancient time. The classification prevalent those days was formulated in India at least two thousands years ago. The first reference is in the Natyashastra of Bharata. He classified them as ‘Ghana Vadya’, ‘Avanaddha Vadya’, ‘Sushira Vadya’ and ‘Tata Vadya’.1

Bharata used word ‘Atodhya Vadya’ for musical instruments. The term Atodhya is explained earlier than in Amarkosa and Bharata might have adopted it.

References:

Some references with respect to classification of Indian Musical Instruments are listed below:

1. Bharata refers Musical Instrument as ‘Atodhya Vadya’. Vishnudharmotta Purana describes Atodhya (Ch. XIX) of four types – Tata, Avnaddha, Ghana and Sushira. Later, the term ‘Vitata’ began to be used by some writers in place of Avnaddha.

2. According to Sangita Damodara, Tata Vadyas are favorite of the God, Sushira Vadyas favourite of the Gandharvas, whereas Avnaddha Vadyas of the Rakshasas, while Ghana Vadyas are played by Kinnars.

3. Bharata, Sarangdeva (Ch. VI) and others have classified the musical instruments under four heads:

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1 Fundamentals of Indian Music, Dr. Swatantra Sharma, p-86
i. Tata (String Instruments)

ii. Avanaddha (Instruments covered with membrane)

iii. Sushira (Wind Instruments)

iv. Ghana (Solid, or the Musical Instruments which are stuck against one another, such as Cymbals).

4. As pointed out by Dr. Shringy and Dr. Prem Lata Sharma, Sarangadeva’s treatment of all vadyas in a single (separate) chapter is a distinct departure from Bharata’s scheme where Tata and Sushira are taken along with the chapters pertaining to Swara and others treated separately.

5. *Sangita Ratnakara* gives another classification based on the function of the instruments: Sushkam (solo playing), Gitanugam (accompaniment to vocal music), Nrittanugam (accompaniment to dance) and Dvayanugam (accompaniment to both dance and vocal music).

6. Someshvara in *Mansollasa* (twelfth century) says that the instruments enhance the beauty and grace of dance and music, and for this reason, they have a pre-eminent place in both dance and music.

\[
Vadyen rajte geetam ch nrityam vadyavarjitam!!
\]
\[
Tasmadvadyam pradhanam syadvitmrityakriyavidho!
\]

According to him the instruments can be classified on the basis of number or kinds of strings (tantri bheda) and the manner of their performance.

7. In Abu Raja’s, *Ghunyat-ul-Munya* (1374 A.D.), we find the use of the term Vitata in place of Avanaddha.\(^\text{10}\) According to Lalmani Misra, Vitata became popular during the medieval period. Later, it gave way to the classic term Avanaddha. But, Maharana Kumbha (1433-68 A.D.) in *Pathyaratnakosha* follows the earlier classification.
8. Sangita Damodara (Fifteenth century) classifies the instruments as Tata, Sushira, Avanaddha and Ghana which shows that writers of music treatises in Sanskrit continued to use the term Avanaddha instead of Vitata. The work explains that instruments in which wires or strings were used are Tata Vadyas, instruments made of bamboo etc. are Sushira Vadyas, the instruments covered by leather are Avanaddha Vadyas and those which resemble to cymbals, produce musical sound in tala, are Ghana Vadyas.

*Tatam ch shushiram chath ghanam chaivavandhakam! ullahasa: kramsho vadya ratkoshe prakirtita:!!*

9. Shubhankara mentioned, tata vadyas are of the Gods, sushira the favourite of the Gandharvas, avanaddha of the Rakshasas while Ghana vadyas are played by the Kinnaras. In some of the dhrupadas attributed to Tansen, the instruments have been classified as Tata, Vitata, Ghana and Sushira.

10. In *Ain-i-Akbari*, we find classification as Tata (string), Vitata (over which skin is stretched), Ghana, and Sushira or Sukhira (wind) instruments. According to him, Ghana vadyas produce ‘resonance by the conclusion of two solid bodies’. This classification continued to be accepted as we find it in Faquirullah’s *Raga Darpana* and in *Tofat-ul-Hind* of Mirza Khan-ibn-Fakhruddin Muhammad.

11. Narada gave three classes, Charma (leather), Tantriaka (string) and Ghana (solid). Kohala has four groups: Sushira, Ghana, Charma, Baddha (covered with membrane), and Tantri. While the classes as given by Bharata have remained same through the centuries, some minor alterations in names have done. For instance, Anaddha is substituted for Avnaddha. Similarly, the word Vitata (without strings) is also used instead of Avnaddha. Haripaala in his *Sangeeta Sudhakar* mentioned four types of instruments: Sushira-Flute, Tata- Veena, Vitata-

\[\text{\footnote{2} Indian Music, Dr. Prem Lata Sharma, Pathyaratnakoasha, p.17} \]
\[\text{\footnote{3} Ibid} \]
\[\text{\footnote{4} Ibid} \]
Mridanga and Ghana-Cymbals. The oldest Dravidian term for ‘Instruments’ as found in the Sargam literature is ‘Karuvi’ which literally means a tool and in a musical context an instrument. There were five types recognised: Torkaruvi, Tulaikkarvi, Naramukkaruvi, Mitattrukaruvi and Kanchakkaruvi.\(^5\)

12. Dr. Swatantra Sharma description of four types of instruments is given below:

**Tata Vadyas (String Instruments)**

The string instruments vary in size, shape and number of playing strings used. All these string instruments were classified into two main heads by the eminent scholars of music according to the method of production of sound from them:

a) The instruments that are played with nails or a striker (plectrum) commonly known as a mizraba; Sitar etc.

b) The instruments that are played with a bow; Sarangi etc.

**Avanaddhya Vadyas (Membranophone Instruments)**

Avanaddya means “to be covered”, therefore, an instrument wherein a vessel or a frame is covered with leather is an Avanaddha Vadya. They are of drum species. These instruments are used for keeping rhythm and also time, that covers in a performance of music and dance of any country. It is believed that all varieties of drums are originated from the sound evolved from damru played by Siva. Siva is also considered to be the originator of the species of drum. Only twenty one varieties of drums are mentioned in *Sangita Ratnakara* viz, Pataha, Mardala, Hudukka, Kartala, Gjadasa, Ghata, Dhavasa, Dhaka etc. The records of these models and the practical use of these instruments are not available anywhere at present. Only the use of damru is still there in temples, shrines and also in religious rites.

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\(^5\) *Indian Music: A Perspective* by Gowry Kuppuswamy M.Hariharan, sundeep prakashan, delhi 1980, page no. 127
Ghana Vadyas (Idiophone Instruments)

The instruments of this group are usually played with a striker or hammer. Ghana Vadyas are not capable of producing definite pitches that are required for creating a melody. That is why their use is limited in classical music except for Jaltarang and the Kashtarang, with certain limits. The instruments such as Kansya Tata, Ghanta, Kshudra Ghantika, Jaya-Ghanta, Kanuna, Jaltaranga, Nala-Taranga, Kashta-Taranga and Kartala belong to this group.

Sushir Vadyas (Wind Instruments)

Like drums, the wind instruments, particularly trumpets and flutes, are also associated with social and religious functions. These instruments have their origin in primitive age as well as the later civilised societies. These wind instruments are termed as Sushir Vadya. We find the reference of Sushir Vadya in so many old texts, as in Sangit Ratnakar. Sarangadeva has mentioned ten types of Sushira Vadya. These instruments of all types are either mouth blown or bellows blown like bugles, trumpets, horns and different types of flute. People have found great delight in playing flute from the primitive age to the present age. In India, flutes are usually made by bamboo pieces. Flute has three types, Direct Flute, Transverse Flute and Vertical Flute. In Direct Flute, the wind is blown through a mouthhole as in Bansuri, Bans, Pungi, Algoza and Cornet. The Transverse Flute is blown through vibrating reeds of palm leaf and mouth pieces as in Shesni, Naga, Svaram, Clarinet and Bagpiper. In Vertical Flute, the column of air is set to vibrate by flowing obliquely the pipe as it is found in the ancient instruments of Greeks and Chinese. These categories mentions large variety of instruments used in Indian Classical Music, many have been for accompaniment as well or rather than for solo performance.
These four categories are further sub-divided as mentioned below:

- **Tata Vadyas or String Instruments**
  
  - Plucked-with frets: like veena, sitar etc.
  
  - Plucked- without frets: like vichitra veena, sarod, rabab etc.
  
  - Bowed- with frets: like dilruba, esraj etc.
  
  - Bowed- without frets: like sarangi, violin etc.

- **Avnaddha Vadyas or Membranophone Instruments**

  In these instruments, body of the musical instrument is made up of special clay, wood or metal;

  - Barrel shaped with both the sides open in the opposite ends e.g., Mridanga, Pakhawaja, Dholak, Madal etc.

  - Kettle shaped musical drums with only one open end e.g., Tabla, Bayan, Urdhwaka etc. is covered with best skin with the help of thin and long leather straps to keep the musical drum in perfect tone.

- **Ghana Vadyas Or Idiophone Instruments**

  In these instruments, sound is produced by striking instruments made up of metal or wooden pieces. Thus, these instruments are also called metallic instruments. It includes Jhanjh, Kartal, Manjira, Chimta and Talam, etc.

- **Sushir Vadyas or Wind Instruments**

  - Blown- with mouth by breath: like flute, shahnai, mouth organ etc.

  - Blown- with some mechanical devices: like, harmonium.
Over the last fifty-odd years, *Sangeet Natak Akademy* has acquired a large number of musical instruments, masks, puppets, headgears and other artifact of archival interest. The main aim of the Sangeet Natak Akademy is the preservation and promotion of performing arts in India. In aim of its objectives, the Sangeet Natak Akademi, together with its manifold activities maintains a museum and gallery of musical instruments. It showcases the rich heritage and legacy of performing arts as well as musical instruments from different regions of the country. While on the one hand it provides research material to scholars and specialists, it has been useful for documentation work, for students of all levels, and to those members of the general public who are interested in performing arts and music. The collection comprises over 2000 objects relating to the performing arts. These include musical instruments, masks, puppets and headgears. The Gallery of Musical Instruments in Sangeet Natak Academy was inaugurated by the distinguished violinist, Yehudi Menuhin on 13th February, 1964. Methodical collection began in 1968 with the Akademi organising an exhibition of about 400 folk and tribal musical instruments in Delhi. Acquisitions have been made regularly since then, and the holdings supplemented by gifts from musicians and visiting troupes. There are about 600 musical instruments, out of which 250 are on permanent display representing instruments from different streams of music. The instruments have been classified as *Wind instruments* (aerophonic) including Bansuri and Nagaswaram; *String instruments* (chordophonic) including Dilruba and Veena; *Percussion instruments* (membranophonic) including Tabla, Mridangam and (idiophonic) Bortal, and Ghatam. Among the rare instruments are the Kachwa Sitar of North India and Gettu Vadyam of Tamil Nadu. A list of classified musical instruments is also given in *Sangeet Karyalaya*, Hathrasa’s *Sangeet Bhartiya Vadya Ank*, published in January 2004.

Today, Bharata’s four major groups are accepted. However, for technical purposes in-depth classification is necessary. According to the latest attempts, there are sixteen kinds of Ghana; eleven of Avanaddha, twelve of Sushira and
fifteen of Tata Vadya, leaving aside the modern electronic instruments. Although the classification of Indian Musical Instruments introduced by Bharata is accepted till date, there are a few instruments which cannot be classified under these four heads. Instruments which come in this category are, first of all, of the Tarang group such as Jal-tarang, Kashtha–tarang, Nal-tarang, Tabla-tarang and Mridanga–tarang etc. According to Prof. Lal Mani Misra, all these instruments of the Tarang group should be classified under a new head as Tarang-Vadya. Some musicologists have also classified musical instruments as Chordophones, Aerophones, Membranophones and Idiophones. In the latter half of the Twentieth century, new electronic instruments such as Electronic Tanpura, Talmala and Talometere, etc. has emerged. This new category of instruments is known as Electrophones. Electrophones are the instruments in which sound is generated by electrical means or is conventionally produced (as by a vibrating string) and electronically amplified. Electronically amplified conventional instruments include Digital Tanpura, Digital Tabla, Electronic Sruti Box (Sur-Peti), Digital Lehra (Nagma), Talometer Taala-Aid-Carnatic Music, Digital Music Trainer, Digital Electronic-Veena, Digital Swarmandal, Guitars and Pianos etc. It is often considered a fifth main category.

Electric instruments and electronic devices are still in a very premature stage and are meant only to assist the artists in their practice sessions. They have been adopted by the musician community very well, and by all means would go a long way and multiply in many varieties within a short span of time.

**An Introduction of Famous Musical Instruments**

In India, the role of different cultural groups to the general pool of instruments is remarkable in the history. There are at least five hundred instruments, inclusive of those used in classical, folk and tribal music. As a brief study, the scope of study is limited to some of the famous musical instruments as tabulated below.
<table>
<thead>
<tr>
<th>String Instruments</th>
<th>Wind Instruments</th>
<th>Percussion Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chordophones</strong></td>
<td><strong>Aerophones</strong></td>
<td><strong>Membranophones</strong></td>
</tr>
<tr>
<td>Tanpura or Tambura</td>
<td>Flute</td>
<td>Mridanga</td>
</tr>
<tr>
<td>Veena</td>
<td>Shahnai</td>
<td>Pakhawaj</td>
</tr>
<tr>
<td>Sitar</td>
<td>Nagaswaram</td>
<td>Tabla</td>
</tr>
<tr>
<td>Surbahar</td>
<td>Magudi</td>
<td>Tavil</td>
</tr>
<tr>
<td>Sarod</td>
<td>Shringa or Kombu</td>
<td>Nagara</td>
</tr>
<tr>
<td>Surshringar</td>
<td>Alghoza</td>
<td>Chenda</td>
</tr>
<tr>
<td>Gottu Vadyam</td>
<td>Harmonium</td>
<td>Dhol</td>
</tr>
<tr>
<td>Rabab</td>
<td>Tumbak-Nari</td>
<td>Kartala</td>
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<tr>
<td>Sarangi</td>
<td></td>
<td>Pambai</td>
</tr>
<tr>
<td>Dilruba</td>
<td></td>
<td>Damru</td>
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<tr>
<td>Esraj</td>
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<td>Timila</td>
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<tr>
<td>Santur</td>
<td></td>
<td>Duff</td>
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<tr>
<td>Ravanhatho</td>
<td></td>
<td>Khanjira</td>
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<tr>
<td>Swarmandla</td>
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<td></td>
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<tr>
<td><strong>Violin</strong></td>
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</tr>
</tbody>
</table>

Table 3.1: General Classification of Famous Musical Instruments
String Instruments or Chordophones

From rudimentary folk beginnings, string instruments have now reached the heights of concert glory, giving endless moments of ecstasy and delight to listeners. The sound of a series of tight metallic strings is capable of creating an enchanting experience of strength and emotion. As the player slides over the notes, the listener experiences moments of ecstasy and delight. String instruments are also termed as Chordophones, which means string sounds.

1. Tanpura or Tambura

Tanpura is a string instrument, which is also known by the name of ‘Tambura’. The name 'Tanpura' is probably derived from *tana*, referring to a musical phrase and *pura* which means "full" or "complete". Both in, its musical function and how it works, the tanpura is a unique instrument in many ways. It supports and sustains the melody by providing a very colorful and dynamic harmonic resonance field based on one precise tone, the basic note or key-note. It is used all over India with its endless varieties for drone accompaniment.

Generally, Tanpuras are found in two different sizes. Larger one is recognised as Male Tanpura (or Tambura), while the smaller one is identified as Female Tanpura (or Tamburi).

According to traditional background we may classify Tanpura/ Tambura in the following styles i.e. Miraj, Tanjore and Tamburi.

Physical Structure of Tanpura

In appearance the Tanpura is like the southern veena, without the latter’s second gourd and elaborated head-piece. The bowl is usually a large one, from ten inches to one and a half feet wide. The best tamburas are made of jack wood or a
hollowed-out gourd. The overall length of the instrument varies from three and a half – feet to five feet. The belly is usually slightly convex. The bridge, placed on the bowl in the centre, is made of wood or ivory.

**Strings and Pegs:**

There are four metal strings, of these, three are made of steel and one is made of brass. The strings pass from holes in a ledge near the peg. The tuning pegs of the first and second strings are fixed at the side of the neck; those of the third and the forth strings are at right angles to the head. Little pieces of silk or wood placed in certain positions between the strings and the main bridge serve to improve the tonal effect and enable one to hear the overtones of each string clearly. The strings are attached directly to the narrow ledge fixed to the body. There are beads threaded upon the strings, between the bridge and the attachment to which they are secured. These beads, pushed down in the direction of the attachment, act like a wedge between the belly and the strings; by thus stretching the strings, they serve to alter the pitch as required. This contrivance renders accurate tuning easier.

**Bridge:**

The most important part of the tanpura or tambura is the wide bridge made out of different materials- ebony wood or ivory, stag horn or even camel bone.
Manufacturing

The finest tamburas are made in Miraj, Lucknow and Rampur in the North. In the South, Tanjavoor, Trivendrum, Vizianagaram and Mysore are famous centres of manufactures; tanavoor tamburas are beautifully carved and ornamented with ivory.

Tanpura Strings and Method of Tuning

The modern method of tuning is always done in the Sadjagrama.

<table>
<thead>
<tr>
<th>Strings:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swaras:</td>
<td>Pa</td>
<td>Sa</td>
<td>Sa</td>
<td>Sa</td>
</tr>
<tr>
<td>Swaras:</td>
<td>Ma</td>
<td>Sa</td>
<td>Sa</td>
<td>Sa</td>
</tr>
</tbody>
</table>

There are some special ways to tune Tanpura; it depends on the type of Tanpura one have and the Raga to be played. According to the most refined principle, Tanpuras are most attentively tuned to achieve a particular tonal shade in function of the intonation-related qualities of the raga. These more delicate aspects of tuning are directly related to what Indian musicians call 'Raga Svaroop', which is about how very characteristic intonations strengthen the tonal impression of a particular raga.

Similar Instruments:

Tuntune, Ektar & Tamboora
The externalisation of the tonic into the drone and its emergence in our classical music has caused revolutionary changes in our music and musicology. It is not contended that the drone made a sudden appearance without any relation to the development of our music or that it never existed in any of our musical forms. Drone instruments such as ektara, dotara, chautara, tuntune, upang, gopijantra, bowed instruments like ravanhatta and various versions of regional sarangis, and also locally made zithers such as kinnari and jantar were used to provide the basic note, i.e. the drone, and were also used for accompaniment as well as for these presentations. Till date a local bard uses the ektara, which provides the basic note (drone). He also plucks the string in a particular manner so that it can provide a rhythmic backdrop to his singing.6

2. Veena

“Veena is mother of all string instruments”.

This can be said with conviction because we even find the goddess of learning Saraswati, holding the Veena in her hands. Rishi Narada also is said to have wandered about in the earth and heaven, singing and playing on his Veena. It is considered as one of the oldest and most important instruments used in our Indian Classical Music. “The largest variety of musical instruments in India is

6 Classical Music Instruments, Dr. Suneera Kasliwal, p.236
found among the string instruments. Most, respectable among them is Veena, which occupies the first place and has done so since time immortal”.

The Veena adapted itself to the style of Dhruvapada *Anga Alap* which preceded a Dhrupada recital. It was often played as an accompanying instrument. In course of time, however; it was able to establish itself as an independent solo instrument and was capable of producing all the intricate embellishments of the vocal Alap. It may not be out of place, therefore, to discuss the different angas (parts) of Veena Alap.

