



The Sound of Music

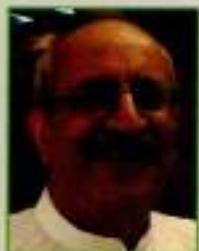


ACKNOWLEDGEMENT

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Ms. Jacqueline Garewal for their help
with the write-up on the instruments.

Their knowledge of music and
the artists who played the instruments
was encyclopaedian!



Dear Friends,

All my friends know about my love for music and art. This time music and art are combined within this calendar! The instruments of India are unique. No country, besides India, has created a sitar or a tabla or a tanpura. And if they copy one, who will play it??

This artist has been painting my calendars for nine years. I think he will carry on - until he doesn't want to.

I had all his original paintings. I tried to hang them around the house, but my friends took them away. So now this lot is going into my basement where I can happily look at them when I want to. Remind me to lock the door.

Pradip Burman

Sa Re Ga Ma

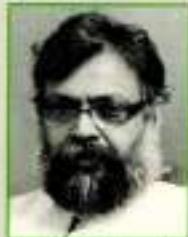
ABOUT THE ARTIST

This artist painted musicians and their instruments. If you look closely, you will recognise that the musicians he painted are real and famous! But he was more interested about the instruments. Every detail of a sitar, with its strings and the keys to tighten the wires and the design on the decorated stem and the grain of the wood was painted. This was for all the instruments.

He used mixed media. Which means he used everything. Oil and water colour and pencils and crayons. But when you look at the painting, you just see the painting. Try to recognise which media is where. I couldn't see it.

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The Sound of Music

Shakespeare said "If music be the food of love, play on! " Music
needs instruments.

Many, many thousand years ago, some human may have blown into a
reed and a sweet note came out. He blew into the reed again to hear the
sweet note. This may have been the beginning of music. The world has
now over 600 hundred instruments! And lots of people playing them.

There are very few people who do not like music.

Instruments are blown, banged, plucked or bowed. Every country made
their own instruments. As the world gets older, instruments got more
sophisticated. The only one, which was internationally common, was the
drum. But not one type of drum. There are drums bigger than a man, and
smaller than a person's head. The Indian drum for musicians, the
"tabla", has actual musical notes!

Western classical music needs an orchestra of twenty to fifty musicians.
Indian classical music needs three. The maestro, the percussionist and
the drone player. That does not mean that India has only three
instruments! You will see only *some* of them in this calendar.



Bansuri

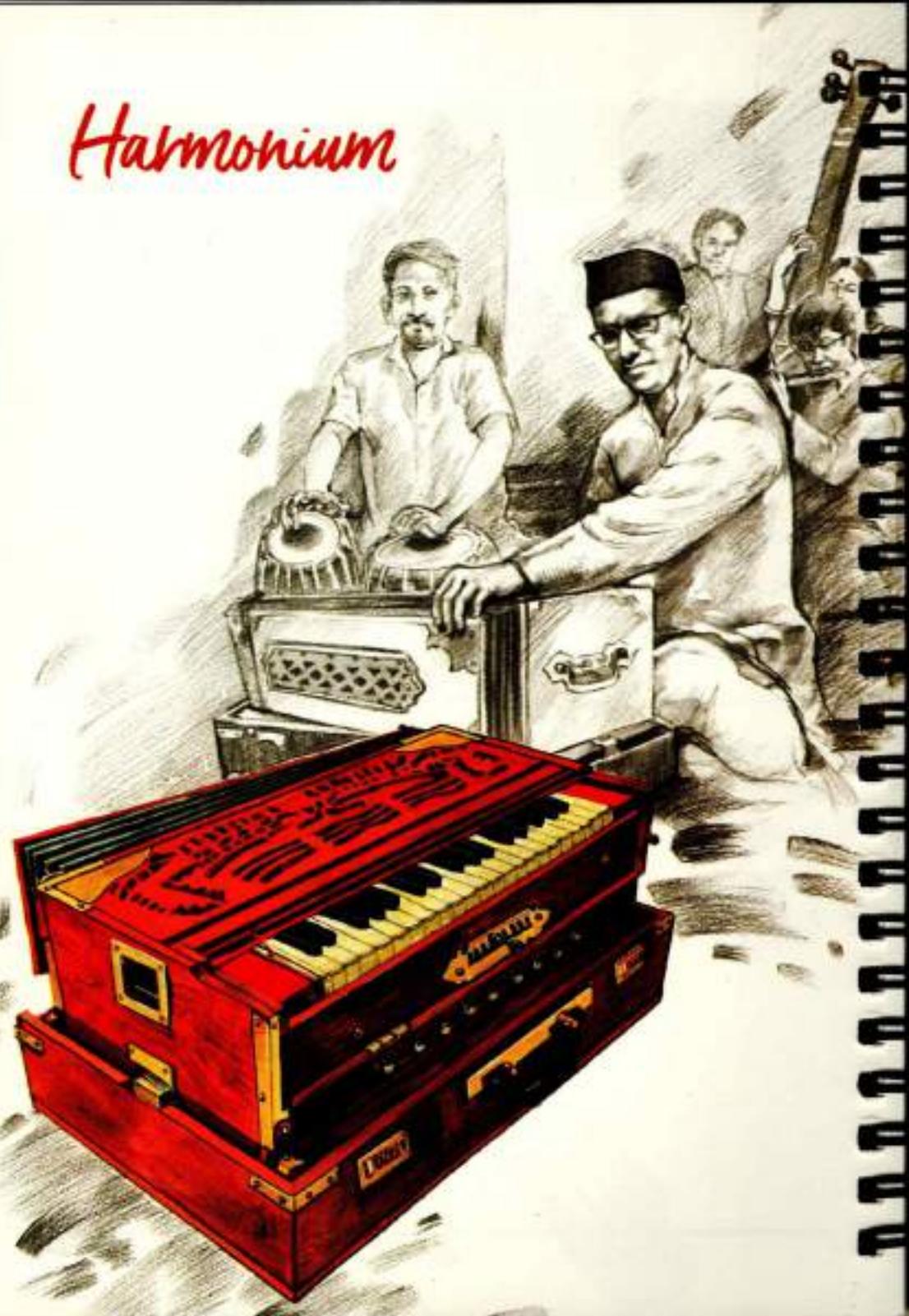
Bansuri

Probably the most well-known and most popular Indian wind instrument is the *bansuri*, the bamboo flute. It has many names, like *vansh* or *vanshi*. It is called *venu* in the South Indian or Carnatic classical tradition. The word *bansuri* originated from *baans* (bamboo) and *Sur* (musical notes). It is blown through the side, unlike most wind instruments. The flute produces the sweetest music.

It has been played for more than two thousand years. They are painted in the Ellora and Ajanta caves and mentioned in the Rigveda, the Atharvaveda, the Upanishads and the Puranas. The flute was developed into a classical musical instrument by the legendary flautist, Pannalal Ghosh. He transformed the tiny folk instrument into 32 inches long, adding one more hole to the original six. Longer flutes enable lower pitches.

Because they are made of bamboo, each *bansuri* is unique, taking into consideration the individual features of the bamboo. Lord Krishna is usually depicted with a flute in his hand or a position in which is playing his flute.

Harmonium



Harmonium

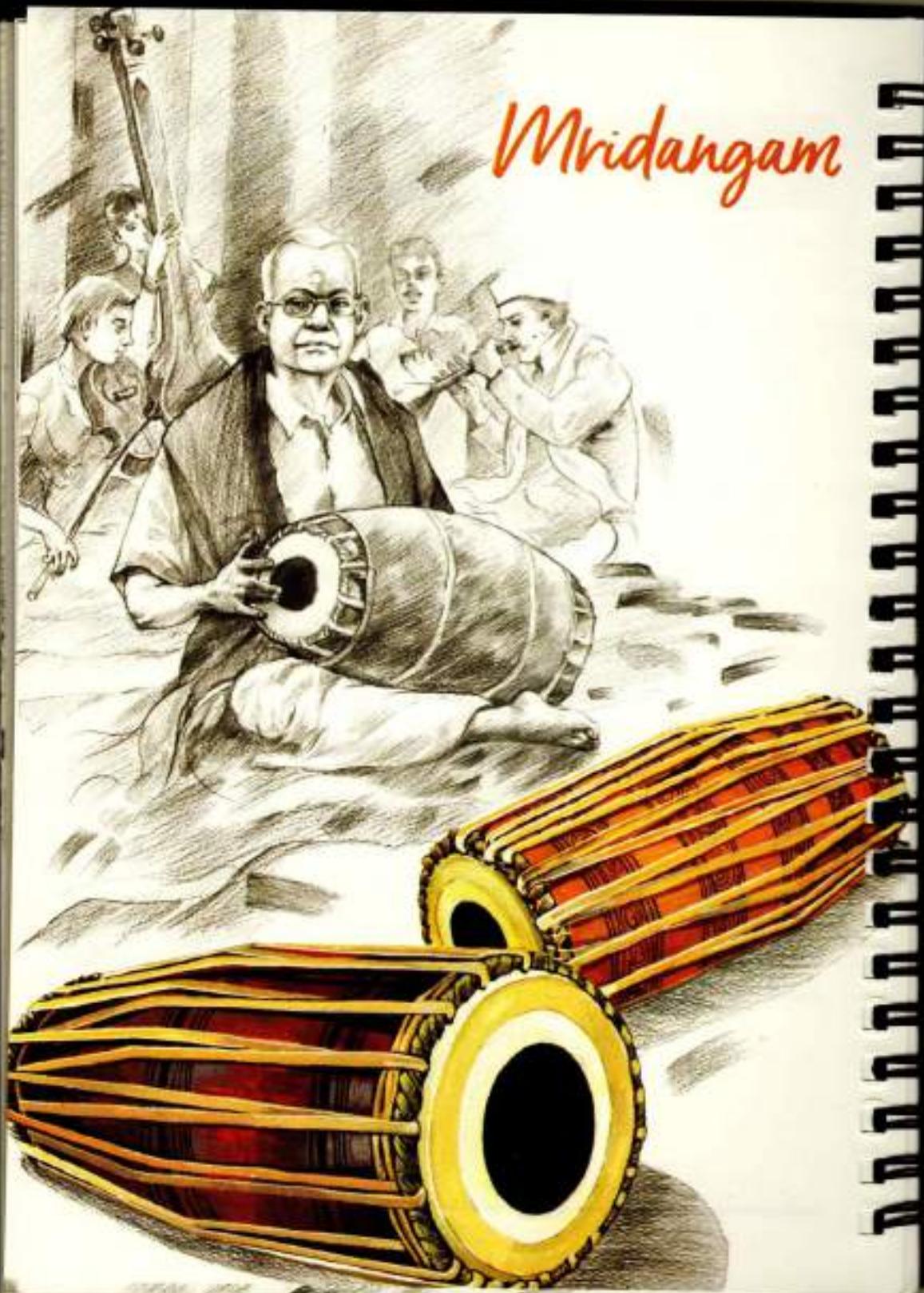
Also called a "melodeon" and "reed organ", it is a keyboard instrument that is a lot like an organ. It makes sound by blowing air through reeds, which are tuned to different pitches to make musical notes.