**Traditional Background**

In ancient India, the term Veena was used in a generic sense, intended to refer to any string instrument - monochord, polychord, bowed, plucked, fretted, non-fretted, zither, lute or lyre. Scholars are of the opinion that the word veena might have been derived from its ancestor Vana, a string instrument mentioned in the *Rig Veda*, and later in the *Atharvaveda*, Katyayana used the word vana with hundred strings. Vana means to sound. The term Vana has been derived from the word ‘Van’ which means sound (shabda) or speed (gati). The word ‘Van’ conveys the idea of both sound (shabda) and the tone (swara), and so does the term veena. From the references it can be concluded that vana was the most ancient type of string instrument were designed after it.7

In Rigveda, we came across with the word Vana which represents the veena with hundred strings. In *Pancha Vimsha Brahmana*, it is known as the shatatantri veena made of wood with a gourd covered by the skin of a red ox. Behind it were ten holes in which ten strings of Munja Grass or Durva Grass were fastened. It was played with the help of a bamboo plectrum (Kona). The commentator Sayana has mentioned the Kshouni Veena in connection with the Vana. We also find the mention of the Kanda Veena which was no other than the

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7 Historical Development of Indian Music, Swami Prajnananda, pp 443-44
Bamboo flute. Besides these we find references of the Piechola and the Udumvara Vani made of “Udumvara” wood. When the samaga Brahmans and Yajmans used to sing the samagana before sacrificial alters, their devoted wives played the Godha and piechora veenas along with the Khandaveena, (the Bamboo flute). The mouth of the Gourd of the Godha Veena was covered with the skin of the Godha in connection with the Panchavimsha-Brahmaa, Dr. Caland says Behind the Choristers the wives of the yajamanas take their seat. Each of them has two instruments a Khanda Veena and a Piechora; on these they play alternately, first on the Khanda Veena then on the Piechora.

In *Ramayana* (400 B.C.), Valmiki has described the Vipanchi Veena with nine strings. The detail description of which is found in Bharata’s *Natyashastra* (2nd century AD). Again in the Ramayana (400 B.C.), Veena has been referred to as Laya and Tantric. The Veena played a prominent part in the Music performances in royal courts and private chambers. It is said that Lava and Kusa used Ekatantri Veena in the Ramayana. In Harivamsaha we find different types of Veenas used by the kings, brahmans, yadavas and samagas.

The Yamala Tantra has also given twelve kinds of Lakshanas, besides the Uddisa-Maha-Mantradaya-Tantra describes different kinds of Veenas. They are Talanilaya, Sallari, Patana, Mandala, Bherivigna, Himila, Thuthuka, Mithakktha, Damru, Murava, Angulisrhoto, Aalmani, Ravana Hasta, Udyanta, Ghosavati, and Brahmaka. After Ramamatya, almost all the musicologists of India dealt with the problem of Veena as it formed the basic medium for the determination of the tones and microtones of the Ragas of the Indian Music. So it can be said that all the string instruments (Tatayantra) of India have their origin in Veena. The ancient Kacchapi or Ksyapi is known in the modern times as the Kacur-Sitar.

Kachhapi was some times termed as the Veena of the Goddess Saraswati. The Tritantri-Veena is some what similar to Kachchapi and the Kinnari lies in the number of their strings and structures. The former contains five to seven strings
where as the latter only three. The kinnari was known as Rudraveena. In Afganistan and Persia the Rudra Veena is called as Rabab and Rabia, respectively.

The Sanskrit name of saroda is Saradiya Veena and it is played by the plectrum (Kona) instead of finger (Anguli). The swarasringar is also a kind of veena and it is said that Veenkara Peeyar Khan constructed this instrument out of the veenas, mahati, kachchapi and rudra. The Surbahara is also a changed form of Kachchapi, Jambura, Tambura or Tanpura which is known as the Tumbura Veena. The Nadeswara Veena looks like violin but its arrangements of the strings and frets are like those of kachchapi. It is stated in Bharata’s Natyashastra that the Veena is similar to Rudra and Kachchapi.8

According to **G.N. Subramanyam**, different kinds of veena are mentioned below:

1. Veena of the Vedic time was called Khanda Veena.
2. Sayinacharya has mentioned the veena as Marud Veena.
3. **Vana** in “Vajasenaya samhite” at the time of Naramedha. They used to sing with the Veena. In Shatapatha Brahmana and Taittariyabrahmana it is stated that the Veena was an accompliment for dance. That veena was consisting of hundred strings and was called as Vana.
4. **Nakhi** in Iyattareyaranyaka an instrument called “Daiveveena” mentioned the other name for that is “Nakhi”.
5. **Daive Veena** in “Iytttareyabrahmana” the name of the Veena is compared to the human body created by God. Each part of the Veena is compared to human body.

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8 Veena –G.N. Subramanyam, p-13
6. **Manushi Veena** in *Iyvanajyabrahmana* the name of the veena is mentioned as “Manushiveena” played by man, made of wood.

7. In Chandogyaupanishat the name of the Veena metioned **Katyayana Veena** or **Shatatanri Veena**.

8. **Vipanchi Veena** consists of nine strings.

9. **Ekatantri Veena** - Lava Kusha used to sing Ramayna with the help of this Veena.

10. The details of **Vipanchi Veena** are mentioned in *Sundarkanda*.

11. The detail of **Kinnari Veena** is in *Kishkindha-Kanda*.

12. Sarasvati, the Godess of speech and eloquence patroness of arts and science is having **Kachhapi Veena** in her hand. Since the Koda of the Veena is in the tortoise shape, this Veena is called “Kachchapi”.

13. Viswavasus’s veena was called as **Bruhathi Veena**.

14. Tumbura’s veena was called as **Kalavathi Veena**.

15. Devrshi Narada’s veena was called **Mahathi Veena**.

16. In puranic days, it is mentioned in “Brahmapurana” Daksha was using **Tumbur Veena** at the time of offering prayer to Mahadeva.

17. Narada’s veena was called as **Vallaki Veena**. This is mentioned in Harivamsa and “Bhagvatapurana”. Narada used to offer prayer to *Hari* with the help of this Veena.

18. The description of **Chitra Veena** is in Guptalajathaka and “Buddhas” Jathaka also as an authority. This veena consists of seven strings. This veena was used for solo performances. The details are in Bharata’s *Natyashastra*.
19. The detail of the **Vipanchi Veena** is mentioned in Bharata’s *Natya Shastra*. This Veena consists of seven strings.

20. **Daruveena**

21. **Gatra Veena** is mentioned in the book of *Naradeeya Shiksha*.

22. **Alabu Veena** is mentioned in the book of “Shiksha” written by *Panini*.

**Point No. 23 to 36:** After 7th century, the book written by Narada called Sangeetha Makaranda finds the description of these Veena’s mentioned below:-

23. **Kujatha**

24. **Vahanthi**

25. **Parivadhini**

26. **Jaya**

27. **Ghoshavathi**

28. **Jyeshtha**

29. **Nakuli**

30. **Vishnavi**

31. **Brahmi**

32. **Rowdri**

33. **Kurmi**

34. **Ravani**

35. **Sairandri**

36. **Ghoshika**
Point No. 37 to 39: Parshavadeva-the author of Sangeethasamayasara has mentioned the names of these veenas:-

37. Aalapini
38. Laghukinnari
39. Bruhathkinnari

Point No. 40 to 45: The names of these are mentioned in Sangeeta Ratnakara:-

40. Pinaki
41. Harithaka
42. Owdhumbari
43. Tharangi
44. Aalapini
45. Mattakokila

Point No. 46 to 48: Swaramela Kalanidhi written by Ramamatya in 1550 has given the description of these veenas:-

46. Shuddhamela Veena
47. Madhyama Melaveena
48. Achutharajendramela Veena

Point No. 49 to 51: Somanatha (1609) author of Ragavibhodha has mentioned the names of these veenas:-

49. Rudraveena
50. Shuddhamela Veena
51. Madhyama Mela Veena

Point No. 52 to 56: The particulars of these Veenas are mentioned in Vadyaratnakaosha:-

52. Nishyanka Veena
53. Shruthi Veena
54. Padhma Veena
55. Swaramandala
56. Vamshaveena

Point No. 57 to 63: Rajaradhakanta Deva - author of Shabadkalpa druma has mentioned these names.

57. Hasthika
58. Sarangi
59. Trishathi
60. Nivedya
61. Shhushkala
62. Kapilasi
63. Madhuspandha

Point No. 64 to 66: These names of the Veenas are mentioned in Ragakalpadruma written by Krishnananda Vyasa.

64. Bansari
65. Pundala
66. Vouktha

Point no 67 to 69: These names are mentioned in Shabdakalpadruma.

67. Dwanimala

68. Vangamalli

69. Kantakoonika

Telugu author Palkurke Somnatha (1270) has mentioned about 34 types of Veenas in the book Panditharadhya Charita. In Jaina Ramayana, he has mentioned that Ravana was the devotee of Jineshwara. When he was offering prayers to Jineshwara, by playing veena, one of the strings was broken, but he continued his prayer by tying one of his body guts to the veena and continued his prayer without disappointment.

70. Shruthi Veena - These are six kinds of veena.

(a) Ekatantri : Consisting of one string
(b) Nakuli : Having three strings
(c) Tritantrika : Having three strings
(d) Chitra : Having seven strings
(e) Vipanchi : Having nine strings
(f) Mattakokila : Having twenty one strings

Point No. 71 to 74: Sarangadeva

71. Swara Veena

72. Kinnari

73. Pinaka
74. Nishanka

Point No. 75 to 77: Mentioned in the book of SWARAMELA-KALANIDHI-author Ramamathya.

75. Ekamela Raga Veena: This veena consists of six frets. The frets are not fixed. They are movable. While playing different ragas, the position of the frets has to be changed according to the swarasthas. There are seven strings in this Veena.

76. Sarvaragmela Veena: This veena consists of six frets and four strings.

77. Been: The Rudra Veena described in the book of Sangita Ratnakara is the same as Been. Both of these contain seven strings and fourteen frets.

Point No. 78 to 82: Venkatamukhi- author Chathudanda Prakashika (1620) has described in his books.

78. Shuddamela Veena

79. Madhyamamela Veena

80. Raghunathendra Veena

81. Ekamela Raga Veena

82. Sarvaragamela Veena

There are various kinds of veena, but mainly they belong to two categories: South Indian and North Indian. The South Indian Veena is more complicated and is called Saraswati Veena. As the name implies, this instrument is supposed to be the favourite of Saraswati, the goddess of learning. Some of the Veenas have the painting of the goddess on the body. The North Indian Veena is called Vichitra Veena and has no frets.
**Southern Veena (Saraswati Veena)**

The southern veena consists of a large body hollowed out of a block of wood, generally jackwood. The stem of the instrument is also made of the same kind of wood and the bridge is placed on the flat top of the body. The neck is attached to the stem and is usually carved into some weird figure like the head of a dragon. Its construction however renders it for purposes of melody a far more perfect instrument than either of the latter, and although its tones are not so full and rich, its compass is larger, and it is, in skilled hands, capable of producing a much greater variety of effects.

**Physical Structure**

The names of the various parts of the southern veena are as follows:

i. Kayi or body formed of thin wood and hollowed out of the solid.

ii. Gvantu, a projecting ledge, often of ivory, separating the body from the stem.

iii. Langaru,* metal fastenings have rings sliding upon them which can be used in tuning to after the pitch slightly, without turning the tuning pegs.

iv. Dhandi, neck, made hollow.

v. Yeddapalaka or belly. Small sound holes, in circles of about 2 inches diameter, are placed on each side of the strings, about 1 inch above the bridge.

vi. Dhandipalaka, a piece of thin wood covering the hollow of the neck underneath the frets.

vii. Maruvapalaka, two ledgers, each about ½ -inch in height, projecting from the dhandipalaka and to which the frets are secured.

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*Musical Instruments of India, S.Krishnaswami, p-28*
viii. Metlu or frets formed of “half around” bars of brass or silver about 1/6\textsuperscript{th} – inch thick.

ix. Cupe, a cup or socket of some metal into which the burra or calabash is fastened; these cupes are often of silver and richly chashed.

x. Burra, or calabash, a kind of hollow gourd attached to the underside of the neck, near the head, to increase the volume of sound.

xi. Pallumanu or nut a piece of ivory over which the strings pass, placed between the pegs and the finger – board.

xii. Mogulu, small ivory pegs answering the purpose of nuts, over which the side strings pass.

xiii. Gurram, bridge.

xiv. Bhirtu, tuning pegs.

The burra or calabash is secured to the neck by means of a nut and screw, and is detachable.\textsuperscript{10}

**Strings and Tuning Method**

The four large strings are termed saranis and are named thus:

<table>
<thead>
<tr>
<th>String</th>
<th>Sarani</th>
<th>String Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Sarani</td>
<td>Thinnest Steel</td>
</tr>
<tr>
<td>Second</td>
<td>Panchami</td>
<td>”</td>
</tr>
<tr>
<td>Third</td>
<td>Madaram</td>
<td>Brass or silver.</td>
</tr>
<tr>
<td>Fourth</td>
<td>Anumandaram</td>
<td>”</td>
</tr>
</tbody>
</table>

The instrument is tuned in one of the three ways following:

1. In pancham sruti
2. In madhyam sruti
3. In madhyama sruti\textsuperscript{11}

\textsuperscript{10} The Music and Musical Instruments of southern India and The Deccan, C.R.Day, p-112
\textsuperscript{11} The Music and Musical Instruments of southern India and The Deccan, C.R.Day, p-112
Playing Techniques and Melodic Execution

The method of playing upon veena is rather different from that of other Indian instruments. The left hand is employed to stop the strings on the frets and the right hand is employed to strike with. Strikes are called “mehtu”, and are of three kinds, Kutra – mehtu, Toda- mehtu and Gotu- mehtu.

The wrist is laid almost upon the edge of the belly, and the hand is slightly arched upwards; the first and second fingers are above, and are used to strikes the large strings, all strikes being made with the nails downwards. Players upon the veena purposely allow the nails of the right hand to grow rather long, for this instrument is never played with plectra. The side strings are sounded by the third and fourth fingers of the right hand moved upward.\(^\text{12}\)

Sitting Posture

To play the veena, the performer sits cross-legged upon the floor and holds the veena in front. The small gourd on the left thigh, the left arm passing round the stem so that the fingers rest easily upon the frets. The main body of the instrument is placed on the ground, partially supported by the right thigh. Sometimes the performer sits cross-legged upon the ground as before but holds the veena vertically by placing the body of the instrument in front of him or on his lap. This method of playing is more popular in Andhra Pradesh.\(^\text{13}\)

The veena is held in one of the 3 following positions:

Posture I: The performer sits cross-legged upon the ground, and holds the veena so that the calabash almost touches the left thigh, the left arm passing round the stem so that the fingers rest easily upon the frets. The body of the instrument is upon the gourd, partially supported by the right thigh.

\(^\text{12}\) The Music and Musical Instruments of southern India and The Deccan, C.R.Day, p-112
\(^\text{13}\) Musical Instruments of India, S.Krishnaswami, p-28
Posture II: The calabash almost touches the left thigh as before, but the right knee is bent upwards, the body of the instrument being in front and resting upon the ground, touching the right leg, which prevents it slipping away.

Posture III: The performer sits cross-legged upon the ground as before, but holds the body of the instrument in his lap, the finger-board being vertical.

Northern Veena (Vichitra Veena)

The vichitra veena came into limelight towards the beginning of the 20th century. Of all the modern string instruments in vogue of India, the vichitra veena seems to be one of comparatively recent origin. It is used mostly in North and is a rare instrument.

Physical Structure

In general appearance and structure the vichitra veena is very similar to the northern bin or veena. For an instrument so young, it is fairly widespread. The main difference between the northern veena and the vichitra veena is that the former is a fretted instrument with a bamboo stem while the vichitra veena has a much broader and stronger wooden stem without frets which can accommodate the large number of main and sympathetic strings. The hollow stem, about three feet long and about six inches wide, with a flat top and a rounded bottom, is
placed on two large gourds about a foot and a half diameter. An ivory bridge covering the entire width of the stem is placed at one end. Six main strings made of brass and the steel run the whole length of the stem and are fastened to wooden pegs fixed to the other end.

The vichitra veena has about twelve sympathetic strings of varying lengths which run parallel to and under the main strings. They are usually tuned to reproduce the scale of the raga which is being played.

**Playing Technique and Melodic Executions**

The vichitra veena is played by means of wire plectrum (mizrabs) worn on the fingers of the right hand which pluck the strings near the bridge. The notes are stopped with a piece of rounded glass, rather like a paper weight. The musician slid the glass piece from one note to another over the strings by holding it in his left hand. It is difficult to play the fast passages on the vichitra veena but slow emerge on this instrument with a beauty and richness of tone which few other instruments posses.

Some of the delicate graces and embellishments in very fast passages have to be sacrificed. The vichitra veena has these advantages in common with the gottuvadyam of the South.

It is said that vichitra veena was introduced by the late Ustad Abdul Aziz Khan who was a court musician at Indore. In fashioning the instrument, Ustad Abdul Aziz Khan, during the musical contacts with the South, probably took his ideas from the southern gottuvadyam which was already popular.
3. Sitar

The Sitar is one of the most well known string instruments of modern era.

**Traditional Background and Development**

It can be said that the origin of Sitar must be influenced by the Veena, which was one of the most popular and useful instrument of ancient times. When we discuss the origin of this instrument, it can be seen that there are various views prevalent where different opinions are given by different scholars; hence there is no unanimous opinion.

We will now discuss some of the major opinions which are prevalent regarding the instrument.

1. As we already know that the Veena is considered as the mother of all instruments, the Sitar is basically said to have been derived from the ancient veena.

2. The most popular belief regarding the origin of Sitar which has been dominating so far especially in popular accounts, gives credit to the Central Asian Indian poet and musician, Amir Khusrao (who lived in the
court of the Delhi sultan Alauddin Khijli) for the invention of the Sitar in the thirteenth century. According to this belief, Amir Khusrao invented this instrument from a Persian instrument. This view, regarding the invention of the Sitar by Amir Khusrao, is also aired by some western scholars and authors including Captain N.A. Williard, Ethel Rosenthal, etc. On the other hand there are many, who do not believe in this claim.

3. There is another opinion which claims that the Sitar one of an Iranian or Persian origin, having come to India along with the Muslims. There is no doubt that in Iran, there were certain instruments like Ik-tar, Du-tar, Sitar and Chow-tar, which were prevalent, but their structure was different from the Indian instruments.

4. According to one opinion the word Sitar has derived from the Persian word Seh-tar. She means three in Persian and Tar means strings i.e. an instrument having three strings.

5. One view maintains that the Seh-tar is the same name for the Tri tantri Veena of India. It is said to have developed from the Tri-tantri Veena by increasing the number of strings from three to five, then to seven and then making further modifications, which later on resulted in the invention of Sitar.

6. Another opinion is that when the trade between India and Persia flourished, the Persians took the Kacchapi Veena to their country and then named it as the Sitar. The Veena already existed before the time of Amir Khusrao.

7. According to the famous Sitar maestro Pandit Ravi Shankar, “He (Amir Khusrao) was also a modifier of many instruments to which he offered Persian names. For example, he modified the facts on the old Parivadini or Tri-Tantri Veena, which means “Veena of three strings” in Sanskrit. He
renamed it Jantar which literally means the same thing in Persian. Today of course this is known as Sitar”.

8. One opinion believes that the Sitar is derived through a hybridisation of an unfretted long necked Lute with a fretted stick Zither having gourd resonators. The evidence available in visual arts indicates that unfretted long necked Lutes were fairly popular in India as early as the tenth century, the Tanpura was fully developed in its modern form. Many depictions of the Tanpura are found in the miniature paintings of the Mughal period. The structural similarities of the modern Tanpura and Sitar suggest that these two instruments share a related history.

9. According to B.C.Deva, “all available clues make us suspect that the Tritantri was a Zither from which, of course, a Lute cannot evolve. More correctly, therefore a plausible line of sophistication might be sought in the Sehtar or Saitar of Kashmir. This is a Lute smaller than the Sitar. Its fingerboard projects from a gourd resonator and bears a number of gut frets. It has a wide or narrow Bridge and seven strings. Thus, the shape of the Lute, the movable gut frets and the name make it a very likely prototype of our concert instrument.”

10. Pandit Debu Choudhuri is of the view that the Sitar had to pass through a long process in taking its modern shape, from Tritantri Veena to Jantar and from Jantar to Sitar.