It is not a native Indian instrument. It was Alexandre Debain in France, who patented his harmonium in Paris in 1840 and was introduced to India by the British. Although it is a relatively recent introduction, it has spread throughout the subcontinent.

Today, it is used in virtually every musical genre, except South Indian classical music. The keyboard is European, but it has a number of drone reeds which are particularly Indian. The foot pumped models disappeared in India many years ago, because the foot pedals required one to sit in a chair, which is unusual for an Indian musician. Also, the only advantage of the foot model was it freed both hands so that both melody and chords could be played. Indian music has no chords, so this was no advantage.

The hand pumped models required one hand to pump and were more portable and comfortable on the floor. Tulsidas Borkar was an Indian composer and harmonium player. He was awarded the civilian honor of the Padam Shri in 2016.

Mridangam



Mridangam

The mridangam was also called *muraj*, it was also known as *mardalam*. It is a two-headed drum, played in south India. The two ends of the drum are different sizes, so that get bass and treble sounds from one drum!

The Mridangam is the main percussion instrument of the South Indian or Carnatic form of music and dance. It is also used to accompany vocalists and all types of melodic instruments.

The origin of mridangam goes back to Indian mythology, where it is said that Lord Nandi (the Bull God), is a master percussionist and would play the mridangam during the performance of the " *Taandav* " dance by Lord Shiva. Another myth adds that that the mridangam was created because an instrument was needed that could recreate the sound of Indra (the King of Gods) as he moved through the heavens on *Airavata*, his elephant. That is why the mridangam is called the ' *Deva Vaadyam*' or the instrument of the Gods.

M. V. Nair was an Indian mridangam player. He accompanied 4 generations of musicians of Carnatic music.

Pakhawaj



Pakhawaj

The Pakhawaj is a barrel-shaped, two-headed drum, originating from North India. A variant and descendant of the older mridang, it is the standard percussion instrument and is used as an accompaniment for various forms of music and dance performances. Each end of the drum is not the same size, nor is the sound of both hands.

It is an instrument to be played upon with an open hand. Modern research suggests that this tabla was invented in the first half of the 18th century (about 1738) by a drummer named Amir Khusru, who was instructed to develop a more subtle and melodic percussion instrument that could accompany the new style of music, called Khayal.

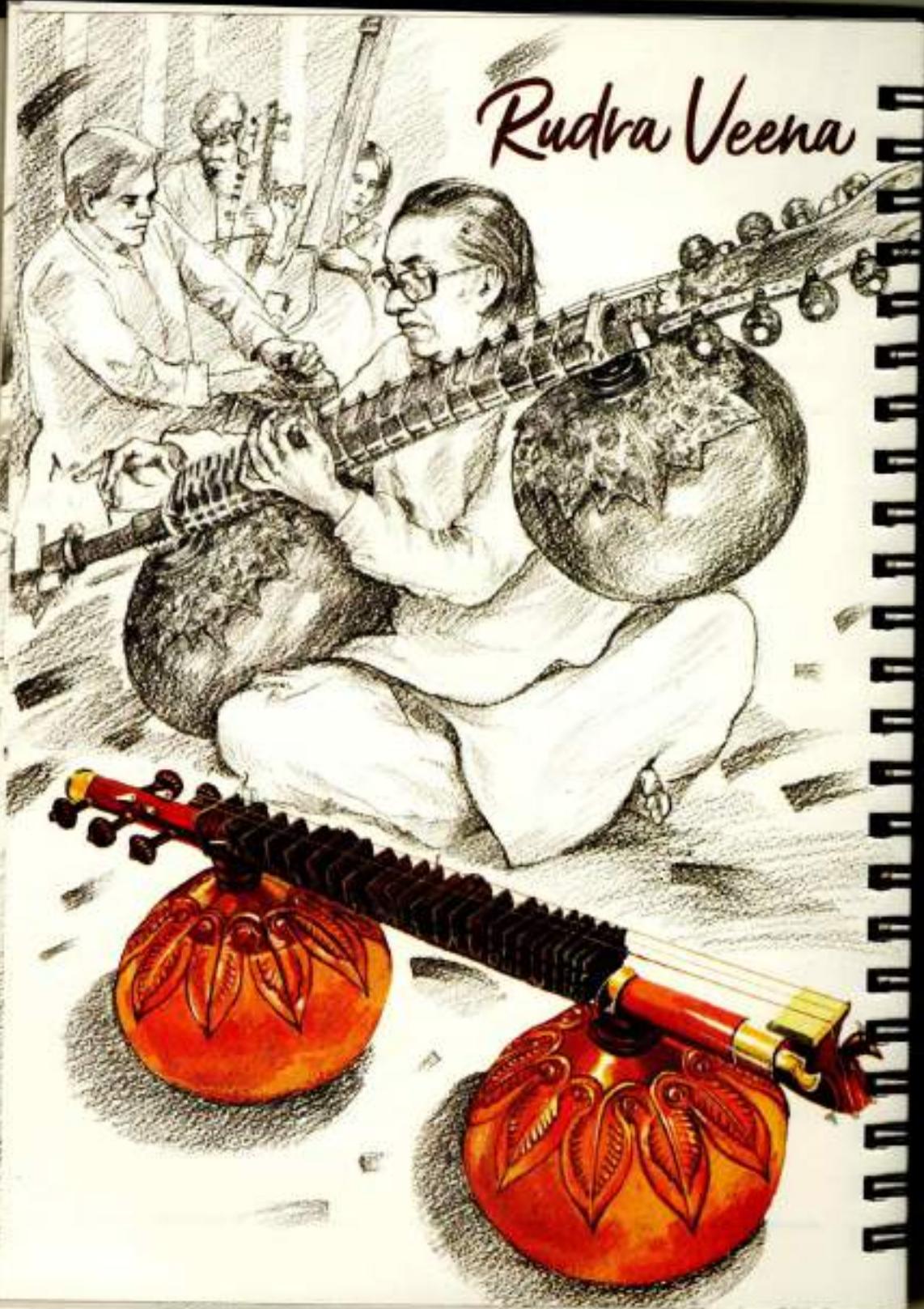
Pakhawaj, or a version of it, has come to be associated as a percussion instrument, played primarily in South India. In fact, the barrel-shaped drum has been played in Punjab since the 16th Century.

Without the accompaniment of the Pakhawaj, no Gurbani kirtan would ever have sounded quite the same.

The Pakhawaj had great importance in Hindustani music till the nineteenth century. It was the only accompanying instrument of the dhrupad style of singing and for the instruments played in dhrupad style and was looked upon with great reverence.

With the advent of *khayal* in the late eighteenth and early nineteenth century, the Pakhawaj lost its reigning position and made way for the tabla.

Rudra Veena



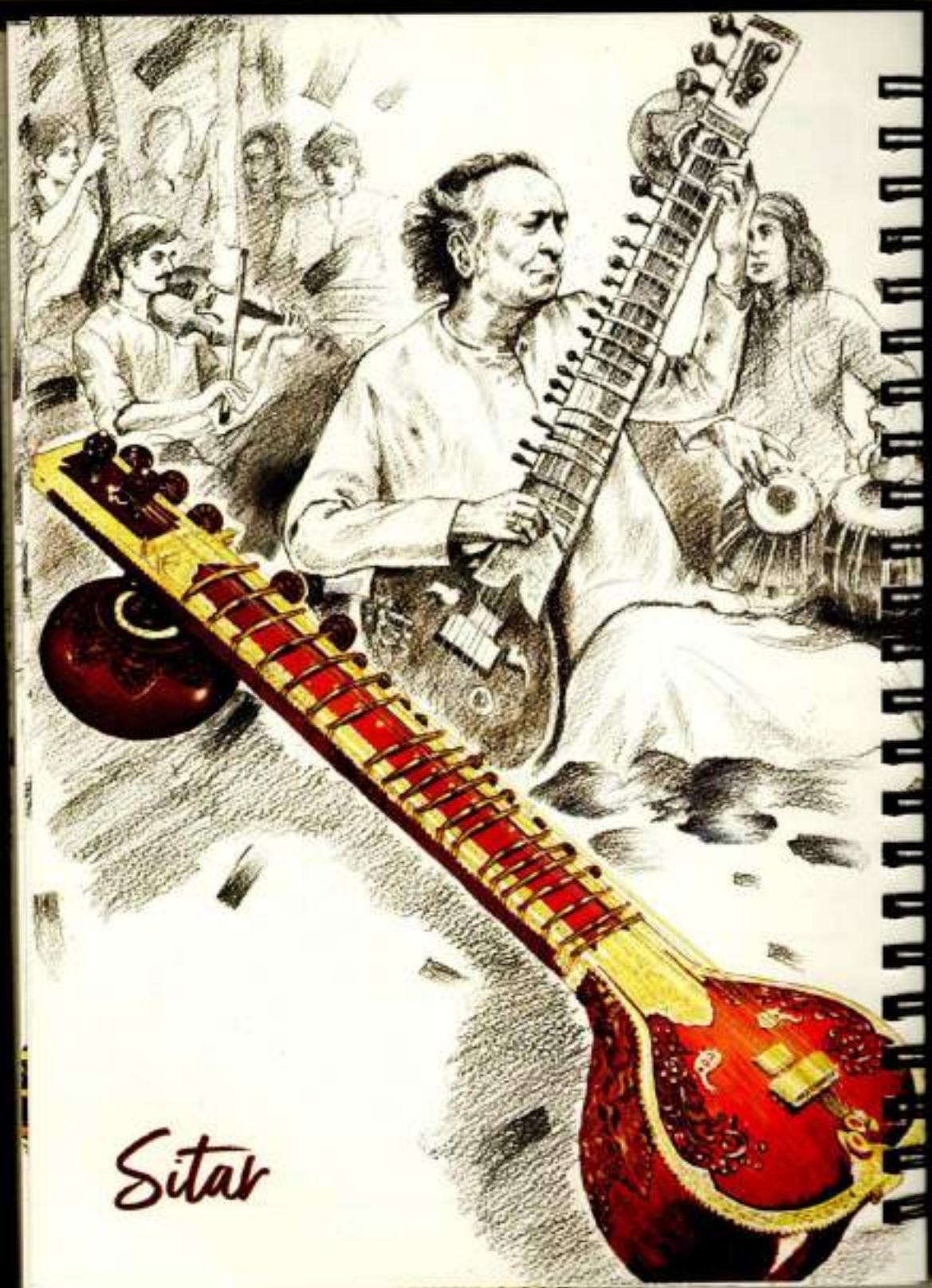
Rudra Veena

Sometimes called *Bin* in North India, this is one of the major types of veena played in Indian classical music. It is an ancient instrument, rarely played today. It is a large plucked string instrument, used in Hindustani classical music.

It has a long tubular body made of wood or bamboo, with a length between 54 and 62 inches. Two large, round resonators, made of dried and hollowed gourds, are attached under on both ends of the instrument. Twenty-four wooden frets are fixed on the tube with wax. There are 4 main strings and 3 chikari strings. Rudra is one of the names of God Shiva.

Rudra veena literally means "the veena dear to Shiva". Shiva has said to have created the Rudra veena, inspired by his wife, Parvati. The instrument declined in popularity, in part due to the introduction in the early 19th century of the surbahar, which allowed sitarists to more easily present the alap sections of slow dhrupad-style ragas. In the 20th century, Zia Mohiuddin Dagar modified and redesigned the rudra veena to use bigger gourds, a thicker stem (dandi), thicker steel playing-strings and closed javari thaat. This produced a soft and deep sound when plucked without the use of any plectrum (mizrab).

The instrument was further modified, as the shruti veena, by Lalmani Misra to establish Bharat-Shadja Gram and obtain the 22 shrutis.



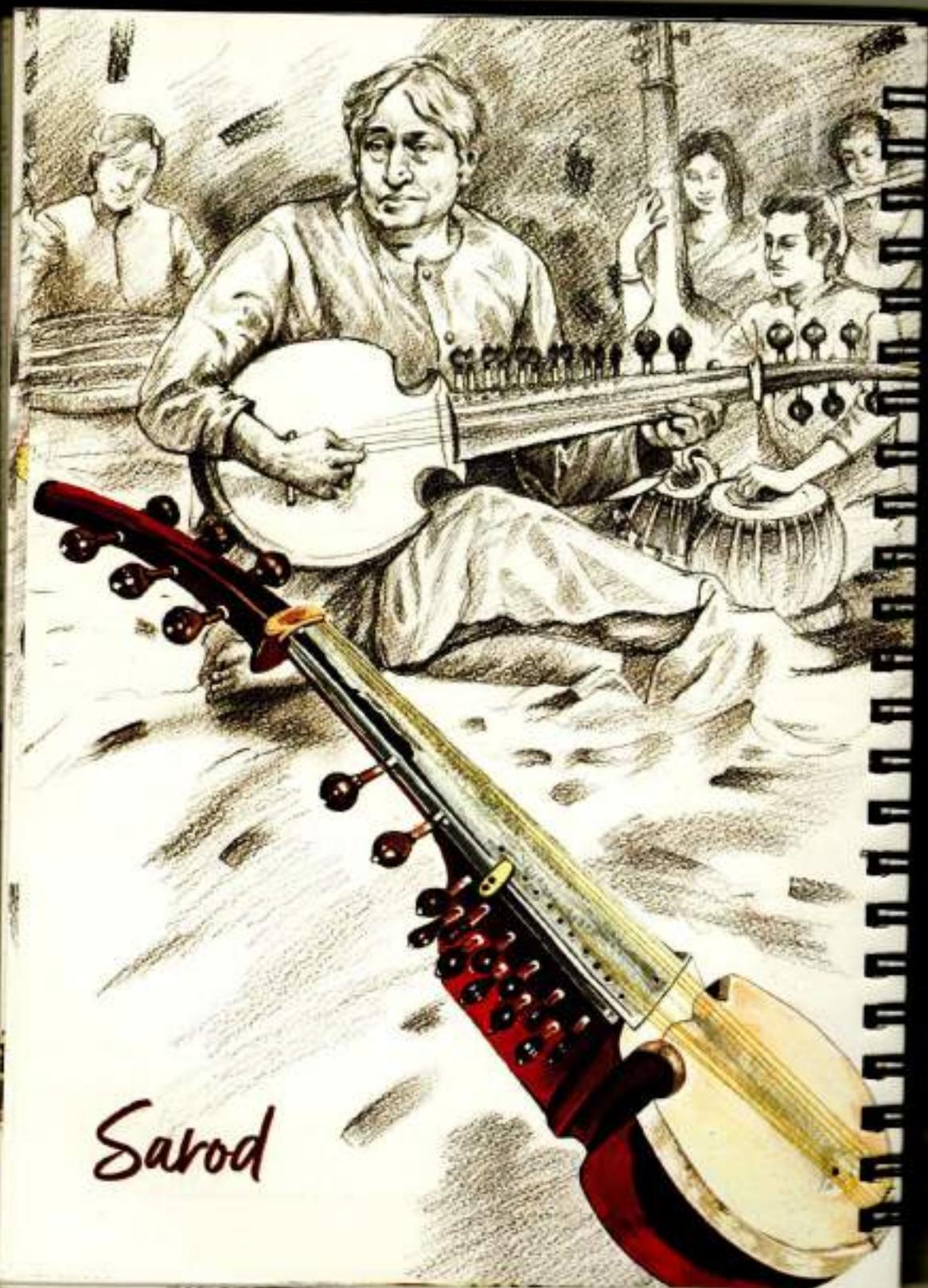
Sitar

Sitar

The word sitar is derived from the Persian word sehtar, meaning "three-stringed." The instrument appears to have descended from long-necked lutes taken to India from Iran.

The sitar flourished in the 16th and 17th centuries and arrived in the 18th century in its present form. The sitar has six 'gharanas', meaning 'styles'. A sitar can have 18 to 21 strings. Six or seven of these are played strings which run over curved, raised frets, and the remainder are sympathetic strings which run underneath the frets and resonate in sympathy with the played strings. The strings run to tuning pegs near the head of the instrument. The instrument has two bridges: the large bridge (*badaa goraa*) for the playing and drone strings and the small bridge (*chota goraa*) for the sympathetic strings. Materials used in construction include teak wood or sun wood, (which is a variation of mahogany) for the neck and faceplate, calabash gourds for the resonating chambers. The instrument's bridges are made of deer horn, ebony, or very occasionally, from camel bone. Synthetic material is now common as well. The instrument is balanced between the player's left foot and right knee. The hands move freely without having to carry any of the instrument's weight. The player plucks the string using a metallic pick or plectrum called a *mizraab*.

George Harrison of the Beatles, Brian Jones of the Rolling Stones (popular bands of the 1960s) came to India to learn to play the sitar from Pt. Ravi Shankar and used it in their music. Anoushka Shankar, daughter of Pt. Ravi Shankar, plays the sitar.



Sarod

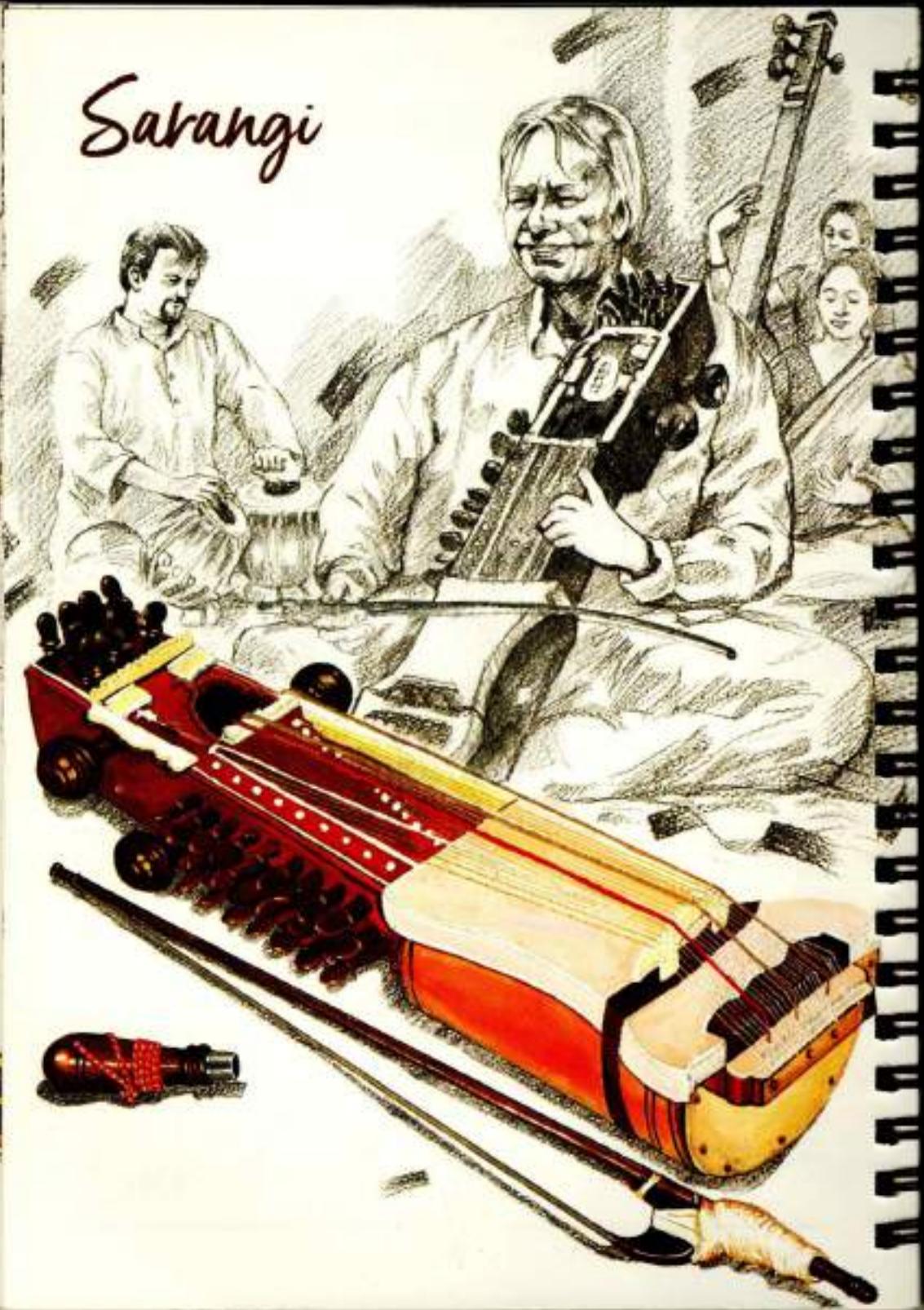
Sarod

Many scholars of Indian classical music believe that the sarod is a combination of the ancient Chitra veena, the medieval Rabab, or the Seniya Rabab and modern Sursingar.