11. The view which was adopted by Dr. Lalmani Mishra and some other scholar was that, Sitar has come to its present form after going through a series of changes since 13th-14th century A.D. From the seventh to thirteenth century A.D., we see that the Ekatantri, and Kinnari Veenas were prevalent. The Ekatantri was without frets while the Kinnari had frets. It is said that as a result of further developments which took place on

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14 *Music Memory, Pt. Ravi Shankar, pg. 9*
the Kinnari Veena, The Rudra Veena came into existence. It is said that
the Tritantri Veena (also referred to as the Jantra by Kallinath in his
commentary on Sangeet Ratnakar as mentioned before); developed into
two types of instruments; one being the Tambura and other Sitar. These
two forms of instruments were referred to by some scholars as Anibaddha
and Nibaddha Tanpura.

12. According to another opinion, the ancient Saptatantri Veena went through
a series of changes to be known as the Saptatar, then Sattar then Satar and
finally came to be known as the Sitar. Pandit Omkarnath Thakur is
amongst scholars supporting this opinion.\(^{15}\)

**Physical Structure**

Sitars are made of Tun or Sheesham wood. Its length is approximately four
feet. It contains a sound box, one finger board, besides the main strings seven
only; nine to thirteen strings more on it which produce resonance. All these
strings are fitted to the right side of the instrument one after the other and seven
pegs (Khunti) are fixed for holding these strings.

The body of Sitar is made of a round guard cut into two unequal halves near
the care and the semi-circular bigger half is used its main body that serves the
purpose of the sand box, (generally called Tumba) Sitar contains various parts or
components. Main parts of sitar are Tumba, Tabli, Gullu, Dand etc.

\(^{15}\) The Plucked Instruments of Northern Indian, Dr. Prateek Choudhuri, p. 5-6
The main parts of a Sitar are as following:

**Tumba:** It is a round or flat guard. Originally the gourd was almost flat, like the back of tortoise and therefore such a sitar was called kachchawa. The name kachchapi was also given to a type of veena for the same reason.\(^{16}\)

**Tabli:** It is a peace of thin wood that covers the cut portion of tumba.

**Gulu:** It is the middle portion of sitar called the shoulder.

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\(^{16}\) Musical Instruments of India, S.Krishnaswami, p-29
**Dand:** It is the finger or keyboard of the instrument, on which frets are placed as notes. The finger-board of the sitar is about three feet long and three inches wide, hollow and deeply concave, covered with a thin piece of wood. There are sixteen to twenty two slightly curved frets of brass or silver. These are secured to the finger-board by pieces of gut which pass underneath. The arrangement makes it possible for the frets to move so that intervals of any scale can be produced.

**Pegs or Khunti:** The Pegs or Khunti are made of Shishem wood. There are two sizes of pegs, one is big and the other is small. These pegs have small holes to hold the wires.

**Langot:** The Langot is a triangular piece of deer horn affixed to the bottom of the Tumba, flush with Tabli. Its function is to provide an anchor to which all of the playing wires are attached.

**Nut or Taar Gahen:** Nut or Taar Gahen is an ivory plate fixed on the upper part of the Dand.

**Frets:** These are made from a thick brass rod. These rods are tied on the finger board or Dand with nylon threads and are movable, thus allowing perfect tuning. Usually there are nineteen frets which are standard for the modern Sitar but again this varies from seventeen to twenty frets depending upon individual players.

**Strings:** The sitar originally had only three strings, but the modern instruments have a total number of seven strings which are fastened to pegs on the neck and sides. These include the side strings (chikari) used both for the drone and the rhythmic accompaniment. There are eleven or twelve sympathetic strings (tarab) which run almost parallel to the main strings under the frets. These are secured to small pegs fixed at the side of the finger-board. The sympathetic strings are tuned to produce the scale of the melody which is being played.17

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17 Musical Instruments of India, S.Krishnaswami, p-29
**Bridge or Javari:** The Bridge is placed on the heart of Tabli. It is made of either ivory, bone or horns of Deer and is called *Javari*. Javari is the heart of instrument and is fixed and placed on a wooden platform called *Savari*. To ensure the correct pitch of each string and proper leveling, two pieces of ivory or bone are fixed across the Dand near the tuning pegs on the other end. Out of seven strings, five of them pass through holes and over the specified places.

**Beed or Manka:** It is made of ivory or bone. The first string called *Baj ka Tar* is passed through it. Beed is placed between bridge and end pin. Breed is used for slight tuning generally for first and second string is modern time.

**Playing Techniques and Melodic Executions**

The sitar is played by means of a wire plectrum (mizrab) worn on the forefinger of the right hand. The thumb is pressed firmly upon the edge of the gourd so that the position of the right hand should change as little as possible.

All the styles peculiar to instrumental music namely alap, jod, jhala, meend, etc., can be played on this instrument with telling effect. Long, unbroken musical passages such as the tanas of the vocal music are rendered by stretching the string laterally against each fret. In this way it is possible to produce as many as six notes on a single fret.

The sitar has a phraseology or bols of its own, for instance the characteristic da da and dir dir. After alap, jod and jhala begins the regular playing or the gat with tabla accompaniment. There are two popular styles of playing the gats which are named after two illustrious players called Maseet Khan and Raza Khan who first introduced them. The Maseetkhani style of gat playing has a slow tempo as its special characteristic while the Razakhani is known for its fast tempo and display with tabla accompaniment. Thus, we can say, that Gat is known as the main composition in Sitar. Gat contains the set of instrumental pieces accompanied by Tabla. First of all, a musician establishes the form of raga by a
proper Gat, then only he shows the variations and layakaries but again he leads to Gat properly.

Kinds of Gat

There are two kinds of Gat, Maseet Khani Gat and Rajakhani Gat

Maseet Khan of Delhi was the prominent artist – who made Maseet Khani Gat. Maseet Khani Gat is also called Delhi Baj. Boles for this Gat are – Dir, Da Dir Da Ra, Da Da Ra. These gats are played in slow and medium Laya. The arrangement of strokes or bols for these gats has been fixed in such a way that these may make a complete phrase of 16 beats or matras, with a fixed starting point from 12th beat.

Raza Khan of Lucknow made Raza Khani Gat. These gats are played in medium and fast speeds with a vast variety of strokes or boles. Traditional Razakhani Gat which start with Sam (1st beat), Khali (9th beat), 7th beat or 13th beat of Teental. In this composition stroke patterns remains “da dir dir dir dar, dar, da” are to be played along with other stroke patterns. If this stroke pattern is not played then it is called Drut Gat.

Sitting Posture

The sitar should always be played in exact sitting posture as it is one of our traditional instruments. For this purpose we are giving only one and best sitting posture for the learners.

Half or Semi Squat ted Posture

1. This is one of the best posture for playing sitar.

2. According to this posture the left knee is kept inside and the right leg knee remains slightly raised up and stretched a bit.

3. The Tumba of the sitar should keep on the toe of left foot
Other than above sitting posture there are some other postures too, but we prefer the half or semi squatted posture. Holding sitar in a proper sitting posture is very important because it helps the player to play conveniently and to feel relaxed while playing. Here are some certain ways to follow for holding sitar-

1. Tumba of the sitar should keep on the heel of the left foot and right forearm should be kept firmly in such a way that it can hold the sitar without the help of the left hand.

2. The pressure of the right forearm should not affect the right wrist, thumb.

3. The left arm should be free so that it can move freely.

4. While playing, the right arm - wrist should not move and special care has to be taken.

5. The instrument should be quite close to the player and angle of holding the sitar approximately at 45 degree.

6. While playing sitar, thumb of the right hand should firmly fixed, near the last fret and the Gulu.

Positions of Hands

Right Hand Position

1. The thumb of the right should be kept near the lowest fret and it must be at the side of the Dand.
2. The Position of thumb should be relaxed but stable.

3. The finger and thumb should be in loose state so that stiffness may not cause in holding sitar.

4. The thumb should not move from place to place, it should be fix at one place.

5. The striking point with the Mizrab (plectrum) should be in between the lowest fret and the bridge, but it is much close to the lowest fret.

Left Hand Position

1. The Left Hand fingers are kept on the frets and the thumb on the back of the finger board.

2. The beginner may pull the instrument closer to his body or lean over its neck in order to place the fingers properly, but it is not an appropriate state because it may harm to the sitting posture or may incontinent while playing.

3. The left hand thumb should press lightly on the back of the neck in a position directly parallel to the index finger.
4. Generally, first and second finger of light hand is used, for playing sitar. These fingers should keep on frets in graceful and relaxed manner.

5. One should not directly press the string or pull the string on the top of fret but it should be done with the help of the tips of the fingers.

6. Sitar should have the support of only right hand. The left hand should be free for playing on frets. The players should be able to hold the sitar in the proper position without using the left hand at all.

4. **Surbahar**

The Surbahar is one of the most fascinating instruments of northern India. The Surbahar is specially suited for playing serious classical styles of Hindustani music. The Gats and Todas of the sitar are not played on the Surbahar. However, alap, jod and jhala in the Dhrupad style are commonly played. Sometimes bols and jhalas of the North Indian bin are also played on it to the accompaniment of the pakhawaj.\(^\text{18}\) It is a large-size bass sitara, with a flat rather than rounded gourd in the base, and a rounded sitara type, gourd-resonator at the top. In its contemporary form, the surbahara has a string-count identical to the present-day sitar, the difference being in the thickness of the strings, the pitch at which the instrument is tuned, and the tuning system covering four octaves.\(^\text{19}\)

\(^{18}\) Musical Instruments of India, S.Krishnaswami, p-30

\(^{19}\) Hindustani music- A Tradition in Transition forward by Pt. Shiv Kr. Sharma, Deepak.S.Raja, p-299
Traditional Background

The instrument Surbahara was derived about 120 years ago. According to some scholars, beenkar Umrao Khan of Lucknow, who belonged to Tansen’s tradition through his daughter lineage, had a large sitar made and named it Surbahar, to teach the alap and jod alap of dhrupad anga to his favorite students. Ghulam Mohammad was one of them. S.M. Tagore has attributed the invention of surbahar to Ghulam Mohammad. He made a new sitar of novel designs with the help of instrument makers. The credit of for introducing it and popularising it (with playing techniques) goes to Ghulam Mohammad and his son Sajjad Muhammad. The intention behind the invention of this new instrument was to incorporate the whole alapchari of been in an instrument which was neither traditional nor complicated as been.20

Apart from Ghulam Muhammed Khan and Sajjad Muhammed, the names of some of the great surbahar players include Imdad Khan, Inayat Khan, Bimala Khanto Raychaudhuri, Jiten Sen and so on. Mushtaq Ali Khan (who belonged to Senia Gharana) was one of the great exponents of the Surbahar. He played it in its traditional style. Daughter of Allaudin Khan, Annapurna Devi a very imaginative and a high ranked artist, also plays the surbahar in traditional style, but as she never gives public performances, her music remains more or less unknown to the public. Santosh Banerji of Calcutta, who was attatched the Department of Instrumental Music, Rabindra Bharati University, Calcutta, is an accomplished surbahar player. He learnt the art of Surbahar playing from beenkar Mohammed Dabir Khan, the grandson of Rampur. For this reason, his specialisations are alap, jod and jhala, in which he faithfully, maintains the purity of Ragas. Imrat Hussain Khan, son of Inayat Hussain Khan, Pushpaaj Koshti is also famous Surbahar player. The surbahar had a relatively small span of life. It remained popular from the middle of 19th century until the beginning of the 20th century. Surbahar players

20 Classical Musical Instruments, Suneera.Kasliwal., p-129
were quite knowledgeable and traditionally sound in the rendition of alap and jodalap anga.

**Physical Structure:**

The surbahar is actually just a large sized sitar. Its body is made of wood with a flat resonator like kachhua sitar, covered with a comparatively thin plate of wood tabli. Its strings are thicker than those of the sitar and the instrument is therefore tuned to a much lower pitch. The tuning and the technique of playing is the same as in the sitar but the tone is much deeper.²¹

1. **Gulu**- The fingerboard and the resonator are separate parts joined together carefully, and this is called gulu.

2. **Finger-board**- The fingerboard is quite wide on which seventeen to nineteen metal frets are fastened with silk thread.

3. **Dand and Pegs**- The upper portion of the dand, culminating into a peg box, accommodates five or six large pegs for the main playing strings on the either side.

   The peg box is usually fashioned to look like the head of the snake or a bird.

4. **Gourd and Bridges**- An extra resonator of gourd of small size is fixed just below the meru (upper bridge). The two bridges, one for the main strings and the other for sympathetic strings, are fixed upon the soundboard. The wood used is preferably tun. However teak or deodar is also occasionally used.

²¹ Musical Instruments of India, S.Krishnaswami, p-30
Manufacturing

Kanailal and Hiren Roy of Calcutta were famous for making excellent surbahars. Nowadays, as the instrument is not in much demand, it is not available off the shelf in shops and can only be obtained by placing an order with the instrument makers of Calcutta, Delhi and other places.

(Kartar Chand Makin Surbahar in Delhi)

Tuning Method and Strings

The surbahar has seven strings including two chikaris (drone) and eleven to twelve sympathetic strings, fixed upon the fingerboard just below the main strings. The tuning of the instrument is done exactly the same way as it is in the sitar.

Playing Techniques and Melodic Execution

The idiom of the Surbahara speedily achieved great sophistication. Initially, it was plucked, like the bina, with bare fingers, but has been played, at different stages and by different musicians with one, two, and even three mizrabs (plectrums).

The playing technique of the Surbahar is quite different from that of the sitar, which is more influenced and inspired by been music, as it is more suitable for the alapchari of been anga than the fast rhythmic pieces played on the sitar. Its sound is deep and mellow. Because of the wide fingerboard, the string has an exceptional capacity to be stretched, and the notes of even one octave higher can
be played from each fret on the main playing string itself. The resonance and sustenance of sound is also greater than that of the sitar.

Until 20th century, sitarists presented the dhrupad style of alapa on the surbahara, followed by post-dhrupad styles of composition on sitara. As sitara evolved technically and stylistically, it took over the elaborate dhrupad-format alapa, and added further sophistication to it. As a result, during the latter half of the 20th century, the surbahara suffered a steady depletion in the number of competent performers, although not in the size of audience.

5. **Sarod**

The Sarod is one of the most popular instruments of the string variety in the North. The Sarod is one of the leading instruments of Hindustani music today. The origin of the Sarod like that of the sitar is undocumented and surrounded by ambiguity. Though it is not known for certain where the Sarod originated, it has been suggested that it is a descendant of the rabab, a popular instrument of the Middle East. The famous Tansen seems to have played a kind of rabab in Akbar’s time. Though built on the principle of the rabab the Sarod has a few structural modifications which make it suitable for the purpose of rendering all the subtle graces of Indian music.

By joining links it can be concluded that the instrument sarod is an outcome of the combination of the structural characteristics of the Seniya rabab, Afghani rabab and the sursingar. However, if we take into consideration tuning
and the technical aspects, which are strikingly similar to the Seniya rabab, one is tempted to contend that the instrument is indigenous.

**Traditional Background**

It is said that Khan Saheb Asadullah Khan introduced this instrument in Bengal more than a century ago and since then Bengal become noted for manufacture and popularisation of this instrument. Of late, Uttar Pradesh, Punjab and other parts of the country have also taken to this instrument. According to E. S. Perera, ‘The invention of the Saroda is claimed to be by the Kabuli rabab players who settled down in India around the second half of the 19th century. They were quite inspired by the Seniya style of the instrumental music and were probably attempting to change the form and quality of the sound, maneuverability and the ways in which their “modest” rabab could have been played better. These attempts were supposed to be the first stage in the process of the invention of their respective instruments with a distinct structural pattern.

The invention of Sarod is claimed by the descending students of the two Afghani gharanas of Sarod players, Niyamatullah Khan’s gharana and Gulam Ali Khan’s gharana. Niyamatullah Khan, one of the claimants for inventing the Sarod, became a student of Basant Khan, while the latter was in the services of Wajid Ali Shah. Later, Niyamattulah moved to Nepal where he served the king for thirty years. Descendants of his gharana claim that he was responsible for some of the most vital modifications in the sarod, such as metal strings and metal plate of the fingerboard. His two sons Karamatullah and Asadullah (better known as Kaukubh Khan), carved out a niche for themselves as renowned in Sarod music in Calcutta.

The modifications introduced by Niyamatullah Khan in the existing sarod during the years 1858-69, as claimed by his son Karamatullah Khan, are documented in his book Israri-Karamat urf Naghmat-i- Niyamat and Risala Sitar (1908). Although the world of saroda recognizes several streams, its idiom is
currently represented by three main lineages. The rababa-inspired idiom of Ustad Hafiz Ali Khan, an early twentieth century maestro, was diverted towards a khayal style vocalism by son, Ustad Amjad Khan / Radhika Mohan Maitra stream has reinforced its rababa- oriented idiom in the music of its contemporary exponents, Buddhadev Dasgupta and Kalyan Mukharjee. The rababa and rudra veena based style of Ustad Allauddin Khan inspired the genius of his son, Ustad Ali Akbar Khan, to launch the most comprehensive exploitation yet of the distinctive acoustic features of the re-engineered saroda.

**Physical Structure**

With high-quality instruments, the resonance body, the neck and the peg box are made from one single piece of wood. The type of wood that is used is mostly tun or teak wood. Simpler and more inexpensive Sarods are composed of two parts. Here, the peg box is put on separately. The wooden body that is covered with goatskin has a thin horn bridge across which the strings are running. The fingerboard on the neck consists of a polished, shiny steel plate and does not have any frets. The Sarod has a second soundbox made of brass which is fixed to the top end of the neck. It has both, playing strings and drone strings. The playing strings are fingered or plucked; the drone strings are vibrating at the same time, but are not struck themselves, and produce an echo-like effect. The Sarod is from three to three and half feet long and is made of wood. One end of the body is rounded, nearly a foot in diameter and covered with parchment. The round part gradually joins the neck.

Various parts of Sarod are as following given in the image on next page:
Sarod

- Peg box
- Khunti (peg)
- Small tumba extra resonator of metal
- Tar gahan (nut)
- Extra bridge
- Melody strings
- Dand Fingerboard
- Steel plate
- Khunti-tarab (pegs for sympathetic strings)
- Tarab (sympathetic strings)
- Chamara (goat skin parchment)
- Pyala
- Ghuruch (bridge)
- Soundbox
- Striker
- Langot (string holder)
Strings and Tuning Method

There are six main strings including the chikari for the drone and rhythmic accompaniment. All the strings are metallic. They are fastened to pegs at the neck end of the instrument. Some varieties have a small gourd attached to the neck end.

The finger-board is covered with a polished metal plate to facilitate the sliding of the fingers while playing. The Sarod has eleven or twelve sympathetic strings which help to improve the resonance. The traditional tuning system, practiced by the lineage of Pt. Radhika Mohan Maitra, uses five strings for melodic execution. They are tuned to Middle-octave ma, the tonic (sa), lower-octave pa, lower octave sa, and ultra-lower pa, thus providing a melodic canvas of virtually four octaves. The last three constitute a chikari (drone) set, with the innermost tuned to the tonic, and the outermost two tuned to the higher-octave Sa. In the modern system, as practiced by Ustad Ali Akbar Khan and his disciples, the first four limiting the melodic canvas to three-and-half octaves. In addition to the conventional chikari set, this system, however, includes a set of three strings, mounted at a lower level, and tuned either to a chord or a melodic phrase compatible with the scale of the raga. The contemporary Saroda has fifteen sympathetic strings (sometimes fewer) mounted below the primary strings. They are tuned to the scale of the raga.

Playing Techniques and Melodic Execution

The instrument is played with a plectrum held in the right hand while the fingers of the left hand are used for stopping the strings and playing the notes. This plectrum is known as ‘jawa’ and is made of coconut shell. Formerly, a plectrum made of wire was used, which was not good enough. After many experiments with various materials such as horn, stone, etc, it was found that the coconut shell is best. All the characteristics styles of the instrumental music namely alap, jod, jhala and meend can be rendered perfectly on this instrument.
the lower octave, the tone of the Sarod is rich and vibrant. In the middle and higher octaves, the notes are more brightly illuminated. The Sarod is mainly a solo instrument. In recent years it has secured an important place in the composition of the modern Indian orchestras owing to its deep and rich tone blends easily with other instruments. Melodic execution techniques on the saroda can be divided into three different types. (a) sliding of the finger along the finger board without lifting the fingers from the melodic string (b) execution by the alternative / successive use of the two fingers on the same melodic string (c) multiple-string execution inevitably requiring the alternative/successive use of two fingers.

**Sitting Posture**

The performer normally sits with his right knee folded over his left knee. The left foot, folded to the right, supports the bulbous chamber resonator. The centre of the stem is supported on the right thigh at an incline of 15/20 degrees. The instrument is stable in this posture, leaving the left hand free to move at will for melodic execution. The instrument is laminated with shellac. Most sarodists hold the plectrum between the thumb and first grip. They believe that this produces a better percussive punch, and provides superior bi-directional mechanical efficiency.

The right arm wraps around the base of the chamber resonator, the forearm rests at the root of the base, and uses wrists-movements for stroke-play, almost equally in both directions. The posture and the manner of handling the instrument result in the strokes being near-vertical. The downward is aided by gravity, while the upward is weakened by having to work against it. Because of multiple-string melodic execution, the span of the movement in each direction is about 3.5 inches, the maximum rotation the wrist can manage with the forearm firm at the base.

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22 Musical Instruments of India, S.Krishnaswami, p-30
6. Surshringar

The surshringar is a combination of three instruments of the string variety found in the North India.

**Traditional Background**

One opinion is that the surshringar was first made by late Nawab of Rampur, Syed Kalb Ali Khan Bahadur. But the more popular view seems to be that it was introduced by the famous brothers Pyar Khan, Jaffar Khan and Basit Khan who flourished in the early part of the 9th century. Great musicians in themselves, they were also directly descended from the celebrated Tansen. Mohammed Ali Khan, son of Basit Khan, who lived in Rampur and later in Lukhnow, was a master of the surshringar and the last descendant of Tansen. It is said that the sursingar was invented by Jafar Khan Rababia, the court musician of Maharaja Udit Narayan Singh of Varanasi who lived in the early part of the nineteenth century. Because of its size and the nature of its body, the lute has a very fine tone; but it is a pity that one very rarely hears this veena now and there are few musicians who play it at present.\(^{23}\) The surshringar is a combination of

\(^{23}\) Musical Instruments- B.C. Deva, p-131
three string instruments, namely the Mahati Veena, the Rabab and the Kachchapi Veena. The small gourd and the neck to which the strings are attached are features of the mehati veena; the finger-board with the metal plate is very much like the type of rabab which Tansen played; and the main body is similar to that of the kachchapi veena, popularly called the kachchapi sitar with its flat gourd resembling the back of tortoise.

**Physical Structure**

The surshringar is somewhat like the rabab in shape, but with a wooden belly, and played with an iron plectrum. There are, as a rule, two frets only, the finger-board below the frets being generally of metal, so that the fingers may slide easily over it. The length of the instrument is about 4 feet, and its tone is rich and mellow.24 There are six main strings which are placed on a flat bridge. There are two additional strings for the drone and rhythmic accompaniment.

**Playing Techniques and Melodic Execution**

To play it, the instrument is placed in front of the performer and held in a slanting position so that the upper portion rests on the left shoulder. The strings are plucked with wire plectrums (mizrabs) worn in the fingers of the right hand and the notes are held with the fingers of the left hand. The polished metal plate on the finger-board facilitates the sliding of the fingers thus making it easier to produce the gamakas and other graces of Indian music. The surshringar is restricted to serious types of music, mainly the Dhrupad and Dhamar styles. After playing the alap of the Raga in Vilambit, Madhya and Drut laya (slow, medium and fast tempo), the performers usually ends the recital with varieties of jhalas played to the accompaniment of the pakhawaj.

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24 The Music and Musical Instruments of Southern India and the Deccan C. R. Day, p-121
The surshringar is a difficult instrument to practice upon and hence is not popular. However, there are few masters in the North who maintained the traditional style of playing this instrument.

7. Gottuvadyam

The Gottuvadyam is one of the important concert instruments of the string variety in the South. It is similar to the southern veena, the main differences being that unlike the veena it has no frets.

Traditional Background

The Gottuvadyam is primarily an instrument for solo playing. It has been in vogue in southern India for the past 70 or 80 years. With another reference Gottuvadyam appeared on the music scenario of the Carnatic system about 150 years ago. Scholars assume that the instrument is a modified and developed form of the ektantri veena or some of its variants, as the technique used to produce notes is the same as that of the ekatantri. It was brought into vogue by the famous musician Sakharam Rao of the Titrvindaimarudur, a village on the banks of the river Kaveri. It was further popularised all over the India by a palace musician of Mysore, Narayana Iyengar, who used to call instrument Mahanataka Veena.

25 Classical Musical Instruments, Dr. Suneera Kasliwal, p- 209
In recent times, N. Ravikiran, son of Narasimhan and grandson of Narayana Iyengar, has taken this instrument to new heights. He started playing on this instrument in his early childhood and gave his first performance at the age of twelve. Other stalwarts of this instrument include Budalur Krishnamoorthy Shastrigal, Mannargudi Savithri Ammal, M. V. Varahaswami, Gaytri Kassabaum and Allam Koteeshwara Rao. Since many young artists are attracted to this instrument, the future of the gottu vadyam looks fairly secure and full of possibilities.

**Physical Structure**

The pear-shaped bowl of the Gottuvadyam is scooped out of a block of wood. While the northern vichitra veena is built on the same principle as the Gottuvadyam, the heavier body of the latter gives a deeper and rounder tone than the vichitra veena.

**Gourd:** The instrument is made out of a log of wood, preferably of jackwood, teak or ebony. It is about forty two inches long & four inches wide. The main sound chamber called *kudum* is scooped out of the main log of wood along with its fingerboard, while the second resonator is made of a gourd, and is attached with the help of a screw.

**Strings:** The Gottuvadyam consists of six main strings which pass over the bridge placed on the top of bowl. There are three side strings for the drone and rhythmic effect. The instrument is also provided with a few sympathetic strings which pass over a small bridge. According to some other scholars, the numbers of sympathetic strings are twelve, which also pass through a small bridge near the main bridge and go just under the main set of strings, and are tied with the pegs. It is interesting to note that this is the only instrument of Carnatic music which has sympathetic strings”. The music is played by moving a cylindrical piece of heavy polished wood or horn over the strings. The Gottuvadyam has a range of four to
four and half octaves. Raga alapana, tanam, pallavi, and all other musical forms that are possible on the southern veena can be rendered on this instrument. Most of the gamakas and graces can be brought out beautifully.

**Manufacturing**

Best Gottu Vadyam is made in Tanjaur, a southern city, where it is elaborately decorated with silver mounting.

**Sitting Posture & Playing Technique**

In general appearance it looks like the Tajauri veena without frets. The instrument is put in front of the player while playing. In his left hand, the player holds gottu, a cylindrical polished solid piece of hard wood, preferably ebony, of about three inches. He slides this cylindrical piece upon the strings and thus different notes are produced. In right hand a couple of plectrums are worn to strike the strings. Both the styles vocal (gayaki) as well as the instrumental (tantrakri) can be played successfully on this instrument.

8. **Rabab**

The Rabab is a popular string instrument of the plucked variety in Middle East. It is found in almost all the Mohammedan countries and differs only in shape. The Indian rabab is used principally in Kashmir, Punjab and Upper India; its use in other parts is confined to Mahomedans.²⁶

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²⁶ The Music and Musical Instruments of southern India and the Deccan, C.R.Day, p-126
Traditional Background

It is popularly believed that the famous Tansen of Akbar’s court used to play a kind of rabab. The disciples of Tansen divided themselves into two groups, the rababiyas and the binkars. The former used rabab while the latter used the bin (northern veena). Among the great masters, Pyar Khan, Bahadur Khan Sain were highly competent rababiyas.

Physical Structure

The instrument is made of wood. It has a double belly. The first is covered with parchment and the second with wood.

Strings: In general there are four strings-three of gut and one of brass; the two upper strings are sometimes doubled and tuned alike, in which case of course, the instrument has six strings. Sympathetic strings of metal are usually attached at the side. Four or five catgut frets at semitonic intervals are sometimes found. The Rabab is a handsome instrument, and when well played is very pleasing. The tone resembles that of a banjo and no meend or glissando is possible on the instrument. The names of the six gut strings are zeer, mian, sur, mandra, ghor and
The seniya rabab is hollowed out of single block of teak, tun or deodar wood. The total of instrument is around three to three and half feet.\textsuperscript{27}

**Resonator and Finger-board:** The resonator is round shaped and is about two inches in diameter, covered with goat skin. The fingerboard is around one-and-a-half feet long which tapers down into the peg box. Six pegs, three on either side, are fixed in the peg box, which is usually decorated and open. Sometimes a stand is fixed on the bottom portion of the peg box, perhaps to support the instrument.

**Bridge:** The shape of the bridge is of typically Indian character, flat and board, made out of wood, which is fixed upon the skin-covered parchment, and all the six strings pass over it. The finger-board is covered with a thin wooden plate.

**Playing Technique and Melodic Execution**

It appears that the Indian rabab exercised a very considerable influence on the history of string instruments in the West, since it was through it that the bow was introduced to the West. The rabab became the rabab of Persia and Arabia to which the parentage of the violin family is ascribed. The peculiar shape of the violin and viola etc. very nearly resembles that of the rabab. The shallow pinched belly of the rabab was apparently designed to facilitate bowing through the Indian rabab still remains a plucked instrument. Rabab is played with a plectrum made of coconut shell, ebony, bone or any other hard material. The rabab was a fretless instrument and the strings being of gut, suffered from certain limitations and therefore, it was more suitable for the rhythmic elaborations. Fast rhythmic patterns of madhya jod anga were characteristic to the rabab termed as lada-lapeta, lad-gunthava kattar and tarparan.

\textsuperscript{27} Musical Instruments of India, S.Krishnaswamy p-160
9. Sarangi

The sarangi belongs to the bowed chordophone family of short-necked fretless lutes. It is found in various forms all over the Indian subcontinent. The sarangi family originated as folk instruments, and now includes the sophisticated acoustic machine used in classical music. The Sarangi takes prominent place as an accompaniment to the main artist in a vocal music concert in the North. It is suitable both for solo playing and for accompaniment. It is easy to produce all types of gamakas on his instrument. In fact it is said to be closest to the human voice. The tone of the Sarangi more nearly resembles that of the viola than any European instrument, and when well played there is a charm about the instrument that is not easily forgotten.28

Traditional Background

Various names like Saranga, Sarangi and Saranga-veena are mentioned in ancient works like Sangeet ratnakara, Basavapurana, Panditaradhyacharitra of Palkurini Somnatha (12th century), Sangit Darpana and the others. There is reason to believe that the Sarangi must have remained a folk instrument for centuries before it was considered suitable to accompany the new styles of music that came into vogue in the 17th century. The Sarangi seems to have been used in the

28 The Music and Musical Instruments of southern India and the Deccan, C.R.Day, p-125
South also at some time or other but it was subsequently superseded by the violin. The facilities it offers for playing the various gamakas and graces characteristic of Karnatak music have made the violin completely a southern instrument. The sarangi found in Upper India differs slightly from that of the South and Deccan. The head is generally carved to represent the neck of a swan, and the body is rounded instead of being square; the number of sympathetic strings, too, is often less. The instrument is ornamented with ivory and inlaid with numbers of small turquoises. \(^{29}\) Experts are of the opinion that the Sarangi as we know it today first made its appearance as late as the 17\(^{th}\) century. It is never seems to have been used at the Mughal court. There is no mention of it in the Ain-i-Akbari. It has all along been a folk instrument used by the common people for their simple music.

**Physical Structure**

The Sarangi is about two feet long. It is made by hollowing out a single block of wood and covering it with parchment.

**Bridge:** A bridge is placed on the belly in the middle. The sides of the Sarangi are pinched to facilitate bowing.

**Pegs and Strings:** Four tuning pegs are fixed to the hollow head, one on each side. The instrument usually has 3 main strings of gut of varying thickness. Rarely, a fourth string made of brass (known as luruj) is used for drone. There are generally fifteen sympathetic strings of wire tuned chromatically. Modern Sarangis generally have thirty five to forty sympathetic strings running under the main strings. These are fastened to small pegs on the right side of the finger-board and also on the top of the head. The sympathetic strings are tuned accordingly to the scale of the raga played and are made of brass and steel.

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\(^{29}\) The Music and Musical Instruments of southern India and The Deccan, C.R. Day, p-125
Manufacturing

The decoration and carving are characteristic, although rough. The sarinda is not a very high-class instrument, but is very popular with the lower classes. The tuning is like that of chikara, and the strings are of gut or silk. The bow used with it is that shown. The chief peculiarity of the sarinda consists in the way that the belly, which is of parchment, is put on.
Playing Techniques and Melodic Execution

When played, the Sarangi with its head uppermost is placed on the lap of the performer. The head rests against the left shoulder. It is played with a horsehair bow which is held in the right hand. The fingers of the left hand are used for stopping the strings. While this is being done, the fingers do not press the strings down on the finger-board as in the case of the violin but press against the strings at the sides.

Similar Instruments

Other members of the Sarangi family are Dotara, Dhad Sarangi of Punjab and the Chikara of Uttar Pradesh. These folk instruments are simple in construction they are often suspended in front of the body and played with bows to which bells (ghungurus) are sometimes attached to give a rhythmic jingling sound with the music. The chikara is somewhat similar to the sarangi, but smaller, and is used by common people. It has three strings of gut or horsehair and five sympathetic strings of wire. The tuning is commonly or else like that of the sarangi. Like the sarangi, Sarinda is also three string instruments. It is a bowed instrument common in Bangal.

10. Dilruba

The Dilruba is one of the most popular string instruments of the bowed variety in the North. The instrument is a very clever combination of the sitar and

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30 Musical Instruments of India, S.Krishnaswami, p-34
31 The Music and Musical Instruments Of The Southern Eastern and The Deccan, P-127
the sarangi. The finger-board with the frets very much resembles the sitar. The belly of the instrument is covered with skin like a sarangi; and like the sarangi it is played with a bow.

According to Dr. Geeta Paintal, Mahnt Gajjasingh of Patiala Court did some modifications in the taus and gave a new name to this modified instrument – Dilruba.

The only difference in the taus and dilruba was the peacock of the taus was removed in dilruba and the sound box was given the shape of the sarangi’s sound box. The fret and the string arrangement remained the same. The instrument dilruba became a regular part of Sikh devotional music. Bhai Batan Singh received much acclamation as an expert dilruba exponent. His dilruba differed from the usual one, and thus the tonality and the volume of his instrument was also said to be more rich and powerful.\(^\text{32}\)

**Physical Structure**

32 Classical Musical Instruments, Dr. Suneera Kasliwal, p-191
The stem of the Dilruba contains eighteen or nineteen elliptical frets which are movable. They are tied to the stem by means of thin pieces of gut so that the frets can be moved according to the scale of the raga which is being played, as in the case of the sitar. The bridge is placed on the skin-covered body, over which all the main and sympathetic strings pass. The first two strings are of brass and the last two of steel. There are about twenty two sympathetic strings or tarabs running underneath the frets and fastened to a series of pegs on the side. Like similar sympathetic strings in other instruments, the tarabs are tuned to reproduce the scale of the melody which is being played.

**Playing Technique**

The bowing is done with the right hand while the fingers of the left hand are used to play over the strings. The frets of the dilruba are meant only to guide the player in locating the correct positions of the notes. The fingers do not pull the strings over the frets laterally as in Sitar, but more longitudinally alongside the strings. All the musical nuances which the sarangi captures can be produced on this instrument without difficulty. The dilruba can be an effective accompaniment to vocal music as well as instrument for solo performances. The dilruba is held vertically, the lower portion on the lap of the performer or in the front of him and the top resting against the left shoulder. Simple melodies and the subtlest musical nuances can be produced on this instrument with equal naturalness. It is a popular instrument in the North especially in Punjab, Uttar-Pradesh and Maharashtra. The dilruba came into vogue a few centuries after the introduction of the fretted sitar.
11. Esraj

A similar instrument with the combination of the sitar and sarangi, which became very popular in Bihar and Bengal about hundred or hundred and fifty years ago, was esraj. It is very similar to the dilruba both in appearance and in the technique of playing. However, there are few structural differences.

Traditional Background

According to Prajnanda and also according to the oral tradition, the instrument might have taken its present shape in the hands of some Bengali artist in the court of Wajid Ali Shah of Lucknow when he came to stay at Matia Burj in Calcutta. Later, when Basant Khan, a famous rabab player of the Seniya gharana, settled at Gayadham, he probably took this with him. He taught this to many local people and thus the popularity of the instrument spread all over the Bihar.33

However one of the Basant Khan’s students, Kanailal Dhendi is also given credit for inventing the esraj. Another story doing the rounds was that: in Gaya (Bihar) one of Ishwari Raj took out the peacock shaped soundbox of the taus and replaced it with a roundish, smaller soundbox. As the instrument acquired a new look simply by this modifications, it was given a new name after him, i.e. Ishwari Raj as Ish + raj. Though it is difficult to ascertain the exact place where esraj acquired its present shape, in all probability the instrument made its foothold in

33 Historical Development of Indian Music, Swami Prajananada, p-468
Hindustani classical music first in Gaya, and later traveled to Bengal, where it became an important instrument used in Rabindra Sangeet.\textsuperscript{34}

**Physical Structure**

The body of the dilruba is rectangular and flat like that of the Sarangi. The body of the esraj is a bit rounder in shape and shallower in the middle. The stem or the finger-board of the dilruba is broader than that of the esraj. The number of sympathetic strings in the dilruba is larger than in the esraj, hence the tone of the dilruba is more rich and resonant than that of the esraj whose tone is soft and mellow.

**Sitting Posture**

Ashish Bandopadhyay\textsuperscript{35} started an esraj department in the music faculty of Shantiniketan. Ashish Bandhopadhyay also introduced a new sitting posture by putting the instrument straight instead of resting it in a leaning posture against the left shoulder.

**Playing Techniques and Melodic Executions**

The Esraj is a very popular instrument of Bangal where it is commonly used by both professionals and amateurs. The esraj can be played by itself or as accompaniment. Though not popular as solo instrument, it acquired a prominent place as an accompaniment to vocal music, especially for female singers with soft voices. Randhir Roy\textsuperscript{36}, a gifted musician, created his own style by nixing techniques of the sarod and sitar.

\textsuperscript{34} Classical Musical Instruments, Dr.Suneera Kasliwal p-193
\textsuperscript{35} An expert exponent of esraj, brought by Rabindra Nath Thakur’s Vishva Bharti teaching institute of Shantiniketan, Bolpur in West Bengal. s.k.-p-193
\textsuperscript{36} The Best Student of Ashish Bandhopadhyay, Who Showed Special Talent And Emerged As A Soloist Among All Students
**Similar Instrument**

The Madar-Bahar is very similar the Esraj in construction but the finger-board and the body are bigger in size being about four feet long. Thick strings of gut are used which give a deep, rich tone somewhat like that of the Western violoncellos. To play the instrument the performer sits on a low stool. The instrument is placed in front of him on the floor, the top of the instrument learning against his left shoulder.

The Mandar-Bahar is a rare instrument found mostly in Bangal. It is now being used in the modern Indian orchestra for producing bass notes in the lower octaves.

**12. Santur / Santoor**

[Image of Santur]

The Santur is popular in the Middle East. In India, it is special to Kashmir where the instrument is used for accompanying a type of classical music called Soofiana Kalam, along with other instruments of the region, like the saz the Rabab, the Sitar, the Sarangi, the Tumbaknari and the Ghata.