Some scholars even contend that a similar instrument may have existed about two thousand years ago in ancient India during the Gupta kings. Reference was made to a Sharadiya Veena, from which the name 'Sarod' have been derived. The word 'sarod' roughly translates to "beautiful sound" or "melody" in Persian. The sarod in its present form dates back to approximately 1820, when it started gaining recognition as a serious instrument in Rewa, Shahjahanpur, Gwalior and Lucknow and was improved during the 20th century. The sarod was improved significantly by Allauddin Khan and his brother Ayet Ali Khan. They increased the number of drone strings and increased the number of Tarafdar or sympathetic strings.

There are three types: The conventional sarod, a lute-like instrument, has 17 to 25 strings - four or five main strings used for playing the melody, one or two drone strings, two chikari strings and nine to eleven sympathetic strings. Sarod strings are either made of steel or phosphor bronze. The design of this early model is generally credited to Niyamat-ullah Khan of the Lucknow Gharana, as well as Ghulam Ali Khan of the Gwalior Gharana. Both Amjad Ali Khan and Buddhadev Dasgupta have introduced minor changes to their respective instruments which have become the templates for their followers.

Sarangi



Sarangi

A bowed, short-necked string instrument from the Indian subcontinent, which is used in Punjabi dhadi music and Hindustani classical music. It is said to most resemble the sound of the human voice - able to imitate vocal gamaks (shakes) and meends (sliding movements).

The repertoire of sarangi players is traditionally very close to vocal music. It is rare to find a sarangi player who does not know the words of many classical compositions. The words are usually mentally present during the performance and almost always adheres to the conventions of vocal performances.

Carved from a single block of tun (red cedar) wood, the sarangi has a box-like shape with three hollow chambers: The lower resonance chamber or pet is covered with parchment made out of goat skin on which a strip of thick leather is placed around the waist and nailed on the back of the chamber, which supports the elephant-shaped bridge that is made of camel or buffalo bone. Sri Ram Narayan was awarded the Padma Vibhushan in 2005.

Santoor



Santoor

The santoor is a recently developed instrument. It was introduced into Hindustani classical music only about forty-five to fifty 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, the sitting posture of the player, the playing techniques all of these vary from artist to artist. Although the basic structure remains the same, the santoor, was adopted into Hindustani classical music, differs from the Sufiana santoor in many ways.

The number of strings varies between eighty to a hundred whereas the number of bridges have increased from twenty-five to twenty-nine, thirty-one and sometimes even forty-three, thus varying the number of strings. 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. The soundbox of the classical santoor is either made of the wood of the mulberry, walnut or tun tree. Both sides of the plank are made of pine wood or walnut or even of plywood. 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.

Pt. Shivkumar Sharma is credited with making the santoor a popular classical instrument. In 1967, he teamed up with flautist Hari Prasad Chaurasia and guitarist Brij Bhushan Kabra to produce an album, *Call of the Valley*, which was one of the Indian classical music's greatest hits. Pt. Shiv Kumar is the recipient of the Padma Shri award in 1991 and the Padam Vibhushan award in 2001.



Shehnai

The shehnai, is made of wood, with a double reed at one end and a metal or wooden flared bell-like at the other end.

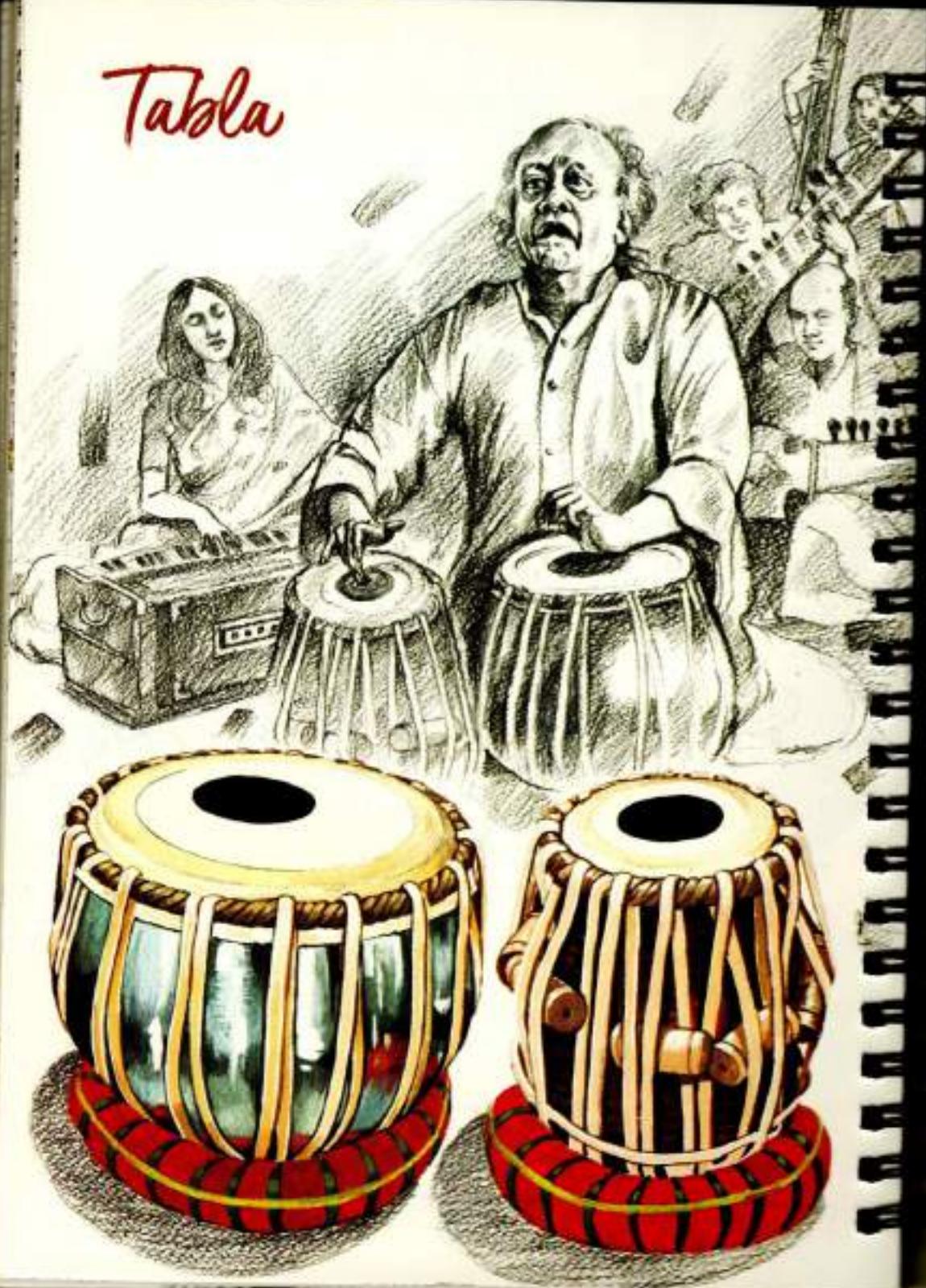
The shehnai is very similar to the western oboe, which does not have the flared end . It measures about 12-20 inches in length, with six to eight finger holes along its body. Its sound is quite powerful and has a distinct nasal quality. Music is produced by blowing the reeds, which are bound together and held between the lips with a certain tension. The pitch can be altered by changing the pressure of lips and air.

It is said to have given its name, changed a bit, to the "surna" of the old Persian Empire. This is the name by which the reed-pipe is known throughout the Middle East and eastern Europe. The shehnai is traditionally played at North Indian weddings, when the bride leaves her parental house for her husband's house. Sometimes, two shehnais can be tied together, similar to the ancient Greek aulos.

Shenai players are an integral part of the Konkan area and temples along the western coast. The players are called Vajantri and were allotted land, for services rendered to the temples.

The late Ustad Bismillah Khan, Sagheer Khan and Lokesh Anand are famed for their mastery of the shehnai.

Tabla



Tabla

The tabla is the most commonly played drum set in North Indian music. It is the instrument most frequently used to accompany vocal and instrumental music and dance. Though the tabla is essentially an accompanying instrument, the tabla players are also soloists in their own right. Many have vast repertoires of elaborate compositions, handed down from generation to generation.

The tabla takes its name from the tabl of Arabic origin. The general meaning of the term tabl is an instrument facing upwards, with a flat surface. They are made all over the northern part of India, but the ones made at Delhi, Mumbai, Benaras and Calcutta are of a superior quality. In the beginning, the instruments were egg-shaped or hemispherical, with skin stretched over the opening. Though made of metal, these kettledrums were originally derived from the pot drums of primitive men. Later they became rounded like an egg with the top cut off. They are nested in a ring of fabric, to stabilise the drum.

Usually, two tabla are used. One for the beat and the other is used as an instrument in itself. Some unforgettable names are Ameer Husain Khan, Thirukva Khan, Habibuddin Khan, Ram Sahay, Abid Husain Khan, Anokhelal, Lateef Ahmed and Gudai Maharaj. Legends like Alla Rakha Khan, Kishan Maharaj and Sharda Sahay will be venerated in the world of music. Among the next generation Zakir Hussain, Sapan Chaudhari, Anindo Chatterjee, Kumar Bose, Shafat Ahmed, Bikram Ghosh are the prominent tabla players India has produced.

Violin



Violin

The direct ancestor of all European bowed instruments is the Arabic rebab. The violin, in its present form, emerged in early 16th-century northern Italy. A distinctive feature of a violin body is its hourglass-like shape and the arching of its top and back.

The "voice" or sound of a violin depends on its shape, the wood it is made from, the graduation (the thickness profile) of both the top and back, the varnish that coats its outside surface and the skill of the luthier in doing all of these steps.

The violin proved very popular, both among street musicians and the nobility; the French king Charles IX ordered Andrea Amati to construct 24 violins for him in 1560. One of these "noble" instruments, the Charles IX, is the oldest surviving violin.

To this day, instruments from the so-called Golden Age of violin making, especially those made by Stradivari, Guarneri del Gesù and Montagnana, are the most sought-after instruments by both collectors and performers. The current record amount paid for a Stradivari violin is £9.8 million or US\$15.9 million.

It is difficult to learn to play the violin. It takes four to five years to play in a professional orchestra, but gives us the most beautiful music.

Lakshminarayana Subramaniam is an Indian violinist, composer and conductor, trained in the classical Carnatic music tradition and Western classical music, and renowned for his virtuoso playing techniques and compositions in orchestral fusion.

Alghoza



Alghoza

Alghoza is a pair of woodwind instruments, very like a flute, used by Baloch, Sindhi, Kutchi, Rajasthani and Punjabi folk musicians. It consists of two joined beak flutes, one for melody, the second for drone.

The flutes are either tied together or may be held together loosely. A continuous flow of air is necessary as the player blows into the two flutes simultaneously.

The quick recapturing of breath on each beat creates a bouncing, swinging rhythm. The wooden instrument initially comprised two flute pipes of the same length but over time, one of them was shortened for sound purposes. In the world of *Alghoza* playing, the two flute pipes are a couple – the longer one is the male and the shorter one the female instrument. With the use of beeswax, the instrument can be scaled to any tune.

It is an important instrument in Balochi, Sindh, Punjabi and Rajasthani folk music. The greatest exponents of *Alghoza*, however, are the Sindhi musicians Ustad Khamiso Khan, Ustad Misri Khan Jamali are still remembered for their music and Akbar Khamiso Khan, Khamiso Khan's son, carries on his father's music. Gurmeet Bawa is a notable Punjabi folk singer also plays this instrument. Musa Gulamjat and Noor Mohammed Sodha are two well known Jodiya Pava artists from Kutch.

Been

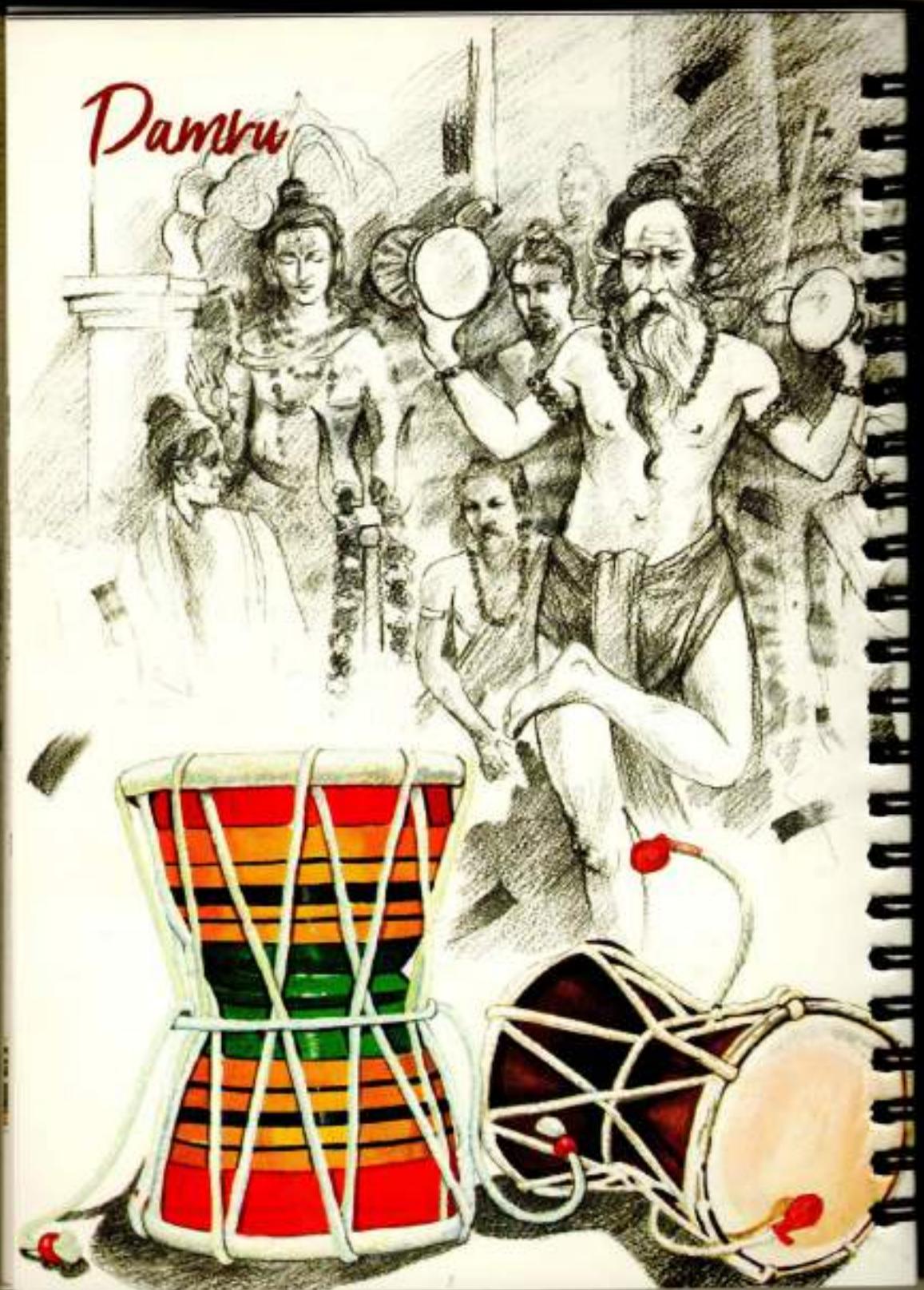


Been

The been, also known as "pungi", is a simple folk instrument, traditionally played by snake charmers. It is made of a small gourd with a blowing hole at the top and two attached pipes at the bottom. Its sharp, penetrating sound is produced by reeds for each pipe inside the gourd.

The gourd functions as air-chamber for the reeds - (the same principle is used in bagpipes). However, the gourd being rigid and relatively small, constant blowing with high pressure is required in order to produce the proper sound. Good intonation depends upon just the right air pressure and requires a certain practice. The been is a very expressive solo instrument, but tricky to use together with other melody or instruments.

Damru



Damru

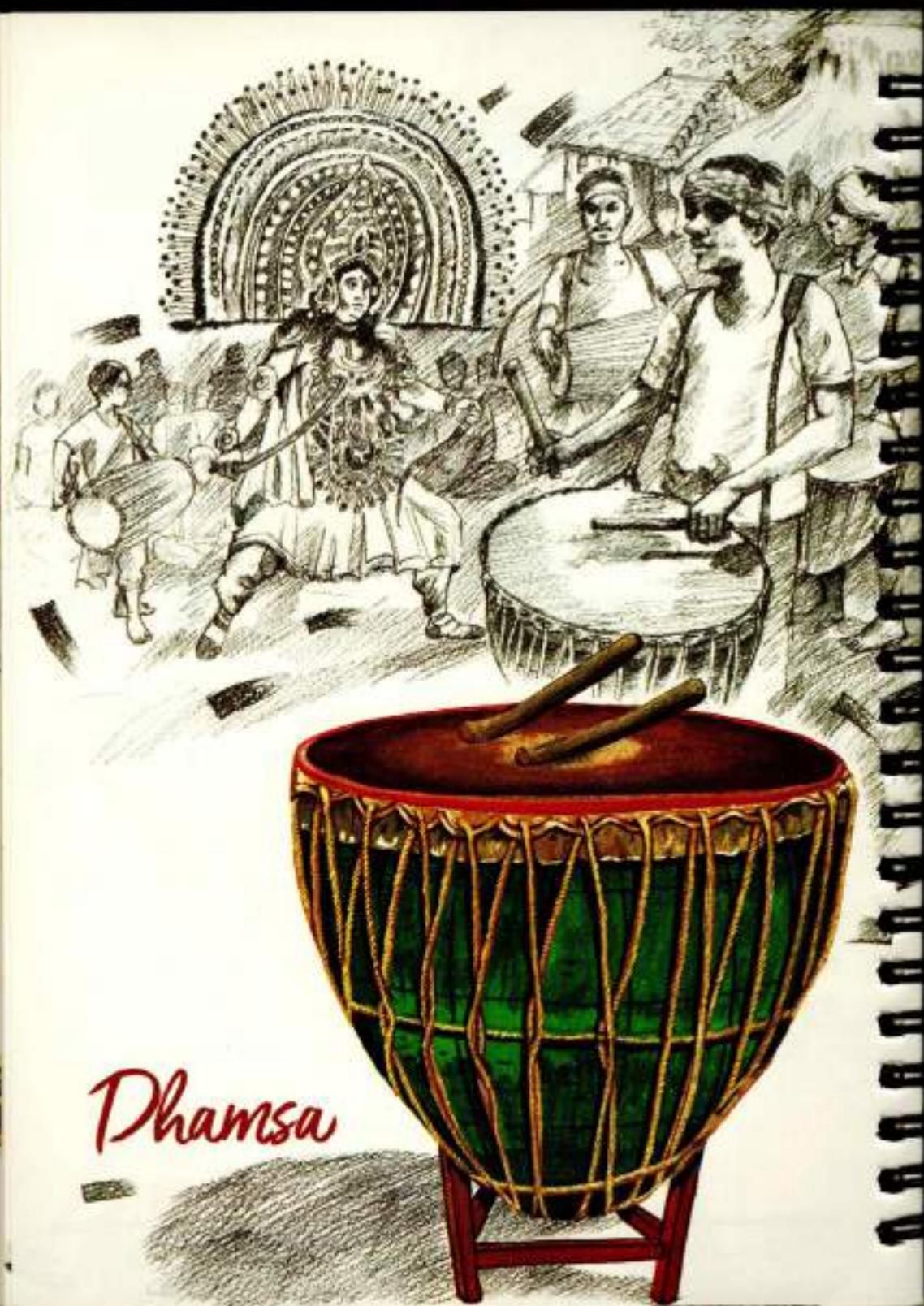
Also pronounced 'damaru', it is a small two-headed drum, used in Hinduism and Tibetan Buddhism. The Damru is a small two-headed drum with a small waist, so that one hand can be used to play it. It is very common throughout the Indian subcontinent. There are two strikers of the drum. The waist of the drum is small enough for one hand, and, by twisting the wrist, the drum is beaten. For Hindus, the damru is known as the instrument of Lord Shiva, while in Tibetan Buddhism, the damru is used as an instrument in tantric practices.

It is known to be power drum, when played it is believed to generate spiritual energy. The tandava, Lord Shiva's cosmic dance, was danced to the rhythm of the damru.

The drum is typically made of wood or metal, with leather drum heads at both ends. The resonator is made of brass.

The height of the damaru is around 6 to 8 inches, with a narrow waist between the two drum-heads. Its height ranges from a few inches to a little over one foot. It is played single-handedly. The strikers are typically metal beads fastened to the ends of leather cords around the waist of the damaru. Knots in the leather can also be used as strikers. As the player waves the drum using a twisting wrist motion, the strikers beat on the drumheads.

The damaru is used by all itinerant musicians, due to its portable size.