**Traditional Background**

The Santur is a unique instrument in Hindustani music. It has risen from virtual oblivion to the peak of popularity in a usually short time – less than three decades. It is the only string instrument subjected to percussive sound activation. All other are either plucked or bowed. The santur is also the sole survivor in its
organological classification of struck polychords. Various instruments were in use in Vedic times. Among the string instruments, mentions of vana are found in the Rigveda. Scholars opined that it was a bow shaped harp sometimes with hundred strings. Among all the string instruments the vana was the most venerated of all, for it was also called “Mahaveena” and its description is found in Vedic texts as well as in Aryakas and the Sutras. According to Boudhayana Sutra, it comprised audumbara wood, and the resonator was covered with the hairy hide of an ox. The stick of the harp had ten holes into each of which were knotted 10 strings of munja (grass) thus making the total number of one 100 strings. Some modern writers have identified this instrument as a precursor of the santoor, found today in Kashmir. The suggestion given is that it had 100 strings and could have been the Satatantri Veena, mentioned in Kalpa Sutra. Even linguistically, it can be suggested that the satatantri veena is related to the santoor. Again, both vana and santoor are played with sticks. But in the absence of any sculptural representation of struck veenas, particularly of the vana, it is very difficult to propound any theory about their shape.\footnote{Musical Instruments of India, B.C.Deva, p-122} The santoor has been widely used for centuries as an accompaniment to a particular style of singing in the Kashmir valley. The singing style is called Sufiana Qalam or Sufiana Musique, in which the santoor is played along with other instruments of the region such as the saz, the rabab, the setar, the tumbakanati and the ghata. The santoor is a recently developed instrument. It was introduced into Hindustani classical music only about forty five to forty years ago. Thus the instrument is yet to be standardised. The length, width and height of the instrument, number of bridges, number of strings, their order and thickness, i.e. gauge, the sitting posture of the player, the playing techniques all of these vary from artist to artist. Mostly people give the credit of elevating the santoor to a status of a classical instrument to Shiv Kumar Sharma, the ace santoor player, though others have also contributed their share to this process. Om Prakash Chaurasia of Bhopal has also earned a name in the field of santoor playing. Ulhas
Bapat is a Mumbai based santoor player. Tarun Bhattacharya (Calcutta) is a name from younger generation of the artists, who is gradually coming up to the limelight with a distinctive style of his own. Satish Vyas, Rahul Sharma, Shaukat Ahmed, Abhay Rustam Sopori, Charukeshi Shahaney and many others affirm the promising future of the instrument in the Hindustani classical music.

**Physical Structure**

The contemporary santur used in classical music consists of a trapezoid box, which acts as a rest for the strings stretched across it, as well as the resonator.

**Resonator:** The box (soundbox/resonator) is 60 cm long, 60 cm wide at one end, tapering to 30 cm width at the other. The tapering width has thirty bridges for strings, fifteen on each side, over each of which passes a set of three/four strings. The strings are fixed to iron pegs, which are turned for tuning. Sound activation is done by the hammering action of two sticks of walnut wood [mallets], curved at the striking end. The grip of the sticks is shaped for optimal control under manipulation by the thumbs and the index fingers [Deva, 2000].
**Strings and Bridges:** Although the basic structure remains the same, the santoor adapted in Hindustani classical music differs from the Sufiana santoor in many ways. The number of strings varies in-between eighty to hundred, whereas the number of bridges has increased from 25 to 29, 31 and sometimes even 42, 43, thus varying the number of strings stretched on each bridge consequently. Some bridges have three strings and some have two. In the lower octave for the thick strings, some artists prefer one string to one bridge.

**Manufacturing**

The soundbox of the classical santoor is either made out of the wood of the mulberry tree, walnut or tun. The plank (of both sides) is made of pine wood or walnut or even of plywood. Sometimes it is a mixture of all these kinds. As a covering for the front, sometimes red cedar is also used. The bridges are made of rosewood and on the top portion of the bridges little pieces of ivory, stag horn or bone are fixed which act as jawari. This is done for the fine tone of the strings. Nowadays, plastic and metal are also used for jawari, but the best effect comes from ivory. Strings are put in the pins on one side and tied to the tuning pegs across the board. These pins and pegs are made of iron with chromium coating and tuned with the help of a hammer-shaped tuner. For strikers mostly walnut wood and rosewood are used. Sometimes strikers made of mulberry wood are also used. Strikers of classical santoor are heavier than those used for the Sufiana santoor, as heavier strikers help sustain notes. The instrument Shiv Kumar plays is about 35 years old. It is made by famous santoor maker Ghulam Mohammad Zaz of Shrinagar. Santoors made by Ghulam Mohammad were very good in tone and he earned a good name.

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38 Based on Information Collected from Shiv Kumar Sharma, Mumbai, and Instrument Maker B.D.Sharma, Delhi.
Maintenance

More artists prefer to keep the instrument in their laps instead of on the triangular wooden stand of the Sufiana santoor. Thus the resonance of the instrument is reduced intentionally, which helps the player produce more precise note to note sound, especially while playing quick succession of the notes (tanas).

Tuning System

There are two tuning systems in practice. The traditional system tunes the string-sets to the scale of the raga to be performed. This poses a problem of retuning the instrument for each raga. This problem is compounded by the fact that the santur has four strings for every pitch. Retuning even three svaras across three octaves implies returning thirty six strings. In appearance the Santur is a rectangular box over which strings of varying length are stretched. The long side of the rectangle faces the performer and the strings run parallel to the longer side. Unlike the Swaramandal which has only one string to a note, the Santur has only one string to a note, the Santur has generally a set of strings to a note. The length and the thickness very according to the octave; the strings are thickest in the lower octave. Its specialty, which distinguishes it clearly from the Swaramandal, is its method of note production. In the Swaramandal the strings are plucked by the fingers, whereas in the Santur, the strings are subjected to pressure strokes by small wooden hammers held in both the hands. The same principle is applied in the making of the modern pianoforte where the strings are struck by mechanical keys. The disadvantage is obvious; when the strings are struck the sound of the notes lingers on and cannot be controlled.

Playing Techniques and Melodic Executions

The techniques used in presenting the whole performance patterns of the Ragdari system, i.e. alap, jod and gat, the portions of slow and fast tempos, have also developed a great deal. The santoor is only Indian classical which is stuck. It
is a staccato instrument and cannot lend to techniques such as meend, gamak and andolan, which are very characteristic of Indian Classical Music.

13. Ravanhatho

 Tradition Background

The earliest instrument played with a bow is probably the ravanhatho or ravanhastra, attributed to Ravna, the mythical king of Lanka. This instrument seems to have been in Vedic times and has referred to in Sanskrit treatises. What this instrument was like is rather doubtful but in some parts of Gujrat and Rajasthan there exists an instrument bearing more or less the same name. It is called Ravanhatho and is used by strolling musicians called bharataris.

Physical Structure and manufacturing

The Ravanhatho consists of a resonator made of half a coconut shell. The shell is polished and covered with skin which is fastened to the underside of the shell by means of a cotton thread. A bamboo about two feet long is fixed to the resonator. The instrument carries two main strings one of which is made of a species of flax or horsehair while the other is of steel. Sometimes there are about twelve sympathetic strings of steel, all of them attached to a series of pegs fixed to the sides of the stick at the end.
Playing Technique and Melodic Executions

While playing, the resonator is pressed against the left side of the chest while the handle faces upwards. It is played with a crude bow made of horsehair. Small bells (ghungurus) are attached to the handle of the bow so that a jingling effect is produced as the instrument is played. Simple music covering a range of four to five notes can be played easily. There is a view that this instrument might have been the origin of the modern violin of the West.

14. Swaramandala

Swarmandala is a very famous and as well as useful instrument of Classical Music. In Hindustani music, the Swarmandla is used as an accompaniment to vocal music. According to Prof. Lal Mani Mishra, there is essentially no difference between the Irani instrument qanun and the swarmandala.\textsuperscript{39} In ancient Indian texts, we find the name of an instrument mattakokila, which was sometimes also called mahati veena. According to some scholars, mattakokila was the main (mukhya) veena of maharshi Bharat. It was the most important of all the veenas, because it had 21 strings and ll the notes of 3 registers (sthanas) could be obtained from it at the same time, whereas other veenas like chitra, vipanchi, etc., were complimentary or subsidiary. Later on, the commentator of Sharangdeva, Kallinath categorically specified that the mattakokla veena of Bharta’s time was in his times called swarmandala in

\textsuperscript{39} Classical Musical Instruments, Dr. Suneera.Kasliwal, p-228
common parlance. However, from the inadequate details provided by the ancient texts one cannot form any idea about the structure of the instrument. The Hindus say that an instrument of this description was first invented by the rishi or sage Kattyayana; hence is called the Kattyayana veena- in the Sanskrit treatises. C.R.Day has described Swaramandala as “Quanan”. The Quanun, or Indian Dulcimer, is an instrument seldom met with, and is to be seen mostly in the hands of Punjabi musicians.

**Physical Structure**

As we see the modern structure of Swarmandala, usually contains four corners and strings are tied with the nails and pass through a box type resonator. The scholars have assumed the total length of swaramandala about one-and-a-half to two feet and the width is about one-to-one-and-a-half feet. The resonator or the sound box usually contains depth about three to four inches. There are usually twenty one strings, some of brass and the rest of steel and tuned to the intervals of any of the Indian scales as required by the raga played. Occasionally gut or silk strings are found. The kind of quanun here drawn is known as Swaramandala, and is generally larger and better finished than the ordinary instrument of this name.

**Manufacturing**

The Swarmandala is a popular instrument and can be obtained from any shop selling musical instruments. Bishandas Sharma of Rikhi Ram & Sons, Delhi, has innovated a new instrument in which the strings are placed in such a manner that one can play both the swaramandala and tanpura simultaneously. Bishandas has named it the swarsangam. This instrument possesses a deep, resonant sound and has proved more useful for traveling purposes. It has four strings for the tanpura and fifteen strings for the swaramandala. The frame is made of teak wood with sound board upper and bottom made of pine wood. The total length, width and

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40 The Music and Musical Instruments of South India and the Deccan P-133
height of the instrument is about thirty-six inches, ten inches and two inches respectively.

**Playing Techniques and Melodic Executions**

It is played with two wire plectra, worn upon the finger-tips of the performer. The capability of the instrument is much greater than might be supposed at first sight. The performer holds his left hand an iron ring somewhat like a quoits, which he applies to the strings, so that it acts like a nut and thus enables him to produce all sorts of grace and embellishments. There is, of course, only one string to a note. The tone is sweet, soft, and reminds one rather of that of the clavichord, though it is louder and possibly more nasal in quality. The swaramandala is rarely heard, both on account of its great difficulty and very high cost, and therefore good execution upon it is rarely met with. According to C.R.Day, the swaramandala belongs to Kashmir. The tuning pins are turned by means of an iron key, and the tension of the strings is usually very high. The beautiful decoration and the delicacy are evident.

**Sitting Posture**

Vocalists keep the instrument in their laps and only pluck those particular strings which are samvadi to the swaras sung. The strings are tuned to the swaras of the raga which is being sung by the artist. Bade Ghulam Ali Khan used to play the swaramandala while singing. Recently some instrumentalists have also started using it as a filter during the gaps in their instrumental performance.
15. **Violin**

**Traditional Background**

The violin came into India in its present form as early as the 17th century and Baluswami Dikshitar was the one of the earliest Indian musicians to adapt the western violin and popularise its use in Carnatic Music. It is a relatively new entrant in Hindustani music having probably been here for the past 100 years. The Indian violin is identical to the Western violin but differs from it in tuning and playing position. It is traditionally played in a seated posture, and is held in position with the scroll placed on the artist's ankle and the back of the violin resting on the left shoulder and collar bone or chest. This frees the performer's left hand to play Indian musical ornamentation such as the gamaka. The Indian violin is an important solo instrument, and in South Indian music it is very popular both as a Solo & accompanying instrument.

**Physical Structure**

In this type the sound box, which is usually is the shell of the coconut or a small wooden chamber, is held near the shoulder of player and the fingerboard extends downwards along his arm. The bow is held with his palm downward and the string is stopped with the balls of the fingers.\(^1\) The Violin is remarkable for its smooth sweeps from one end of the string to the other. The light tone of the steel string and the deep, almost human tone of the 4\(^{th}\) string are wonderfully expressive. All these and facility to play the Gamakas and embellishments peculiar to the Indian music, have made the violin irrevocably Indian. Some experts in the West are of the opinion that violin has an Indian ancestry and trace the gradual evolution of the instrument to one of the many varieties of bowed

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\(^1\) Musical Instruments, B.C. Deva, p- 138
instruments found all over India which are of great antiquity. One such variety is the famous Ravanhatho (Ravanahasta or Ravanastram), a folk instrument of the string variety which is still used in some regions of Gujarat and Rajasthan. There has been a successive line of musicians in the South who have effectively demonstrated the possibilities of the violin as an accompanying and solo instrument. Two notable names are those of Tirukodikaval Krishna Iyer and Tiruchirapalli Govinaswami Pillai, towering personalities within recent memory with distinctive styles and a technique which remains unsurpassed till today. Dwaram Venkata Swami Naidu was another noted exponent of violin music.

A violin is usually played using a bow consisting of a stick with a ribbon of horsehair strung between the tip and frog (or nut, or heel) at opposite ends. A typical violin bow may be 75 cm (29 inches) overall, and weigh about 60 g (2.1 oz). Viola bows may be about 5 mm (0.20 in) shorter and 10 g (0.35 oz) heavier. At the frog end, a screw adjuster tightens or loosens the hair. Just forward of the frog, a leather thumb cushion and winding protect the stick and provide a strong grip for the player's hand. The winding may be wire (often silver or plated silver), silk, or whalebone (now imitated by alternating strips of tan and black plastic.) Some student bows (particularly the ones made of solid fiberglass)
substitute a plastic sleeve for grip and winding. The hair of the bow traditionally comes from the tail of a grey male horse (which has predominantly white hair), though some cheaper bows use synthetic fiber. The stick is traditionally made of brazilwood, although a stick made from a more select quality (and more expensive) brazilwood is called pernambuco. Both types come from the same tree species.

**Playing Techniques and Melodic Execution**

Someone who plays the violin is called a violinist or a fiddler. The violinist produces sound by drawing a bow across one or more strings (which may be stopped by the fingers of the other hand to produce a full range of pitches), by plucking the strings (with either hand), or by a variety of other techniques.

**Holding Instrument**

The standard way of holding the violin is with the left side of the jaw resting on the chinrest of the violin, and supported by the left shoulder, often assisted by a shoulder rest (or a sponge and an elastic band for younger players who struggle with shoulder rests). This practice varies in some cultures; for instance, Indian (Carnatic and Hindustani) violinists play seated on the floor and rest the scroll of the instrument on the side of their foot. The strings may be sounded by drawing the hair of the bow across them (*arco*) or by plucking them (*pizzicato*). The left hand regulates the sounding length of the string by stopping it against the fingerboard with the fingertips, producing different pitches.

**Similar instruments**

Northern India has a number of string instruments of the bowed variety like the sarangi, the Dilruba and the Esraj which serve as an intimate accompaniment to vocal music. In recent times, however, the violin has begun to receive new respect at the hands of North Indian musicians too. To this class
belong the Pena of Manipur, the kenra and the banam of Orissa, the Ravan hatta of the western India, the kingri of the Pradhas in Andhra and Maharashtra, and the veena kunja of the Pulluvans in Kerala.42

**Wind Instruments or Aerophones**

Wind instruments produce sound by means of the air which is blown through them. They consist of a resonator, usually a tube, in which a column of air is set into vibration by the player blowing into (or over) a mouthpiece set at the end of the resonator. The pitch of the vibration is determined by the length of the tube and by manual modifications of the effective length of the vibrating column of air. Wind instruments fall into two basic categories- woodwind instruments and brass instruments. The most obvious way of distinguishing between the two is on the basis of the material used for the construction of the instrument. However this is not always as simple as the division is not always indicative of family type. Another sound method of distinction is by means of examining how the player plays the instrument as the style of performance is different for brass and woodwind instruments. A number of wind instruments are used in Indian Classical Music. These include the Pungi, Bansuri, Venu, Shehnai, Kuzhal, Nadaswaram etc.

The wind instruments used today present a variety of combinations and characteristics. There are three primary elements in any wind instrument:

(i) an activating mechanism

(ii) the body of the instrument and

(iii) a radiator

Some well-known Wind Instruments or Aerophones are listed below:

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42 Musical Instruments, B.C. Deva, p-138
1. Flute

One of the earliest instruments of the sushira (wind) variety is the flute. The flute has various names such as bansuri, venu, vamsi, kuzhal, murali and so on. Under the names of tunava and nadi, the flute was used in the Vedic period.\(^43\) *Bansuri* and *venu* are common Indian flutes. They are typically made of bamboo or reed. There are two varieties; transverse and fipple. The transverse variety is nothing more than a length of bamboo with holes cut into it. This is the preferred flute for classical music because the embouchure gives added flexibility and control. The fipple variety is found in the folk and filmy styles, but seldom used for serious music. This is usually considered to be just a toy because the absence of any *embouchure* limits the flexibility of the instrument. The flute may be called many things in India: bansi, bansuri, murali, venu and many more.

There are two main types; bansuri and venu. The bansuri is used in the North Indian system. It typically has six holes; however there has been a tendency in recent years to use seven holes for added flexibility and correctness of pitch in the higher registers. It was previously associated only with folk music, but today it is found in Hindustani classical, *filmi*, and numerous other genres. *Venu* is the South Indian flute and is used in the *Carnatic system*. It typically has eight holes. The *venu* is very popular in all South Indian styles.

**Traditional Background**

In India, the playing of the flute is at least as old as the Vedas. The Yajurveda includes in the list of occupations the playing veena, venu (flute), and

\(^43\) Musical Instruments of India: S.Krishnaswami, P-37
mrdanga (drum), and the blowing of conches for signals and ceremonies.\textsuperscript{44} The flute is depicted in Buddhist art of the first century B.C. in India (at Sanchi). It is also pictured in murals in the Buddhist caves at Ajanta and Ellora (which date from the second century B.C. to about the eighth century A.D.). In these murals, the flute is played by human and celestial beings, both as accompaniment to vocal music and as a part of instrumental ensembles. For several centuries, it has been recognised as the instrument by which the playful deity Krishna entices his devotees to him.\textsuperscript{45} In 17\textsuperscript{th} century Mughal emperor Jehangir recalls in his memories that he honored a flutist, Ustad Muhammad, by weighing him and then giving him, in rupees, the ebullient of pounds of flesh to ponds of silver. The musician was also given an elephant on which he and his money could ride.

In ancient India, the flute was very commonly used in the religious music of the Buddhists. Representations of this are found in Indian sculpture at Sanchi, and later on in Greco-Buddhist plastic art at Gandhara. The sculptures at Amarvati and several paintings at Ajanta and Ellora also depict the flute, as played by human and celestial beings, both as accompaniment to vocal music and as a part of instrumental ensembles.

Physical Structure

The instrument is a simple bamboo staff about four feet long. There is a mouthpiece in the exact centre of ‘The bamboo into which a reed made of palm leaf is fixed. There are about six holes on either side. The lower of these finger-holes are used for playing. A constant drone is produced from the player’s expediency in storing the necessary air in his mouth and blowing continuously through the nostrils to replenish the supply of air in the mouth. The tone of this instrument is soft and sweet. The flute is of very great antiquity. For the centuries the constructions of the flute has remained more or less constant. The instrument

\textsuperscript{44} Music in India: The Classical Traditions Bonnie C. Wade, p-106
\textsuperscript{45} Ibid
is a simple cylindrical tube, mostly of bamboo, of uniform bore, closed at one end. There are different kinds of flutes and their lengths and numbers of holes vary. The length can be anything from 8 inches to two and half feet. Long flutes have a rich, deep and mellow tone whereas in small flutes the tone is bright and high pitched. In addition to the mouth hole, there are 6 to 8 holes arranged in a straight line. The range of the flute is about two and half octaves, the normal range of the human voice. It seems incredible that such wide range of notes can be produced from only six to seven holes.