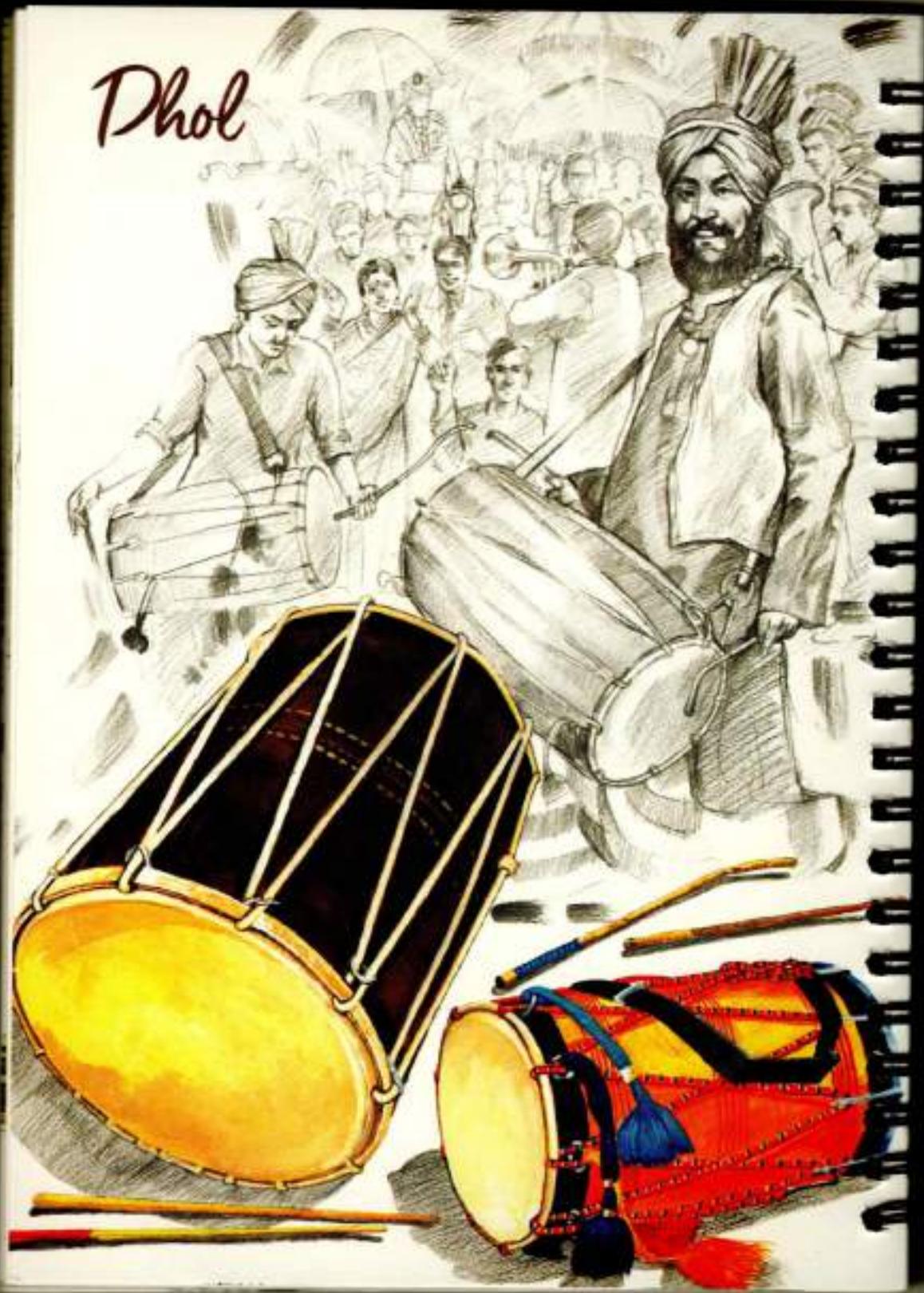
Dhamsa

Dhamsa, (bengali and other regional languages in the East India) *dhamsa*, also *dhamsa*, is the largest drum played in North Indian music. It has an iron body, belongs to the type of Indian *nagaras* and is mostly played in village music at religious annual celebrations and to accompany folk dances. In India, *Nagara* is a national term for boiler drums of different sizes, used individually or in pairs; the *dhamsa* is a special design that is struck individually with two sticks and often together with other drums.

The body (*khol*) tapers approximately elliptically to the underside, its shape results from the special construction, which consists of thin strips of sheet iron. These spiral upwards in a circle and are connected to each other at the overlapping edges by tight rows of rivets. The membrane consists of an untanned ox skin, which is stretched with a tightly linked network of skin strips (*bandhi*) to a ring on the floor. This thick ring (*bidi*) has a diameter of about 15 centimeters and also serves as protection for the lower floor panel. A small hole in the middle of the floor may have little effect on the sound, but the musicians think that the instrument will sound better if you blow into this hole just before playing.

The player sits on the floor in front of the instrument, which is inclined at about 45 degrees, other drums rest horizontally in a frame and are hit while standing. With a belt attached to the edge on both sides, the *dhamsa* can also be hung around the neck and played while walking, with the eardrum tilted slightly forward. The *dhamsa* is beaten with a stick in each hand.

Dhol



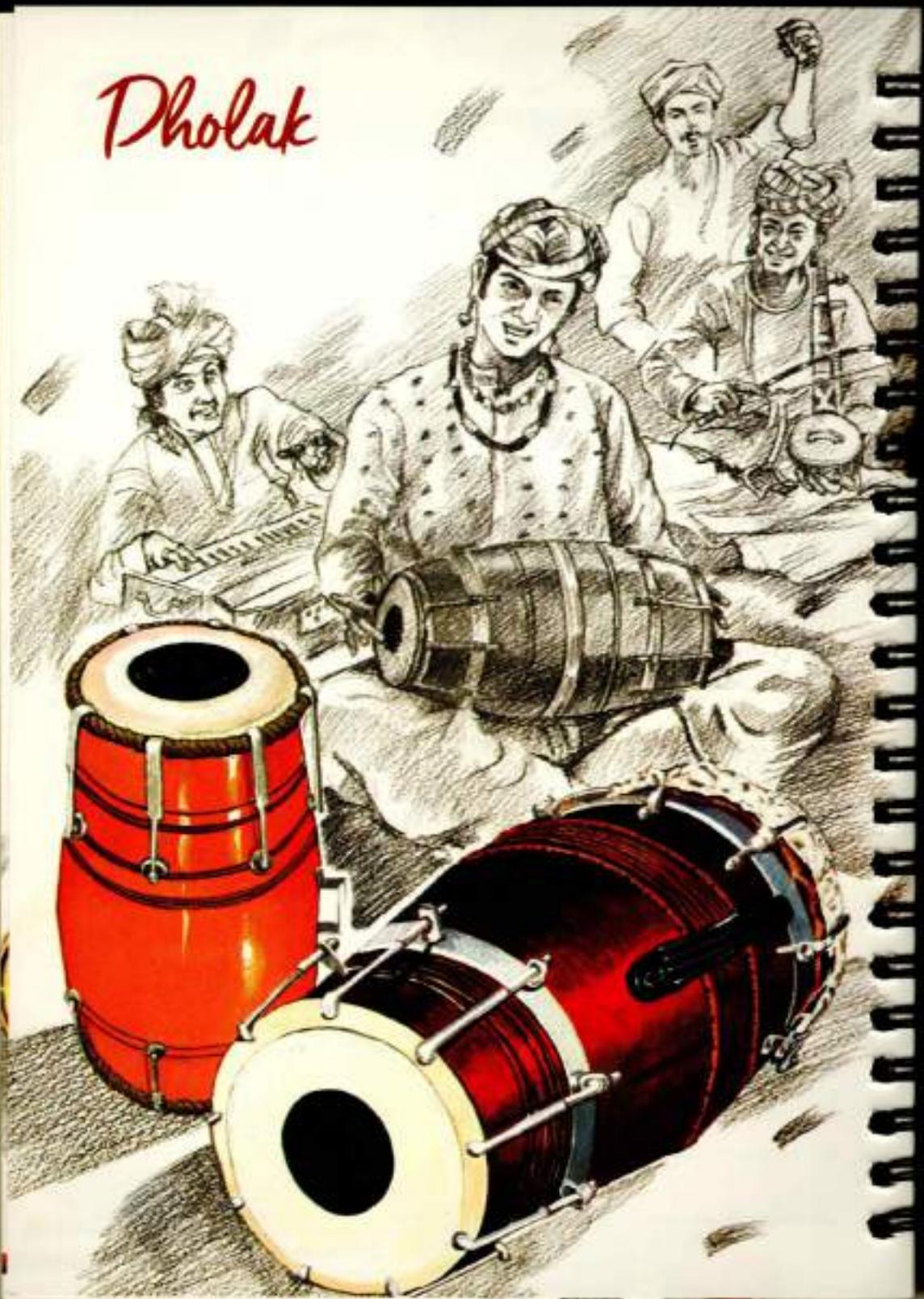
Dhol

The 'dhol' is a double-sided barrel drum, played mostly as an accompanying instrument in regional music forms. The size of the drums vary slightly from region to region. In Punjab, the dhol remains large and bulky, to produce the preferred loud bass. In other regions, dhols can be found in varying shapes and sizes and made with different woods. The drum consists of a wooden barrel with animal hide or synthetic skin stretched over its open ends, covering them completely. These skins can be stretched or loosened with a tightening mechanism made up of either interwoven ropes, or nuts and bolts. Tightening or loosening the skins subtly alters the pitch of the drum sound. The skin on one end is thicker and produces a deep, low frequency sound. The thinner skin on the opposite end produces a higher sound. Recently, the skins are synthetic.

The dhol is played using two wooden sticks, usually made out of wood, cane, or bamboo. The stick used to play the bass side of the instrument, (known as the *dagga* in Punjab), is the thicker of the two, and is bent in an eighth- or quarter-circular arc on the end that strikes the instrument. The other stick, known as the *tihli*, is much thinner and flexible and used to play the higher note. The dhol is slung over the shoulder or, more rarely, around the neck of the player, with a strap usually made up of woven cotton.

The surface of the wooden barrel is in some cases decorated with engraved patterns and sometimes paint. The popular dance of Punjab, the Bhangra, has created many new rhythms. Ashok Rana, is cited as the best dhol player in India.

Dholak



Dholak

The *dholak* is a two-headed hand-drum from the Indian subcontinent. It is related to the larger *dhol* and the smaller *dholki*.

The *dholak* is mainly a folk instrument, lacking the exact tuning and playing techniques of the *tabla* or the *pakhawaj*. The smaller surface of the *dholak* is made of goat skin for sharp notes and the bigger surface is made of buffalo skin for low pitches, which allows a combination of bass and treble with rhythmic high and low pitches.

The *Dholki* is a very popular folk drum of northern India. It is barrel shaped, with skins on both sides. The drum is either played on the player's lap or, while standing, slung from the shoulder or waist or pressed down with one knee while sitting on the floor.

In some styles of playing (such as Punjab) an iron thumb ring is used to produce a distinctive "chak" sound. In other styles (such as Rajasthani), all fingers are generally used. Images of *dhol* players appear in the bas-relief carvings on Indian temple walls from the earliest times.

Dotara



বাংলাদেশ জাতীয় মেলা

Dotara

The meaning of "Dotara" is "two strings". The dotara is a plucked stringed instrument, played in an open note combination, often played alongside folk percussive instruments such as *Dhol*, *Khol* or *Mandira*. Resembling a *sarod*, the *dotara*, is a two, four, or sometimes five-stringed musical instrument. It is commonly used in Assam, West Bengal, Bihar, as well as Bangladesh.

It is first mentioned in a 14th-century Saptakanda Ramayana. Just like the *sarod*, the *dotara* consists of a wooden body covered with leather. The strings run across a bridge and a metal fingerboard. The tuning of the playing strings can be done in the same intervals as those of the *sarod*, but it is due to the smaller size of the *dotara*, significantly higher. From this point of view you might call the *dotara* a smaller, simplified version of the *sarod*.

Ektara



Ektara

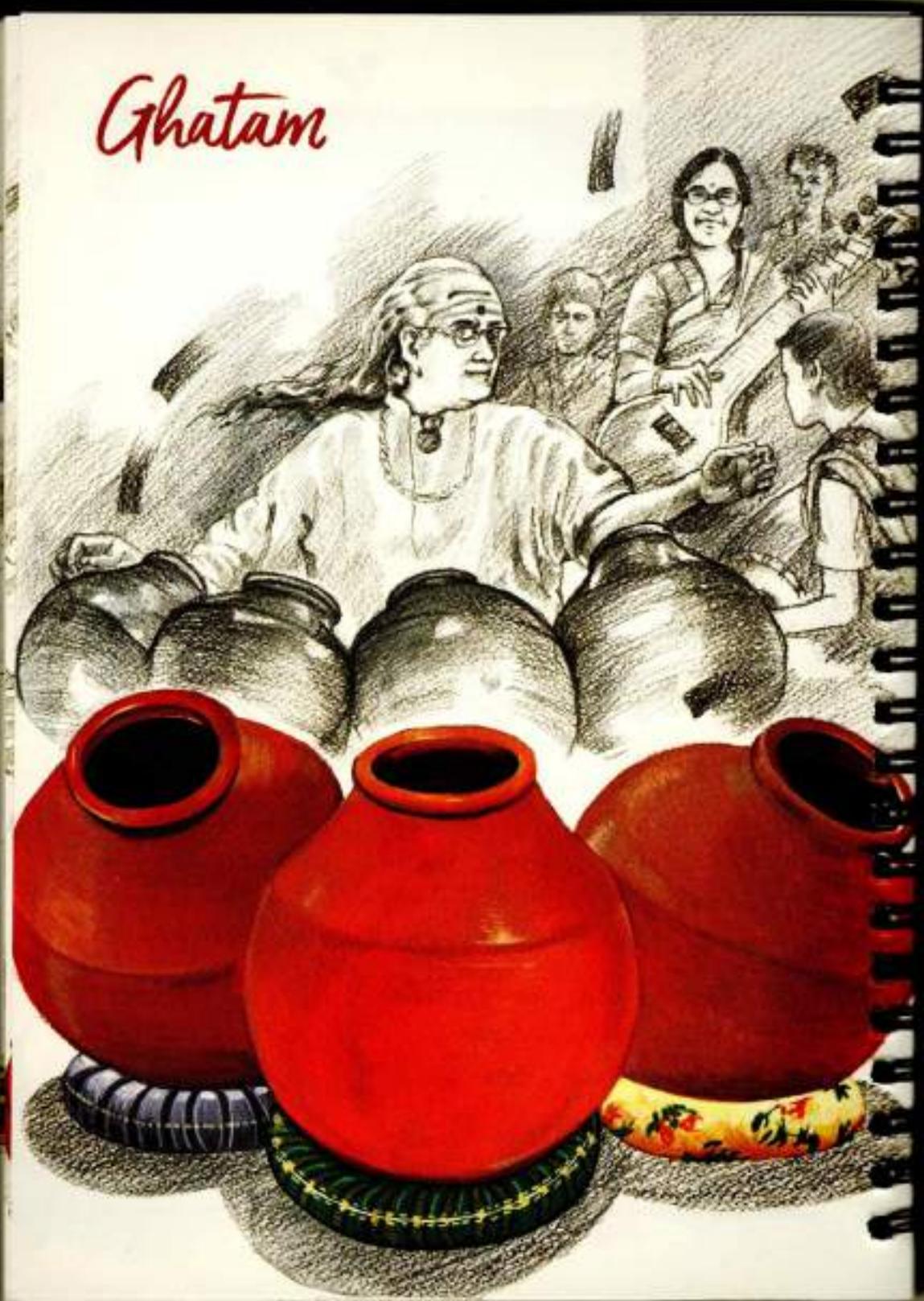
Ektara is a one-stringed musical instrument used in the traditional music of the Indian subcontinent, and used in modern-day music of Bangladesh, India and Pakistan. Originally, the *ektara* was a regular string-instrument of wandering bards and minstrels from India. It is plucked with one finger. It is a drone lute, consisting of a gourd resonator covered with skin, through which a bamboo neck is inserted.

The *ektara* is a common instrument in Baul music from Bengal. Some controversy has arisen in recent years over the adoption and alleged corruption of Baul music by popular bands and films in Bengal.

The *ektara* player holds the instrument upright, gripping the neck just above the resonator and plucking the playing string or strings with the index finger of the same hand. If dancing, the player supports the gourd resonator with the other hand, in which clusters of small bells are carried, which sound while beating this hand against the gourd. Pressing the two halves of the neck together loosens the string, thus lowering its pitch. The modulation of the tone, with each slight flexing of the neck, gives the *ektara* its distinctive sound. There are no markings or measurements to indicate what pressure will produce what note, so the pressure is adjusted by ear.

The various sizes of *ektara* are soprano, tenor, and bass. The bass *ektara*, sometimes called a *dotara*, often has two strings (as literally implied by *do*, 'two'). It has become common to mix traditional instruments like the *ektara* with more modern sounds, in an attempt to appeal to a wide audience.

Ghatam



Ghatam

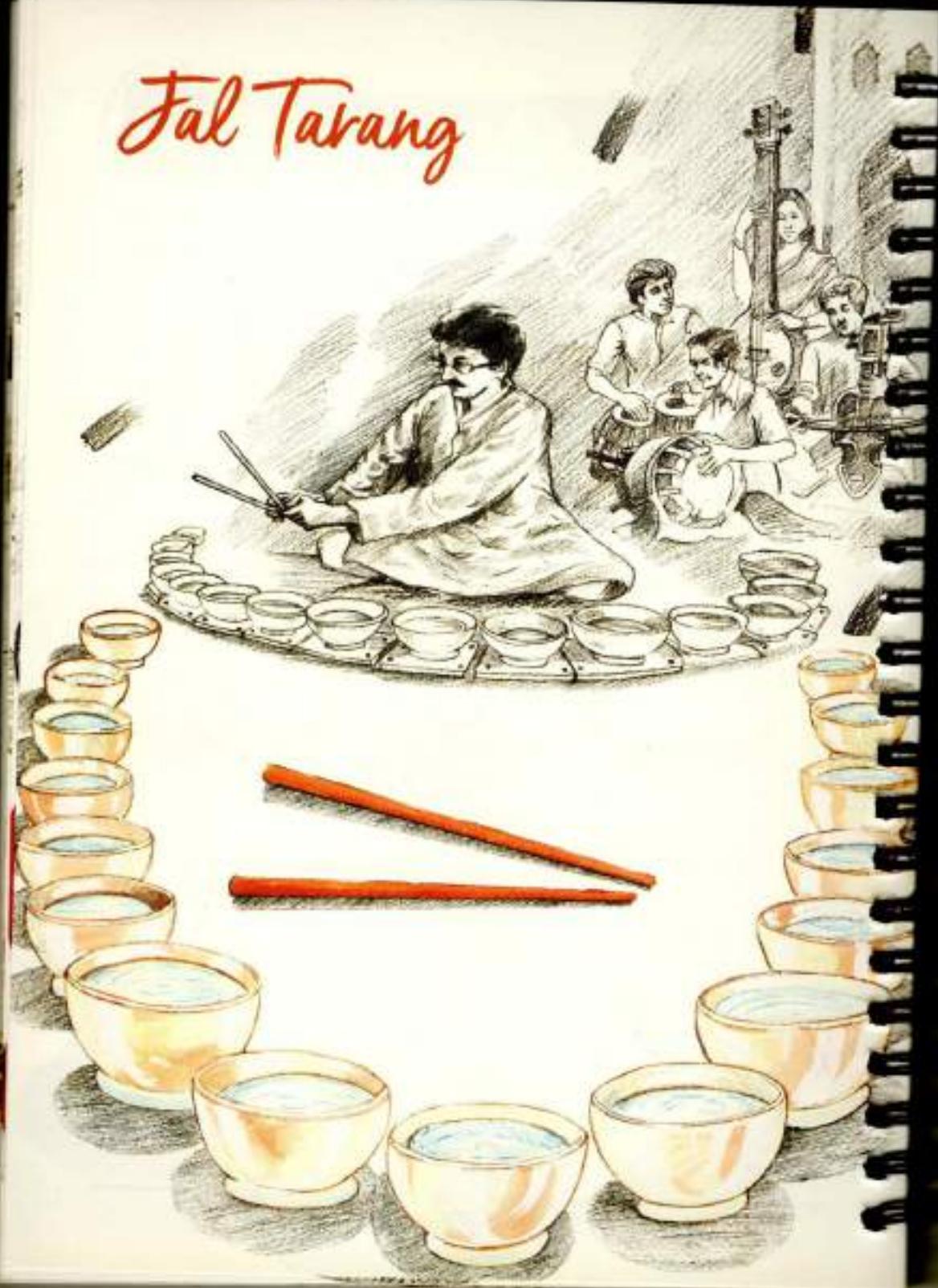
The *ghatam* is an instrument which was first described by Sage Valmiki in the ancient poem, the "Ramayana", dated roughly 500 CE. It is shaped like a *matka* - an earthen water pot - which is still in use all over India.

It is one of the most ancient percussion instruments of South India. It is made of a complicated mix of appropriate amounts of copper and iron filings mixed with clay. To produce a good tone from the pot, thickness of the pot wall has to be even. The proportion of alloy and metals, added during the making process, decides the tone of the *ghatam*.

The musician sits cross-legged on the ground and uses his hands to strike the *ghatam*. Every part of the pot gives out a different sound. The drummer uses the palms of his hands, his fist and every finger. The fingers and palms strike different areas of the *Ghatam*, which changes the sound.

Therakudi Harihara Vinayakram, also known as Vikku Vinayakram, is the legendary Grammy Award-winning Indian percussionist. He plays Carnatic music with the *ghatam*, an earthen pot, and is credited with popularising the *ghatam*. He is also known as the God of the *ghatam*. He was awarded the Padma Shri, given by Government of India in 2002 and Padma Bhushan in 2014.