**Playing Technique and Melodic Executions**

The player blows into the mouth hole, thus setting in vibration the column of air inside the tube. The lowest octave of the scale is produced by altering the effective length of the tube by covering the holes with the fingers. The next octave of the scale is produced in the same way but with increased wind pressure and the third octave is produced in a more complicated way by ‘cross fingerings’. The tone colour varies considerably. The first octave is so thick and deep that it is sometimes mistaken by the listeners for the tone of the clarionet. The second octave is smooth and clear and the third bright and penetrating. The player can produce any interval by only opening and closing the available holes with his fingers. The flute is held in a horizontal position with a slight downward inclination. Where the 2 thumbs are used to hold the flute in position, the three fingers of the left hand, excluding the little finger and the 4 fingers of the right hand are used to manipulate the finger holes. Some of the bamboo flutes used in the North, especially in region of Bengal, is longer than those used in the South. The horizontal flute is enormously popular in southern India and Bengal. Vertical flutes are more popular in the North and the west. These are held vertically and played through a mouthpiece. The flute is an instrument which can be played by itself. It is also an important constituent of the modern Indian orchestra. The flute has produced some very great virtuoso both in North and in the South. The name
of T.R. Mahalingam is well on its way to becoming a legend. Among concert instruments today, the flute enjoys the same solo status as the veena in the South and the North. The most prominent South Indian flutists are the late Pannalal Ghosh, H. Himnagshu Biswas, Hari Prasad Chourasia, and Vijay Raghav Rao. G.S. Sachdev, a disciple of Vijay Raghav Rao, is teaching flute in United States, as is T. Viswanathan.

**Some Famous Kinds of Flute**

Wind instruments using the principle are the end-blown flutes of which there are a number of folk and tribal examples. One of them is fifli of the northeast India. It is small bamboo length, of approximately fifteen centimeters, one end of which is open and the other closed. The more common type of end-blown flute heard in the plains is exemplified by the narh of Rajasthan.

There is another class of flutes which are blown into from one end but in an entirely different manner. The blowing end is not plain as in the above cases but is pressed into a narrow opening which is technically known as the beak; hence flutes with pressed ends are called beak flutes. This kind of flute, known as the bansuri in northern India, is very common specially as a pastoral instrument and is usually met with as single flute. But in Punjab, Rajasthan, Maharashtra and some other areas there is another instrument, the algoza. The horizontal flute is the best known and most popular throughout the country.

**Similar Instrument:-** The Ayarkuzhal is one of the similar instruments of Flute. It is literally the shepherd’s flute. The instrument is of great antiquity and is used by the shepherds in the lesser known hilly tracts of southern India.

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46 Musical Instruments of India: S.Krishnaswami, P-38
47 In the South, the Musician who is said to have elevated the flute to its status of primary instrument in recent times in Sarabha Sastri (872-1904)
48 Music In India: The Classical Traditions Bonnie C.Wade, p-108
49 Musical Instruments, B.C.Deva, p-85
50 Musical Instruments of India: S.Krishnaswami, P-49
2. **Shehnai**

The double-reeded instruments belonging to the sushira (wind) category are among the most ancient and the most widely-known musical instruments in the world. They have been used all over the world for open-air festivals, processions and so on. The shahnai is no exception and so on. The shahnai is no exception to this. The Oboe of the West, which is similar to the shahnai, has developed into an instrument for chamber music, but the shahnai remains to this day essentially an open-air instrument. It is used on ceremonial occasions and is thought of as a mangala vadya or auspicious instrument.\(^\text{(51)}\)

According to C. R. Day “The instrument belongs to the Oboe family of beating-reed aerophones. In India, it is proclaimed the mangla vadya, the auspicious instrument. Shehnayi music leads religious processions, sanctifies marriages, announces the opening of temple doors to the public every morning, inaugurates major cultural events and welcomes dignitaries to public functions. It is only in the latter half of the twentieth century that the instrument was elevated to the art-music platform, singular credit which goes to the formidable musicianship of Ustad Bismillah Khan of Varansi”.

**Traditional Background**

The shehnai (or surnai) may have been introduced into India by the Muslims. Certainly, one of its most prominent uses was in the ensemble called the naubat (or, nahabet), which played at Mughal courts. The naubat consisted of a varying number of specific instruments: kettledrums of various sizes, other types of

\(^{51}\) Musical Instruments of India: S.Krishnaswami, P-38
drums, trumpets, horns, cymbals, and shehnais with their accompanying drones. On the concert platform, the repertoire and the idiom of the sehnayi have been influenced almost entirely by the towering presence of Ustad Bismillah Khan, spanning over six decades. If, therefore, one has to refer to gharanas of the sehnayi, there is probably only one gharana on the art-music scene- the Bismillah Khan gharana. He has also adopted the khayala genre as his principal inspiration for the presentation of raga-based music, and the reginol melodies popular in his home in Varanasi, and the reginol melodies popular in his home in Varanasi, and its environs as the source for his semi classical and popular repertoire. The most important amongst these are the bola-banao thumri, and seasonal songs such as the kajari, chaiti, phaguna and savanna. Shahnai players of other regions have tended to follow this pattern, although sehnayi players from the western state of Maharashtra [Bombay/ Pune] do include local folk and regional music, such as lavanis and natya-sangita in their presentations. These are also poetry-dominant forms, and are subjected to the same kind of transformation in their shehnayi presentation as the kajari/caiti category of North Indian genres do.

Physical Structure

Instruments answering to this description, and of near-identical construction, are found in all parts of India, though known by different names. The main body of instrument is a conical bore of wood, ideally Teak (Tectona Grandis). Shehnayis made of gold, silver, and even soapstone are known to exist. The body has four to seven holes punched into it. The musician covers and uncover these holes to manipulate melody. The marrow end of the bore is fitted with a mouthpiece [staple], to which are affixed two winnow-shaped reeds, about a centimeter length. The reeds are made either of marsh-grass or special leaves. The reeds merely regulate the flow of the air into the body by beating against the wall of the mouthpiece, but play no role in the manipulation of the pitch. The broad

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52 Music In India: The Classical Traditions, Bonnie C. Wade, p-110
53 Hindustani Music - A tradition in transition, p-334 by Deepak. S. Raja
end of the bore, the output end, is fitted with a metallic cup, made usually of brass, but occasionally also of other metals.

**Manufacturing**

The instrument is made of dark, close grained black wood and has a metal bell fixed to the broader end. The length of the instrument is one and a half to two feet. The reed is fixed at the narrow blowing end. It is said that the reed used in shahnai is made of pala grass which is cultivated in some regions of Uttar Pradesh. Spare reeds and an ivory needle with which the reeds are adjusted are attached to the mouthpiece.

Shehnais are made to a specific pitch in terms of tonality. An average shehnai player manages a melodic canvas of an octave ans a half on the instrument. A maestro can, however, coax two octaves out of it, without producing unmusical sounds. Varanasi and Lucknow have been the principal centers of shehnai manufacturer. In recent years, however, research oriented enthusiasts in Nashik, about 150 km from Mumbai, have made the city another major supplier of quality Shehnayis.54

**Playing technique and Melodic Executions**

Shehnai playing is a very complicated technique. The half-tones and quarter-tones are produced not only by partially closing and opening the finger-holes, but also adjusting the pressure of air in the pipe. This is a laborious process and consequently it takes a long time for a musician to attain proficiency in this instrument. The shehnai when played is always accompanied by a drone called shruti. This is another instrument which is like the shehnai in appearance but has only two or three holes which are stopped wholly or partially with wax in order to tune the drone to the desired pitch.

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The seven holes in the shehnai would appear to give it a very limited scope of expression. But actually the way the lips and tongue play upon the reed mouthpiece and the manner in which the holes are opened or closed with the fingers render the shehnai a most sensitive instrument which expresses, very effectively, with all their semitonic and quarter-tones, the chromatic passage of which Indian music is so full.

The accompanying percussion instrument is a pair of naqqaras called dhukkad, one smaller than the other. The smaller one is called the zeel and the bigger one the dhoomas. They are generally played with stics in both hands if the music is performed in the open air, but in a concert they are played with both hands. The name shehnai seems to be of Persian origin. Nai is a blowing instrument of a type which is depicted on ancient Egyptian tombs dating from 3000 B.C. The nai was a reed instrument “with 6 holes yielding soft melodious tones, commented upon very favorably by the historians” accordingly to one Atiya Begum. It is said that when an expert player on the nai played his instrument came to be called nai-i-shah, shahnai or the flute of royalty. The Indian shahnai seems to have been introduced by the Muslims and the Ain-i-Albari makes mention of the name of an expert shehnai or surnai player. The naubatkhana of Akbara used 9 shehnais. The shehnai has been the most successful instrument in the jugalbandi (dutes) segment of the art-music market. Ustad Bismillah Khan, have become the stuff legend. But, even moderately accomplished sehnayi players have been able to produce eminently charming, and even saleable, music in collaboration with partners of compatible stature.

**Famous Artist**

Since the elevation of the instrument to the concert platforms by Ustad Bismillah Khan, the shehnai has contributed several maestros to the art-music world. Notable amongst them are Ali Ahmed Hussain of Calcutta (alive), Baburao Khaladkar and Shankar Rao Gakewad and Anant Lal of Delhi all deceased, of
Pune, and Anant Lal of Delhi. Amongst the younger generation of musicians, Shailesh Bhagvat of Bombay has acquired some stature.

3. **Nagaswaram**

In the South, the predominant double reed is the nagaswaram, which has traditionally been associated with performance in Hindu temples. Only recently has it been played in more secular concert situations it is most appropriately played outdoors, because nagaswaram sound, and the sound of the tavil (drum) that traditionally accompanies it, carries very well. Nagasvaram and tavil frequently figure in temple processions.

**Traditional Background**

The music played on the nagaswaram is usually of a pure and serious type. However, the instrument is also very largely used in folk music and the temples of the village deities during festivals. Epigraphically and literary evidence suggests that the nagaswaram was well known in 15th, 16 and 17th centuries. There is reason to believe that the nagaswaram has evolved from the snake charmer’s pungi or magudi. The pungi consists of two pipes; one gives a continuous drone while the other plays the melody. It is possible that the two pipes were separated at a later date.\(^{55}\) Because of its great volume and power nagaswaram is essentially an outdoor instrument and does not sound so pleasing at close range. However, at

\(^{55}\) Musical Instruments of India: S.Krishnaswami, P-40
a distance, the effect is greatly subdued and in the open air, the strains of the nagaswaram often attain a wild beauty and softness. It is an exciting instrument, but it has produced some very great virtuosos. One of the greatest exponents of the nagaswaram in recent years was the late Tiruvanduthuri Rajaratnam Pillai. Outstanding players include Shiekh Chinna Maulana, T. N. Rajarathnam Pillai, and K. Pichippa. There are two varieties of nagaswaram – one is called the bari type and the other the timiri type. The former is a slightly bigger one and experts as a rule use it in preference to the timiri type.

Physical Structure

The nagaswaram of the South and the shehnai of the North are of the same family and in general appearance look very much alike. The nagaswaram is a double-reeded instrument with a conical bore that flares out towards the bottom end. The length of the nagaswarm is two to two and a half feet. Usually, made of wood, it has a conical bore flaring out toward the lower end, and a separate, detectable bell. Ordinarily, it has twelve holes-eight in front and two on each side. Only the upper seven, however, are used for playing, player’s discretion. The other five are called brahma swaram are stopped with wax at the discretion of the performer so as to regulate the pitch. The reed used in the nagaswaram is found on the banks of the Kaveri in South India. The double reed is fixed on a metal
staple at the top end of the instrument and therefore does not extend down into the instrument. Spare reeds and an ivory needle with which the reeds are cleaned and adjusted are attached to the mouthpiece and trail down decoratively when the nagasvaram is played. The reed is somewhat resembles that of a bassoon, but it is very roughly made, and is wider in proportion to its length; it is mounted like that of an oboe, on a short metal “staple”. The instrument is usually made of a dark close-grained wood called chandanna, and has a metal are met with. The tone is somewhat very similar to that of a bagpipe, but is shriller, and should be heard at a distance.

**Playing Techniques and Melodic Executions**

All the different styles and subtle graces of Karnatak music can be effectively brought out on this instrument, not only by the partial opening and closing of the finger-holes, but also by the manipulation of the lips and tongue upon the reed.

**Accompaniment Instruments**

The nagaswaram when played is always accompanied by the shruti which is called ottu. This instrument is similar to the nagaswaram but slightly bigger in size with five or six holes at the lower end. These holes are wholly or partially closed to tune the drone to their desired pitch. The accompanying percussion instrument is called tavil in Tamil and dolu in Telugu. This instrument is special to the nagaswaram and ideally suited to open air performances. In addition to the tavil, the talam, which are cymbals made of bell metal, are used to keep time. The nagaswaram, being especially an outdoor instrument, is employed on all festive occasions whether domestic or public, religious or ceremonia. It is also used in percussions and in temple music. The repertoire of the player is large and varied melodies suitable for processions in honor of temple deities, for the

56 Musical Instruments of India: S.Krishnaswami, P-40
celebration of marriages, for rejoicing, for welcoming, for departures and even for funerals.

**Similar Instrument:** Kurumkuzhal it is a short wind instrument mainly used in temple rituals. It resembles Nadaswaram, but shorter in size.

4. **Magudi**

The Magudi, also called pungi or been in the North, is a very ancient wind instrument. Its old name was nasayantra and it is said to have been originally played by blowing the air into it through the nostrils. It is also called bhujanga swaram.

**Physical Structure and Manufacturing**

The Magudi consists of a bottle-shaped gourd into which two pieces of cane reed re inserted and fixed with wax. One of the pipes is pierced with four or five finger-holes which are played upon. The other pipe has only one hole which gives a constant drone. The mouth-hole is fitted with a small reed into which air is continuously blown. This continuous blowing can be effected by keeping the mouth filled with a supply of air. The Magudi is nowadays used by jugglers and snake charmers. It was formerly used on religious occasions. The instrument is so constructed as to produce the Karnatak Hanumattodi scale, or the Bhairvi scale of the Hindustani system.
5. **Shringa or Kombu**

The noun ‘sṛnga’, is well known in the category of Indian wind instruments. Evidentially, in Sanskrit literature the word, Sṛnga is available easily in Sangeet Makranda, Narada has included sṛnga in Sushir vadyas.

![Image of Shringa](image)

The horn is known by its Sanskrit name Shringa in the North. In the South, it is generally called Kombu which is a Tamil term.

**Traditional Background**

The curved brass horn is known as S’ringa or S’ing, called in Southern India Kahalay or Kombu. It is frequently found with a metal rod connecting both ends. This horn is “used universally through India for signals, watch setting processions, and the like, both by Mohammedans and Hindus, though the performers for the most part are Hindus of low caste. in every village of Central or Southern India it is the business of on or more of the watchmen to blow the horn at sunset, and again at certain hours of the night, or when the watchmen go their stated rounds. In large cities mahulla or ward has a horn-blower attached to its night watchmen or police, and there is seldom a guard or detachment of native irregular troops without one. In all processions, temple services, and especially at marriages and other festive occasions, this horn is indispensable, and wailing blasts for the dead are played upon it at the funerals of Hindu princes.
Physical Structure

The horn is a long, more or less conical, tube ending in a large bell and having a funnel-shaped mouth-piece. The Shringa or Kombu was literally the horn of an animal and for a long time is continued to be simply a curved conical tube. It was used by the ancient people to call assemblies, to give signals and to play in their ceremonial dances and festivals. Later on, brass horns came to be used in temple services, processions, marriages etc. According to B. C Deva, the kombu as one meets it now in South India is a C shaped trumpet made of brass or copper and is usually constructed of three pieces with the blowing end, having a mouthpiece and the outer piece spreading out into a circular shaped flaire. The Kombu is played as weddings and religious processions, as well as in front of the bier; it is one of the pancha vadya ensembled. Often the smaller sized Kombu is differentiated as the timiri Kombu and the larger one as the bari kombu. The horn produces a somewhat hoarse tone and is not capable of many notes. No attempts made to play the instrument scientifically and indeed its proper compass is not even understood. These are different kinds of brass horns use all over India. They are called by a great variety of names and are straight curved, S-shaped, serpentine and many other shapes. The shringa is sometimes called Kahala in the North. The instrument is four to six feet long and consists or four of five brass tubes that fit into one another. It has a shrill tone and is used in temple processions, receptions and public amusements of various types. The term kahala often occurs in Sanskrit literature. The Turahi or Tutari is a curved trumpet of brass, like a bugle. This instrument is also used in religious processions. The large trumpet with one turn is called the Tuturi. This name is usually applied to what might be called the tenor trumpet, as distinguished from the Kurna. The tuturi or turi –is made in various sizes and is used principally in religious ceremonies. The smallest trumpet is the Nafari. The other renowned synonyms of Sringa are bankya, bargu, banke, ransingha, narsingha, bhuri. As told before Sringa is known as Turhi in Uttar Pradesh, like this it is called as bargu and bankya in Rajasthan,
banke in Karnataka, ransingha in Madhya Pradesh and narsingha in Himachal Pradesh.

**Similar instruments**

The ekkalam is a straight trumpet of brass or copper consisting of four tubes which fit into one another. It is commonly used in temple processions. The tiruchinnam consists of a pair of brass trumpets each about 2 and half feet in length. It is used during temple services in the South. The 2 trumpets are held in the mouth and blown simultaneously.

6. **Alghoza**

According to C.R. Day, “Alghoza is a kind of flageolet of bamboo, with a tone and compass like that of the pillagovi. Instruments of this kind are found in the Punjab and Upper India, played in pairs in a somewhat similar manner to the tibiae pares of the Romans.

**Playing Techniques and Melodic Executions**

It is ordinary flute with four finger-holes and is played by blowing straight through the mouth hole. Usually the alghoza is played in pairs by the same person and the effect produced is most enchanting. It is usually played as accompaniment to Punjabi folk songs and adds a peculiar colour of its own. The alghoza is also used in certain parts of Andhra Pradesh.
7. Harmonium

The harmonium comprises four working parts: the bellows, the air chamber, the keys and the reeds. The first is a set of folded leather pouches which can be pressed and released by means of wooden board attached or, as in the case of the leg harmonium operated with two pedals by the feet. The bellows have holes to let in air from the atmosphere but is punished in air from the atmosphere and also leather valves to prevent it from going on. When the player opens them, wind rushes in and when he pressed them, it is prevented from flowing out back into the atmosphere but is pushed in the air-reservoir. This latter is the squarish chest which forms the bulk of the instrument, and acts as a resonator as well. Here also leather flaps operate between the airbox and the bellows so that air can get in and not get out. By sustained and repeated movements of the bellows, air pressure inside builds up and can be released only by pressing the keys (the black and white stoppers seen on the instrument). When any key is pressed, it opens out a small vent under the connected reed and air rushes past it, producing the required note. There is one key to every reed and the notes needed can be played by depressing the related keys. The row of black and white keys is called the
keyboard; therefore the harmonium is also classed with keyboard instruments such as piano and the harpsichord.  

**Percussion Instruments - Membranophones and Idiophones**

Percussion instruments consist of two categories of rhythmic instruments known as Avanaddha Vadyas (Membranophones) and Ghana Vadyas (Idiophones).

**Avnaddha Vadyas or Membranophones**

1. **Mridanga or Mridangam**

   The mridanga is perhaps the most highly developed and the most ancient of all percussion instruments. It is commonly used in the South as an accompaniment to the vocal and instrumental performances. The name of mridanga literally means ‘body of clay’.

**Traditional Background**

Its origin, as described in the puranas as follows: “when Mahadeva elated by his victory over the invincible demon Tripurasura, began to dance, surrounded by the...
Indra and other deities, Brahma is said to have invented the mridanga to serve as an accompaniment, and under his directions the god Ganesha first performed upon it. The primitive classical mridangas somewhat resemble the kholes and mardola found in use among the aboriginal hill tribes. With some the khole, even to the present day, passes under the appellation of mridanga.

Physical Structure and Manufacturing

The southern mridangam is hollowed out of a block of wood. It is cylindrical in shape and one and a half to two feet in length. Skin covers, stretched tight over both the openings, are fastened to leather hoops held taut by interlaced leather braces which pass along the length of the instrument. In between the braces and the wall of the instrument are wedged round blocks of wood which can alter the pitch of the instrument if pushed up or down. The body or shell of the instrument is of wood and about 60 cm. in length. The shape, as is obvious from the context, is that of a barrel with the bulge slightly to one side. The right face is slightly smaller than the left and even the construction of the heads differ. The left face, called the toppi. The outer one is really a flat ring of the leather and at its periphery attached to a plait known as the pinnal. The right face which is more complex, as this has not two but three laminations, is also known as valan talai. The two faces toppi on the left and the valan talai on the right- are joined and held together tight by leather straps which pass in and out of the pinnals or braids on the both sides. The right drum-heads has a black mixture known as the soru glued permanently on; the toppi, on the other hand, is a plain membrane which, just prior to use, is loaded in the centre with paste of dough; this is removed after the performance. The Mridangam is made in two main sizes, one approximately twenty-five inches long and sounding within the approximate pitch area of Sa to Re and the other approximately twenty three inches long and sounding in the pitch area of Ma to Pa voices, the latter for accompanying female

59 The Music and Musical Instruments of Southern India and the Deccan, p-137, by C.R.Day
The repair and manufacture of Mridangam is a highly skilled craft during requiring long training experience, but because it involves the handling of dead animal material it is pursued only by persons of low caste. It is indicative of the supreme cultural prestige and antiquity of the instrument that a large number of the famous performers of the past and present are Brahmans. Its use requires not only constant manual contact with animal hide, but with the skin of a butchered cow. Drummers know how to make only minor repairs on their instruments and most frequently bring them to the professional specialist for care. Although his social position is an inferior and servile one, he has the innate dignity of the skilled and indispensable craftsman.

Playing Techniques and Melodic Executions

The mridangam is beaten by the hands, finger-tips, and wrists in a very peculiar manner, drum playing being a great art among Indian performers; indeed, years of study are required to ensure proficiency. The smaller head of mridangam is struck by the right hand, the larger head by the left. This drum is considered to be the most primitive of all instruments. Usually a mixture of flour and water is worked on to the middle of the left side to lower the tone to the desired pitch. This kind of plaster adds to the resonance and gives a full, bass sound. The plaster is carefully scraped off each time after use. Generally the two heads are tuned an octave part. The center of the right side has a permanent coating of a black substance called siyahi (soru, karana and marundu in Tamil) which is a mixture of boiled rice, manganese dust, iron fillings and other substances. It is this black layer that gives its characteristic tone to the mridangam and facilitates tuning to a particular pitch. A wide variety of tone is obtained from different parts of the instrument in various ways. For instance, the head can be struck with a full hand or with the fingers, which are clamped or released. The parts of the head which are struck are the rim of the wall on the right side over which the straps are

60 Music in India –The Classical Tradition by Bonnie C.Wade P: 129
passed, the drum head around the black ‘eye’ and the eye itself. The types of strokes are distinguished by an elaborate percussion terminology (jatis). The alteration of sound between two heads of the mridangam further enriches the tone. The fingers of the mridangam player are extraordinary supple, but at the same time invested with a curious power. It takes very long and arduous training to become a good mridangam player. There are two distinct styles of accompaniment. One is for the mridangam player to follow the principal artist so closely that the melody can almost be deduced from its rhythmic counterpart. The other, more traditional style is one in which the drummer does not attempt to follow the melody too closely but artfully deviates from the normal cycle into elaborate and intricate cross rhythm cycle ends in a grand finale. In this way the character of the particular tala being used is fully brought out. In the South, the mridangam is used as an instrument of accompaniment but in every recital of classical music, vocal and instrumental, there is a short solo piece on the mridangam. This often comes after the elaboration of the pallavi, the center piece of any concert or at the end of one of the compositions chosen for elaborate rendering. Here the mridangam improvises on the tala of the pallavi giving particular attention to the shape of the melody that has preceded it.

**Tuning System**

Tuning of the Mridangam is done by striking the right pinnal with a wooden block and a stone. Among the instruments Bharata has described, the most important of them are three types of barrel drums, called tripushkara or mridanga. Mridang is so called because it was made of mrit, meaning earth or mud. Mrit + anga = mridang. These were the best of the lot because they could be tuned in different Swaras and they were also more advanced in terms of their playing techniques.

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61 Tripushkaras were of different shapes. The anika placed on the lap was in the shape of myrobalan. The urdhvaka (held vertically) had a barely (yava) shape and the alingyaka the embraced one, had a cow tail (gopuchha) shape.
**Similar Instruments**

**Pakhawaj** of the North is also called mridang. Another drum of Bengal and Manipur which is largely used for dances, kirtans and songs of a devotional nature is also made of clay and called mridang, although it is more popularly known as khol.

**Shuddha Maddalam** is based on the same principle as the ordinary mridangam of the South except that it is bigger in size. On the right head the black paste occupies more space and is much thicker than in the mridangam. The tone of this drum is loud and carries far. It is an indispensable accompaniment to the Kathakali dance drama of Kerala and is also one of the panchavadyam of Kerala. The shuddha maddalam is played during rituals in some temples of the South, notably, the Tiruvarur temple.

**Khol** is most widely used percussion instrument of Bangal. It is also called Mridanga though it differs both from the pakhawaj of the North which is also called Mridang and from the popular southern mridangam.

The khol is made of burnt clay closely covered with thin strips of leather lacing. The right side is much smaller than the left side and is two or three inches in diameter. The pitch is constant and cannot be altered as in other drums. The right side gives a high-pitched metallic sound while the left side produces a deep bass sound which is used in much the same way as the bayan in the tabla. The khol is a popular accompaniment to devotional music, especially the kirtan. It is an integral part of the accompaniment in the folk music of rural Bangal, and in Rabindra Sangeet.
Mridanga also went by other names in musical and other literature as Muraja and Mardala, for instance. The difference between them is not always clear, though they were all bifacial, and most often bulging, drums.62

All the barrel drums used in India till date more or less have these shapes. The tavil and mridangam of carnatic music come under the first category, i.e. the myrobalan shape. Dholak etc, barrel inst, have a barely shape and the pakhavaj and the khol are examples of cow’s tail shapes. Mridang or tripushkaras as described in the ancient texts consisted of three pieces played together. Bharat muni describes different tuning of each of them.

2. Pakhawaj

The name Pakhawaj seems to have been derived from the awaj, a kind of drum used during mughal period nd described as “two kettle drums joined together at the reverse ends, their heads covered with skin and braced with thongs”, the awaj is mentioned in the Ain-Akbari. The pakhawaj was very popular during the Mughal period when it was used as an accompaniment to vocal music, to instrument like bin and rabab and also to dance.

Physical Structure

The Pakhawaj, which is also called mridang, belongs to the North and is almost similar to the mridangam of the South except for slight differences in construction and technique of playing. The left side is more or less the same in both the regions, but the right side, though designed on the same principles is

62 Musical Instruments, B.C.deva , p-51
quite different in the distribution of the prepared parts. The quality of the leather as well as the tension of the surface is quite different. The cylindrical blocks of wood inserted between the braces and the wall of the pakhawaj are bigger than those of the southern mridangam.

The design of the heads on the pakhawaj is slightly different: the outer layer of skin is cut away more than on the mrdanga. This leaves more of the surface of the second layer exposed and makes the playing area wider. This difference apparently lowers the degree to which the higher partials are damped on the pakhavaj, and its pitch is therefore not as clear as that of mrdanga.

**Tuning System**

Finer pitch adjustments are brought about striking the plaits, which in hindi called gajra, by a metallic hammer.

**Playing techniques and Melodic Executions**

The main difference in the style of playing between the northern pakhawaj and the southern mridangam is that whereas the left side of the pakhawaj is played with the open left hand, southern musicians use the left side of the mridangam in much the same way as tabla players use the bayan or the left piece of the pair.

Although Pakhawaj is a highly developed percussion instrument of the North, it has more or less been superseded in popularity by the tabla. The use of pakhawaj is confined to severely classical types of compositions like Dhrupad and Dhamar. It is also used for accompanying instruments like the bin (northern veena), the surshringar and the surbahar, when played in traditional styles. The various rhythmic strokes of the pakhawaj are also distinguished by a distinctive terminology (bols).
3. **Tabla**

The primary percussion instrument in North India since the 18th century has been the tabla.

![Tabla Image]

The tabla constitutes a vital part of Indian music, especially in the North, and no concert, either vocal or instrumental, can take place without a pair of tablas. The tabla player does not have to adapt his time measure to the needs of the principal artist. On the contrary, the main artist must take cognizance of the relentless beats of the tabla which give a continuous and explicit version of the rhythm cycle the artist has chosen for his performance.

**Traditional Background**

The history of the tabla is not clear, but various theories have been offered. A fanciful one, dubbed a “fairly tale” by Chiatanya Deva, concerns two professional pakhavaj players during Emperor Akbar’s time (1556-1605) who were bitter and constant rivals. One of them (Sudhar Khan) happened to lose in a drumming competition. Unable to bear the defeat, he dashed his drum onto the floor. The pakhavaj broke in two, and the parts were made into tabla and bayan.63

Another theory is that the tabla, like the sitar and other instruments was introduced by Amir Khusru in the 13th century; this theory assumes that the tabla was imported from farther west.

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63 Indian Music, B.C.Deva,
The tabla can be conceived of as the pakhawaj in two pieces. Instead of being one drum with two heads, it is two drums with separate heads. The tabla is believed to be one of the innovations of Amir Khusrau who flourished in Delhi in the reign of Alauddin Khilji in the 13th century. The name tabla seems to have been derived from a kind of Arabian drum called tabla.

**Physical Structure and manufacturing**

The tabla consists of two drums, the bayan or the one played with the left hand and Dayan or the one played with the right hand. The Dayan is made either of clay or of copper while the Dayan is usually hollowed out of a block of wood. Both are covered with skin fastened to leather hoops which are stretched over the body of the drum by means of leather braces. Cylindrical blocks of wood are wedged between the braces and the wall of the tabla. These wedges can be pushed up or down to lower or raise the pitch. The two pieces are generally tuned one octave apart.
The tabla as we now find, it is a two piece drum, often collectively known as tabla. Of the two, one is the tabla proper and the other is the dagga (duggi or bayan). The tabla is invariably made of wood and it is a vessel broader at the bottom and narrower at the top. The face is very much like that of pakhavaj. There is a middle membrane almost as wide as the mouth and this is held by an annular ring of leather about two centimeters in width, pasted to it all round. This ring of leather known in Hindi as the chanti or the kinara, is stitched firmly to a leather braid, the gajra. The unit of central leather, the chanti and the gajra, together often called the pudi, is tightened onto the open mouth of the body by means of at the bottom.64

The application of a mixture of flour and water to the left head of the pakhwaj lowers the pitch and gives a dull, bass sound. This plaster is always scraped off after use in the case of the pakhawaj, but in the bayan it is applied once and for all and therefore the plaster is mixed with iron fillings.

Playing Techniques and Melodic Executions

The tabla is not played with the open hand like the pakhawaj. A variety of tonal effects can be obtained by varying the manner of striking as well as the parts of the head which are struck. For instance, the full hand can be used, or just the fingers. The fingers can be clamped over the struck head and then released. A most expressive sound is produced by striking the center of the basan with the full hand or the tip of the fingers and then pressing the base of the palm downwards and simultaneously sliding it over the drum head. The tabla has a highly developed technique of playing and in the hands of a master it is capable of producing almost all the patterns of rhythms that a musician can conceive of. The well-established time cycles (talas) are rendered in terms of drumming phrases (bols) called theka. The theka constitutes the drummer’s basic structure which he elaborates and upon which he freely improvises. In a solo recital of the tabla, a

64 Musical Instruments, B. C. Deva , p-67
master player can bring out a bewildering variety of subtle and grateful patterns and styles of playing, for instance the quida, the turka, the peshkara, the paran, the gat, the mohra and so on. The best known styles in tabla playing are poorab ka baj, dilli ka baj, and ajrara ka baj.

**Famous Artists**

There are many fine tabla artists, although few have been soloists. Among those of not are the late Chatur Lal, Alla Rakha, Jnan Prakash Ghosh, Lateef Ahmed Khan, Zakir Hussein, Faiyaz Khan, Anand Gopal Bandhopadhya (also called Gopal Banerjee), Shamta Prasad, Krishan Maharaj, and Sharda Sahai. Other reputed artists are Kumar Bose, Shafaat Ahmed Khan, Anindo Chatterjee, Akram Khan, Rafiuddin Sabri, Ram Kumar Mishra, amongst many others.

**Tuning System**

Precise tuning of the tabla is done with a small hammer made of German silver. The hammer is held in left hand, and the right hand does testing. For general tuning, the wedged blocks are hit; for fine tuning, the hoop around the head is tapped. The tension must be equal all the way round the head, and the same clear sound, at the same precise pitch, must be achieved. If the tuning begins to slip during a performance, the drummer stops to fix it- without interrupting the continuity of the tala (unless the soloist he is accompanying also stops to tune, and usually not even then). The drum is tuned to Sa (or perhaps Pa) of the soloist’s voice or of the solo instrument. Tuning of bayan is less complicated than tuning the dahina because the former is tuned to a general pitch area rather than to a precise pitch. Tapping the hoop around the head with the hammer usually suffices. The thongs on the bayan are sometimes threaded through metal rings two and a half centimeters in diameter, which can be pushed up or down to tighten or loosen the tension on the head.

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65 Music In India By Bonnie C. Wade , p-139
4. **Tavil**

The tavil of South India is another avanaddha vadya deserving mention. This is typically, and most likely exclusively, met within the nagasvaram or melam ensembles. Tavil has traditionally been used to accompany the Nagasvaram.

**Physical Structure and Manufacturing**

This drum consists of a barrel-shaped shell hollowed out of a solid block of wood. The skins on the two sides are stretched over hoops made of hemp and six or seven bamboo stick bundled together. The hoops are fastened to the shell by means of interlaced leather thongs. A band of leather passing round the shell...
along the middle over the braces serves to tighten the instrument up to the desired pitch. The right side is played with a stout stick. The skin on the right side is stretched very tight but not tuned to any definite pitch.

**Tuning system**

The instrument is tuned to the desired pitch area by a band of leather around the laced thongs at about the middle of the drum.

**Playing techniques Melodic Executions**

The right head is played with the wrist and the fingers, and the left head is struck with a stick.\(^{66}\) The stick used on the tavil is hard and is made from the purasi (portia) tree wood. The player beats on one side with a stick and on the other side with his fingers. The striking is so hard and forceful that, to produce the desired effect and to protect the fingers, special bandages are wound round the tips of fingers. In an open air performance, the Tavil is hung on the shoulders, brought to the front and played while the performer stands.

5. **Nagara**

The nagara is also called naqqara and is one of the oldest percussion instruments in existence. This instrument is known as naqqrah in the regions of the Middle East. The nagara is a big conical drum covered with hide. Most

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\(^{66}\) Music in India By Bonnie C. wade, p-135
temples and religious institutions in India own. It is used in religious worship and heads processions of temple deities. The nagara are a very familiar drum throughout North India and it is quite possible that its name is imported from West Asia. Usually there are two conical bowl drums struck with sticks, the pair being known as nagara and naqara. The smaller of the two is higher in pitch and is the madi or female; the larger with a deeper tone is called the nar or the male.

**Traditional Background**

Some ancient varieties of this instrument, known as bheri and dundubhi, occupied a place of great honor and were used in battle. Indian epics make mention of these martial drums. The battle drum was regarded with great veneration and the capture of this drum meant the defeat of the army. The nagahara is the drum that was used in the naubat ensemble in Mughal courts to accompany the shehnai, and it is still frequently used with shehnai on the concert stage. While the naqara or nagara is used in folk dramas, marriage and religious processions, the traditional place where it is found is the naubatkhana. Nubatkhana, as an institution got disappear later.

**Physical Structure**

The shell is of riveted copper, brass or sheet iron. The diameter of the head is between two and half and three feet. In some places in North India, there are nagaras with a diameter of as much as five feet. The skin is strained upon hoops of metal and stretched by means of leather thongs or thick ropes passing round the underside of the shell. It is beaten with sticks and the sound produced is deep and imposing. C.R. Day has lightened up towards the nagara having five feet height, which is also described by S.Krishnaswami. He says that “The Maha-nagara, or Nahabet, it is a very similar kettledrum, of larger size, employed in bands attached to the palaces of Mahomedan nobles in Deccan and Upper India. These instruments are sometimes made as much as five feet diameter”.

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The traditional means of playing the nagara is with sticks. The instruments produce a sharp, resonant sound that can carry quite far. Two curved sticks are used to play the Nagara.

Similar Instruments

A form of nagara called Karadisamela is in use in Lingayet temples in the Southern Provinces; this form only differs from the ordinary temple drum in that it is larger and the shell is conical, with the apex of the cone flattened, in place of being nearly semi-spherical. The naqqara is one of the constituents of the famous naubt, the royal ensemble of the Mughal court. The naqqarkhana of Emperor Akbar comprised 20 pairs of naqqras besides other instruments.

6. Chenda

Chenda is a well known cylindrical drum of Kerala. This is an instrument seen invariably in kathakali, koodiyattam and related forms of dance.

In a Kathakali dance recital, the chenda is generally played along with the maddalam, a drum similar to the northern pakhawaj but larger in size. The rolling sounds of the chenda combined with the more subdued tone of the maddalam and the staccato banging of gongs and cymbals release sound images that blend with the mudras of the hand and are unison produce a powerful effect. The local name
for the playing of this group of instruments is chendamelam and the preliminary drumming before the Kathakali dancing actually begins is called keli kottu. There are many kinds of this drum: the uruttu chenda (for playing variations), the veeku chenda (one which beats the basic rhythm), acchan chenda and so on.

**Physical Structure**

The chenda is a cylindrical wooden drum, two feet in length and about a foot in diameter, both sides covered with skin. It is not tuned to any definite pitch. The drum hangs in front of the player who beats it while standing with two sticks held in both the hands. It is an important percussion instrument used in Yakshagana, a folk dance-drama popular in the northern and southern regions of Karnataka. It is also used as an accompaniment to the Kathakali dance drama of Kerala. The sound produced by the chenda is so loud that it can be heard several miles away.

7. Dhol

The Dhol is one of the commonest percussion instruments in India, mainly used for accompanying folk music. It also adds a gay air to festivals and ceremonial occasions. Between the loud and noisy dhol of the aboriginal tribes and the more subdued dholak of the common folk, there are endless varieties which give colour and rhythm to any music they are associated with.
Physical Structure

The Dhol is a barrel-shaped drum made of wood, usually about 18 or 20 inches in length and 12 inches in diameter. The size however varies greatly in different places. The thickness of the shell is from $1/8\text{th}$ to $1/10\text{th}$ of an inch. The skin on both the heads is stretched round leather hoops fastened to the shell and kept taut by means of interlaced leather thongs or thick rope. A leather band passed round the shell and over the braces serves to tighten the 2 heads to the pitch.

Playing Techniques and Melodic Executions

The Dhol is played both by hand and stick. Sometimes the left side of this instrument is left out altogether, in which has the right side is beaten with two sticks. Metal rings stuck by the drumsticks are sometimes attached.

Similar Instruments

The Dholak, similar to the dhol are popular all over India. The shell is hollowed out of a solid block of wood. The braces are of thick cotton thread and pass through circular rings of metal near the middle of the shell. These rings help in the tuning of the two heads.

Dholak
The Dholak is played with the hands and used throughout India in folk music, dance, festivals and ceremonies. Like this, another famous instrument known as Dholkee is smaller than dhol and generally used by the women.

Dholki

The only common feature amongst these is that they are all two-headed drums. It is usual to call the larger drums as dhole and dhak and the smaller ones as dholak. The sizes may vary from the huge dhaks of Bengal to the small dholaks of itinerant beggars and drums beaten by ladies in marriages. The shapes also differ from the almost cylindrical to the barrel. The manner of stretching the hide over the mouths and lacing also varies. The drum may be plain or may be loaded from the inside with the pulp of, say, castor seeds after the extraction of oil. Dholes and dholaks are suspended from the neck, tied to the waist and kept on the lap or the ground, and played with the hands or with the sticks. The southern India, it was sometimes used in classical music concerts too. Nannumiyan was a famous player of this instrument. A quarter of a century ago, the leading mridangam player, Alagianambi, sometimes accompanied musical performances on the dholak. The Kharram of Assam, the large dhole of the Andhra Reddis and dhole of the Dhangrs of Maharashtra are huge wooden drums played to their dancers.
8. **Tumbaknari**

The Tumbaknari is a drum used by the people of Kashmir. Tumbaknari of Kashmir is large surahi, the upper end of which is covered over with leather and the lower end is open; it is held horizontally on the lap and played with the fingers.

**Physical Structure**

It is shaped like a long-necked water pot with the bottom knocked off and covered with skin. The instrument is held under the left arm and played with the right hand. Sometimes the player squats on the floor, places the instrument on the left side of his lap and plays with both the hands. The tumbaknari is a popular instrument used for accompanying folk music along with other instruments of the region such as the rabab, the saz, the dholak and the ghata.

**Similar instruments**

The short necked ‘ghumat’ of Goa and Maharashtra are similar instrument of this category. Also the gummate of Karnataka and burra of Andhra and the jamukku of Tamil Nadu are also similar to the Tumbaknari.
9. **Pambai**

Today cylindrical drums of different sizes and held in various positions are common throughout the country and are comprehensively called dhole when large or dholak when small. (These words are applied also to barrel drums). One interesting variety, generally seen in Andhra and Tamil Nadu, is the pamba or pambai, a folk musical instrument. As a matter of fact there is a community in southern Andhra who specialize in playing this instrument; this social group call themselves the Pambalas.

**Physical Structure and Manufacturing**

The pambai consists of two cylindrical drums each about one foot in length placed one over the other and tied together. The upper drum is made of brass and the lower one of wood. The sides of both are covered with skin. The Pambai is not one drum, but in reality a pair of long cylindrical or near cylindrical ones, tied together. The unit of two is held near the waist of the player and beaten with curved sticks. In the simpler varieties, both drums are made of wood. But often meets pambai in which one drum is of wood and the other of metal, usually brass. The two constituents are distinguished by giving them different names: known as veeru vanam and the metal drum as the vengala pambai, (vengalam means brass). Of course, pambai includes both and is a collective term.
Playing Techniques and Melodic Executions

The Pambai is hung in front of the body and tied to the waist. It is played while standing. The right side of the upper drum is played with a curved stick and the left side of the lower drum with the hand. This interesting instrument is used largely as accompaniment to folk dramas and ballads in southern India. It is used also in music played or sung to invoke lesser deities and nature gods. In such instances, the pambai is played long with nagaswaram. Skilled performers can produce fascinating rhythmical effects on the instrument.

Similar Instruments

Urumi belongs to the South. It is a double-sided drum which is narrow in the centre and broadens towards the ends. It is a little longer than the pambai (described later) and is played with a curved stick about one and a half feet long which is held in the left hand. The stick does not actually strike the head but is rubbed up and down against the skinned surface on the left side, producing a sound resembling the growling of an animal. The urumi is one of the three instruments constituting the ensemble known as urumi melam, the other two being a small nagaswaram, and a small pambai. The urumi melam is mainly used for funeral processions and never for celebrations or auspicious functions. Sometimes the players, with bells tied round their ankles, dance as they play.67

10. Damru

The Damru is a small drum, shaped like an hourglass. It is called dhakka in Sanskrit and is frequently mentioned in ancient Sanskrit literature. It is an attribute of Lord Shiva who is said have played it during the cosmic dance. In ancient sculpture, it is represented as an attribute of Shiva Nataraja, Shiva as Lord of Dance.

67 Musical Instruments of India: S.Krishnasami, P.53
Physical Structure and Manufacturing

The length of the Damru varies from 6 inches to one foot. A small ball of metal or cork is attached to a string which is wound round the narrow waist of the drum over the braces connecting the 2 heads. The heads are covered with parchment.

Playing Techniques and Melodic Executions

The instrument is held in the right hand and rolled from side to side, as the drum shakes. The end of the string bearing the metal ball strikes the centre of both the heads alternately and produces rhythmic strokes. The braces on the drum can be tightened or loosened by squeezing and releasing the fingers. This produces notes of different frequencies. There are longer varieties of the damru which are provided with 2 knotted strings, one near each face. This arrangement is suitable for rhythmical strokes of fast tempo. The damru is used for accompanying devotional and ritualistic folk music. It is also associated with magic shows, spells and other primitive rites of the common people.
Similar Instruments

Damaruga belongs to the same family as the Damru. It is used in the Karnatk and Mysore regions for accompanying temple music and on ceremonial occasions. According to B.C. Deva, the Damru of Tibet and its neighboring areas is found in hourglass shape and locally known as ‘Nga Chung’.

The Budbuduke is another small member of the damru family. It has two small strings with knotted ends. The drum is held between the thumb and the forefinger. It is very popular instrument and always found in the hands of jugglers and wandering minstrels in India. Budbudke or Kudukuduppe are southern names for diminutive damru used by the monkey man throughout India: the monkey and bear dancers in the North belong to a special community called madari.

Huruk is built on the principle of the damru (described later) but is bigger in size. Both ends are covered with skin and laced with cotton thread. The instrument is hung over the left shoulder and the right side of the drum is beaten with the hands. The left hand holds the central braces, and varies the tension, thereby effecting changes in the tone of the instrument. The huruk is a popular instrument for accompanying folk songs in the hilly districts of Kumaon and Garhwal, and other regions of Uttar Pradesh.

11. Timila
The Timila is a variety of double-faced drum in the shape of an hourglass, used mostly in the ritualistic music of the temples of Kerala. It also leads processions of temple deities.

**Physical Structure**

The instrument is carved out of a block of wood and is about 2 feet long. The wall of the shell is oblique, standing at an angle of 75 degrees to the face. Skins are stretched over bamboo woops that are fitted over 2 sides and held in position by cords running along the whole length of the drum. The instrument is slung over the left shoulder and played only on the upper side with both hands. It is played while standing. The head is tuned to a definite pitch. The Timila is also a constituent of the famous group of instruments called panchavadyam.

**Panchvadyam**

12. **Duff**

An important and popular family of drums used by common people in India is a Duff. The Duff family is a tribal and folk one, never used in sophisticated concert music. The drum is known by different names, the most
common of these being Duff. Variations of this word are dappu, daflı and so on; in Tamil it even gets modified to tep. There is another set of names use in South India and these are tammate or tappate in Kannada, tammati or tappati in Tamil, nd tammeta or tappeta in Telugu. In Maharashtra and Karnataka it is also known as the halige. According to some, the ancient Sanskrit name for the frame drum was pataha, a word found in Mahabharta and the Natyashastra. However, medieval writers on music used the word most probably to mean a barrel drum. Other names for this class of instruments are dyara, chang, karachakra and so on.

Physical Structure

This type of drum is very simple in construction. It consists of an open circular frame with only one side covered with skin. It can be played either with the hand or with sticks. The diameter of such drums varies from 3 inches to 3 feet. These drums are used mostly for accompanying the music, devotional songs, and dance of the common folk. It is also used on festive occasions. These drums are called by various names in different regions. Some of the names are damphla, daera, daphde, dappu, and tambattam. Duff is northern name of this drum. It consists of a round frame of wood about 6 inches wide and about 3 feet in diameter covered on one side with skin which is stretched by means of a network of thin leather thongs.

Playing Techniques and Melodic Executions

The drum is held in the left hand and gripped against the stomach. It is played with the fingers of the right hand. A thick stick held perpendicularly over it by fingers of the left hand is made to strike the instrument at intervals. The Duff is closely associated with the Holi festival. It is also used on other festive occasions and in processions, sometimes along with other drums. In Maharashtra, the duff is used for accompanying typical folk songs like lavanis, powada and devotional abhangas. Further South, the instrument is called tappu (in Tamil) and
dappu (in Telugu). There such drums are used while making important public announcements and for accompanying folk songs during festivals and ceremonies. Sometimes the player regularly beats the rim of the drum with a small metal ring. The patha is the name given to this drum in Sanskrit texts.

**Similar instruments**

A frame drum similar to the Duff but smaller in size is the khanjari. The khanjari has a frame, nearly 30 cm. in diameter, made of wood, brass or even iron, and is covered with parchment; the instrument is beaten with the hands using the palms and fingers. It is not just the difference in dimensions between the Duff and the khanjari which is notable; the essential dissimilarity is that the latter bear sets of small brass platelets, fixed loosely in pairs which produce a pleasant tinkle while playing. This instrument is also a folk instrument, usually associated in the West with gypsies and known as the tambourine; it has. However, been mentioned by Hindi poets of the Middle Ages. A third type of this group- though without the jingle plates- is even smaller, though called khanjeera of the South. Approximately a span across, it is held in one hand and played with other. In North India it is a folk instrument, whereas in the peninsula it is a concert drum almost as versatile as the ghatam. The Duff and Khanjari are made of sheep, goat, ox or buffalo hide; but the khanjira (and even the smaller khanjari) use the skin of iguana, a kind of lizard.

**13. Khanjira**

The Khanjira (also called khanjari in the North) is one of the most ancient musical instruments of the percussion variety. It is used all over India for accompanying folk songs and devotional music. In the South it has secured a more delightful place and is sometimes used for accompanying classical music as well.
Physical Structure

The Khanjira is very simple in construction and consists of a circular wooden frame about 10 inches in diameter and 2 and half inches broad. Across one side, some type of skin, preferably that of the wild lizard is stretched. The other side is left open. The frame is provided with 3 or 4 slits and a few pieces of metal or coins are inserted in a cross-bar inside the slit. These make a jingling sound when the instrument is shaken.

Playing Techniques and Melodic Executions

The Khanjira is held in the left hand and the palm and fingers of the right hand are used to strike the skin to produce the variations. Usually the application of a little water to the stretched skin reduces its tension to required pitch. The variations in sound are brought about by pressing the skin near with the four fingers while playing. In a classical concert in the South, the khanjira is used to supplement the mridangam. Experts can produce, with only one hand, all the variations and patterns that are played on the mridangam. In recent memory Pudukkotti Dakshinamurthi Pillai has been a great exponent of this instrument.

Ghana Vadyas or Idiophones

1. Ghatam

The earthen pot is an instrument which is popular both in folk as well as classic music. The folk varieties are made of clay or metal and go under names such as matki, gagri and noot. The ghatam, often heard in Karnataka music
concerts, is much like the noot but is an improvement made out of special clay, carefully kneaded and uniformly tied.\textsuperscript{68}

Ghatam is a well known Ghana vadya or idiophones. It has been used in classical performances in Karnataka for at least last one hundred years.\textsuperscript{69}

The ghatam is only an earthen pot with a narrow mouth and big belly. It is naturally one of the most ancient percussion instruments in existence. In the North it is called ghata and is extensively used for accompanying the folk music.

\textbf{Physical Structure and Manufacturing}

The clay used for making the ghatam is mixed with iron filings and then baked. The places noted for the manufacture of strong, durable and resonant ghatam suitable for classical music are Panruti and Manamadurai, both in southern India.

\textbf{Playing Techniques and Melodic Executions}

The Ghatam is played with two hands, the wrists, the 10 fingers and the nails. The mouth of the pot is pressed against the stomach and the strokes given at the neck, the center and the bottom of the outer surface achieve very considerable tonal variety. Ghatam is also very fast tempo in rhythmic patterns. In a South Indian Classical Music concert, the ghatam is usually used only as a secondary instrument along with mridangam.

\textbf{Sitting Posture}

The Ghatam player sometimes throws his instrument into the air, interrupting but not disrupting the continuity of either his rhythm patterns or the

\textsuperscript{68} Musical Instruments, B.C.Deva, p-35
\textsuperscript{69} Music in India –The Classical Tradition by Bonnie C.Wade P: 133
tala. Formerly, the player accentuated the final climax by throwing the instrument high in the air, timing its fall perfectly so that it would break with a crash exactly on the last beat of the last rhythmic pattern. This practice was inexpensive because the clay pot was an ordinary one. Nowadays, however, the clay used for the ghatam is mixed with iron filings and then baked. The pot is longer allowed to break because of the expense of replacing a good one.

**Famous Artist:** Ghatam specialists include R.Gurumurthy, Vellore T.G. Ramabhdran and Sundarmier Palghat. Pazhani Krishna Iyer was a great exponent of the ghatam in recent memory.

**Similar instruments:** Noot is one of the similar instruments of ghatam. The noot is an earthen pot and is placed in front of player on the ground or on the lap with the mouth up. The singer, who uses the noot for rhythm, beats it on the mouth and the sides in simple but very attractive tala.

Nout is the northern Indian equivalent to the ghatam. Like the ghatam, the nout is a large clay pot. It is used as a percussion instrument in the Kashmir area of India.

2. **Jaltarang**

There are in India a number of instruments made of porcelain, wood, metal, glass, leather etc., which are effectively used in playing classical music. To
such a variety belongs the class of instruments called jaltarang, kasht-tarang, and kanch-tarang and so on.

**Traditional background**

One cannot be very sure of the ‘Indian-ness’ of this instrument, as there is very little historical evidence. It is said that Alexander, on his way back to Macedonia from India, took with him some jaltarang players; this fact however, has to be sustained.

**Physical Structure**

Jaltarang literally means ‘water waves’. It consists of about 18 porcelain cups of different sizes, each processing a distinctive tone. The cups are arranged in a semi-circle in front of the performer, from the biggest to smallest, beginning from the left. The empty cups when struck with a small stick give notes of different pitch; the bigger cups produce a deep, low sound and the smaller ones emit high-pitched notes. It consist a number of China bowls, the number depending on the notes to be played.

**Playing Techniques and Melodic Executions**

Usually water is poured into the cups and the rims of the cups are struck with two slender sticks held in both hands. The more water there in a cup, the lower is the pitch. As the water poured out, the pitch is raised. Delicate graces and nuances are produced by bringing the stick in contact with the water in the cup. The tuning of the various cups generally takes a long time and the cups are so arranged that the pitch rises from left to right. The Jaltarang is played by itself, only in fast tempo. In the North, gats of the sitar are played on this instrument. No alap of a contemplative nature requiring gamakas and meends is possible on the tarang variety of the instruments. In the South, the jaltarang enjoys the status of a concert instrument and performances in this instrument are accompanied by the violin and the mridangam. All musical compositions of medium and fast tempo
can be played effectively on this instrument. The names of Jaltaranganam Subbair and Avidyakoil Harihara Bhgavathar may be mentioned among the virtuosos of this instrument in the South.

**Similar instrument:**

Vatsayayana’s Kamasutra speaks of an udaka vadya (water instrument) which according to some might have been jaltarang\(^{70}\).

### 3. Kasht-Tarang

One so metimes meets the kashtha tarang in modern ensembles and orchestras. Most probably this is an alien instrument given an Indian name; for we have no tribal or folk counterparts from which this could have developed. The kashtha taranga, as we found now, is a set of a number of wooden (kastha) slats of varying lengths and thickness fixed more or less loosely on frame. Under each kastha a tube of determined length and diameter is attached, to give proper resonance and volume to the sound. These wooden bars are arranged in a row of increasing pitch and stuck with a pair of sticks for playing the melody. The beginnings of this instrument, called xylophone in English, are found with African forest dwellers.\(^{71}\)

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\(^{70}\) Musical Instruments, B.C.Deva, p-34

\(^{71}\) Musical Instruments, B.C.Deva, p-27
Physical Structure

The kasht-tarang is nothing but a graduate series of flat, hard wooden bars, about 20 in number, arranged parallel to each other. Beginning from the biggest bar at the extreme left end, the pitch gradually increases from left to right. Each bar is tuned to a note in the scale. The bars are mounted on a wooden frame and the instrument is played by striking the bars with two small wooden frames and the instrument is played by striking the bars with two small wooden beaters or hammers held in both hands. The kasht-tarang is meant for solo playing in fast tempo. Owing to its characteristic tone colour, it is being extensively used in modern orchestra.

Similar instruments

One of the very famous folk instrument of Rajyasthan known as sree mandal is similar to kashth tarang. Sri mandal is also called Thali Tarang or Nal Tararang. The nearest ebullient to this instrument is western xylophone.

4. Kanch- Tarang

The Kanch-Tarang is also called mukur-tarang. The general appearance, construction and technique of this instrument is almost like that of kasht- tarang with the difference that the bars of the kanch-tarang are made of glass while those of the kasht-tarang are of wood.

Playing Technique

The glass plates are arranged parallel to each-other, beginning with the largest plate and ending with the smallest. Each plate is tuned to a definite note of the scale. The range of this instrument is about 2 and a half octave. It is played with 2 sticks held in both hands and the tone is decidedly more brilliant, clean and
pleasing than that of kasht- tarang. The manufacture of this instrument and its popularity are limited to northern India.

5. **Manjira**

Manjira belongs to cymbal family. It is also known as jalra. The term jalra seems to have been derived from jhallara, jhallari and jhallarika which occur in ancient Sanskrit treatises. There are many varieties of cymbals belonging to this family. One of the sculptures at Konark shows the figure of a woman playing the cymbals (kansya tala or kinkini jalra).

The names are equally numerous: Jalra, Jhallari, Kartal, Tali, Talam, Elattalam, Kuzhittalam, are commonly applied to smaller types while the larger cymbals are called bharattalam, brahmatalam, bortal and so on. The instrument is found everywhere in the country with itinerant singing parties, harikatha artistes (who tell the story of Lord in song and tale), devotional congregations, dancers and beggars. As for history, the earliest known specimen is from Indus excavations and the near contemporary Vedic texts wherein the cymbal is referred to as aghati. According to B.C.Deva, “the jalra are made in proportion a good deal thicker than the larger cymbals, and they are played so as to produce a ringing sound, somewhat like that of a trembling electric bell; they are usually connected by a cord passed through their edges only struck”.

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Physical Structure and Manufacturing

Manjira consists with flat plate-like ones to deep bell shaped instruments. The Manjira is a pair of small metallic cymbals used for rhythmic purposes. They are flat, circular discs usually connected by a cord or cotton thread passing through a hole in their centres. The manjira produces a pleasant sound and is used mostly as accompaniment to devotional music all over India. Experts are able to produce attractive rhythmic variations even with this tiny instrument. In the South, the instrument is called jalra, jalar or jalara and is used in devotional music and religious discourses. The jalras made in Pandharpur are noted for their tonal quality.

Similar instruments

The talam or kuzhitalam of Tamilnad is a pair of basin-shaped cymbals the tinkling of which goes very pleasingly with any soft music in dance, drama, or devotional songs. The talam is heavier than the manjira (jalra) and generally only the edges of the talam are struck. The two cymbals connecte with the back of each is a tassel of silk or piece of wood which serves as a handle. The Talam used by parties in singing in the South resembles the jalra but is much thicker.

6. Chimta

The chimta seen in various parts of North India is a jingle johnny with small platelets. It is an iron fork a meter long, on the arms of which are fixed
loosely sets of small discs of brass. (Chimta literally means a pair of tongs.) The instrument is shaken or beaten against the palm rhythmically in accompaniment to bhajans, folk songs and dances. The Chimta is a rhythmic instrument popular in Punjab and neighboring regions.

Physical Structure and Manufacturing

It consists of two flat pieces of iron 2 feet long with pointed ends. One end of both is joined together by an iron ring. A series of circular metal rings are loosely fixed to the 2 arms of the instrument. The instrument is held in both the hands and pressed to give rhythmic effects. The effect is more or less similar to that produced by the kartal.

The chimta is used largely in the devotional music in Sikh Gurudwaras. It is also an effective accompaniment to Bhajans and kirtans. The chimta is usually supplemented by the dholak.

7. Kartal

The word Kartal literally means rhythm of the hand. Made of wooden blocks with holes for the fingers and circular copper plates, pairs of Kartals are played with both hands. Kartals usually accompany religious music. Kurtar, or Chittika, are two pieces of hard wood about six inches in length, flat upon one side and rounded upon the other. They are held in the on hand and the flat surfaces beaten together by alternately
closing and opening the fingers to pass through, and at the ends are placed little clusters of bells, or small pieces of metal which jangle with the Kurtar shaken.\textsuperscript{72}

8. **Gopichand (Khamak)**

The Gopichand is also called Gopiyantra or Khamak or Indian plucked drum, is typical folk instrument of Bengal. The Gopichand is used by religious medicants for accompanying pastoral songs and is a favourite instrument of the bauls of Bengal.

This instrument is made of bamboo. The two ends of a split bamboo are attached to a resonator which may be a metal container, gourd or a coconut. Taut skin is used to cover the open end of the resonator. A string passing across the hollow part of the resonator is attached to a tuning peg in the bamboo. The Gopichand is used with other musical instruments like Kartal and Dotara.

\textsuperscript{72} The Music and Musical Instruments of Southern India and Deccan by C.R.Day, p-145