Jal Tarang



Jal Tarang

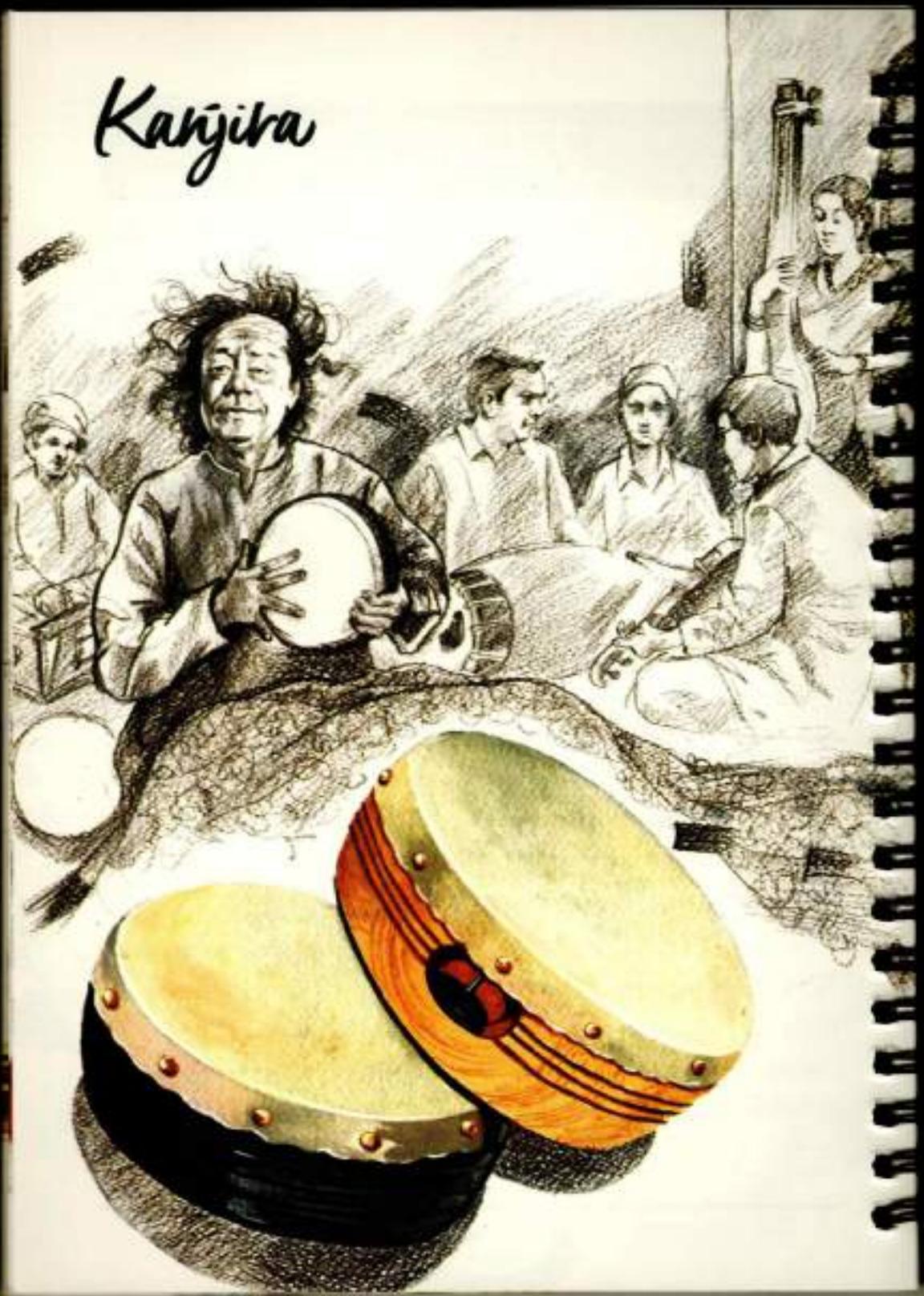
The *Jal Tarang* is a form of music that originated in the Indian subcontinent. Today, *Jal Tarang* is one of the oldest musical instruments in the world. Essentially, the name *Jal Tarang* is *jal* (water) and *tarang* means waves or ripples in water. This percussion instrument was first believed to have been developed in the 17th century.

It is believed that Alexander of Macedonia was so mesmerised by the melody of the sound produced by this instrument that on his return to Macedonia from India, he took some *Jal Tarang* players along. Also known as *Jal-Yantra* earlier, what are glasses or cups now, they used copper and other different metal alloy cups, in various shapes and sizes, that produced varied sounds.

The sound produced by this instrument is perhaps the most melodious and soothing sound. Traditionally, artistes used metal bowls for this art. With the advent of china clay, china bowls were essentially used. By varying the volume of water in the bowls, the sounds are also varied. Sounds are produced by tapping the brim of the bowl, using wooden sticks. The bowls are placed in a semi-circle around the artiste.

The early variations of *Jal Tarang* comprised 22 bowls, but now is usually 16. The strumming of the bowls in a rhythmic and informed fashion also included playing the many ragas which was a complex art. Sadly, this tuneful classical music is on the verge of oblivion, with the present day Indian generation who have chosen not to preserve this piece of magic.

Kanjira



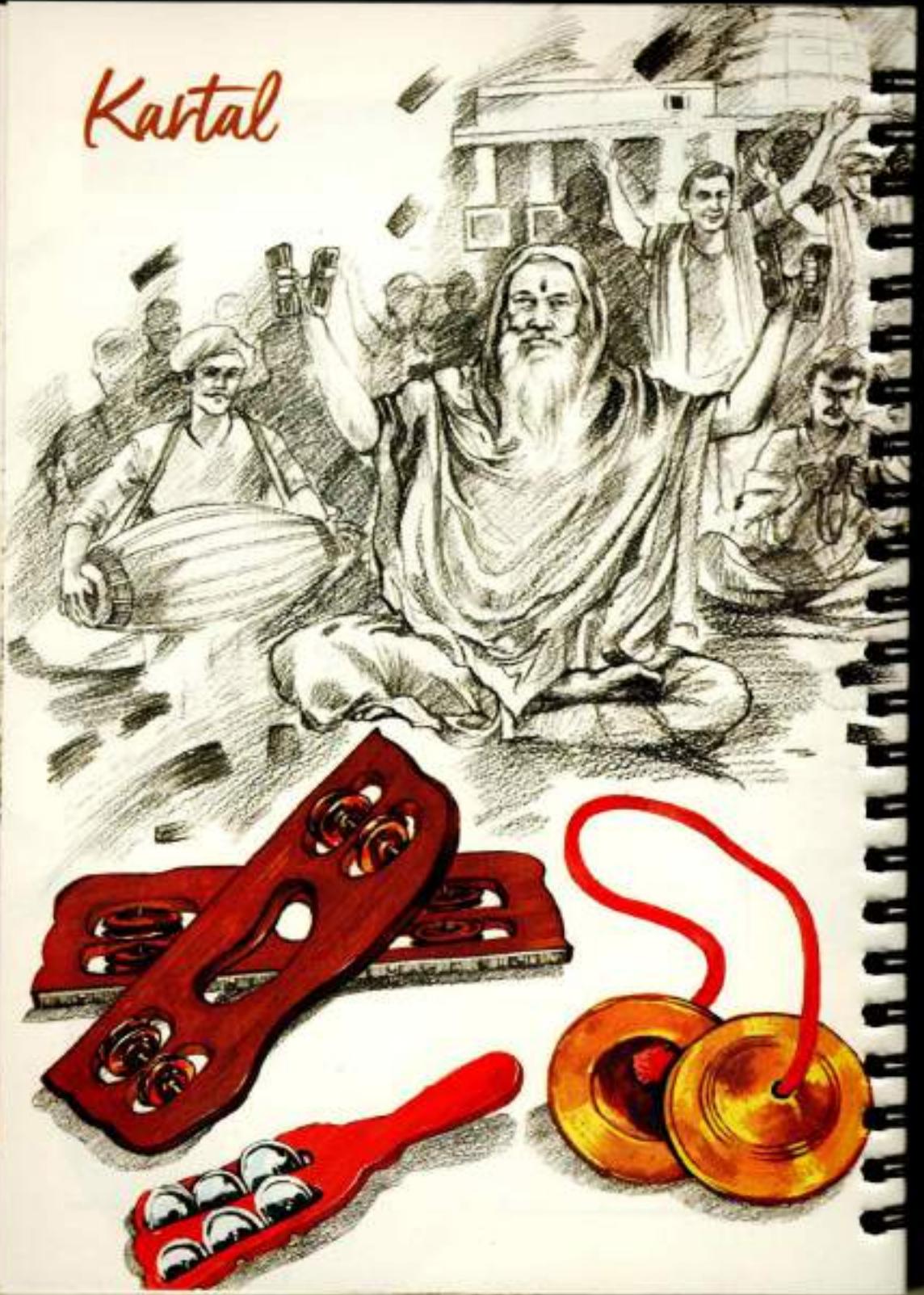
Kanjira

The Kanjira is a small handheld drum that resembles a tambourine. It consists of a circular wooden frame of jack wood, with a diameter of seven to eight inches and depth of approximately two inches. One face of the frame is stretched over with a thin layer of leather. The drum is usually held in the left hand and played by striking the leather face with the fingers of the right. A couple of small metal discs are attached to the frame.

Carnatic musicians often use multiple percussion instruments as accompaniment in a concert. While the mridangam is the most popular instrument for accompaniment, the smaller kanjira is a very versatile instrument that is used as the secondary percussion accompaniment.

The Kanjira cannot be extensively tuned like the mridangam. Its pitch can be lowered, while playing, however, by thinly wetting the inside of the leather covering with water. The nature of this method makes it difficult to maintain the pitch of the ganjira throughout the concert, and requires judgment and expertise.

Kartal



Kartal

The *kartal* is a percussion instrument. It is an ancient instrument, mainly used in devotional and folk songs. It has derived its name from Sanskrit words 'kara' meaning hand and 'tala' meaning clapping.

This wooden clapper has metal discs or plates on the insides which clash together, which produces a clinking sound. Usually made of wood or metal, a *kartal* player will hold one 'male' and 'female' *kartal* in each hand. The 'male' *kartal* is usually thicker and is held with the thumb while the 'female' *kartal* is usually thinner and is mainly balanced on the ring finger, which represents the fire element. A pair of wooden castanets with bells attached to them was the earliest form of the *khartal*. These pieces of wood are not connected in any way. They can be clapped together at high speeds to make rapid, complex rhythms. Aside from being an excellent accompaniment instrument, the *khartal* is valued for being a highly portable percussion instrument.

In Maharashtra, *kartals* are better known as *Chipalya*. It is commonly used in religious song like *Kirtans* and *Bhajans*.

Odisha uses the *dasakathi*, a similar instrument. It is mostly employed in folk theatre called *dasakathia*, which derives its name from the instrument itself. The *ramatali* is a larger variant that is associated with the *Ramayana*, according to traditional legend.

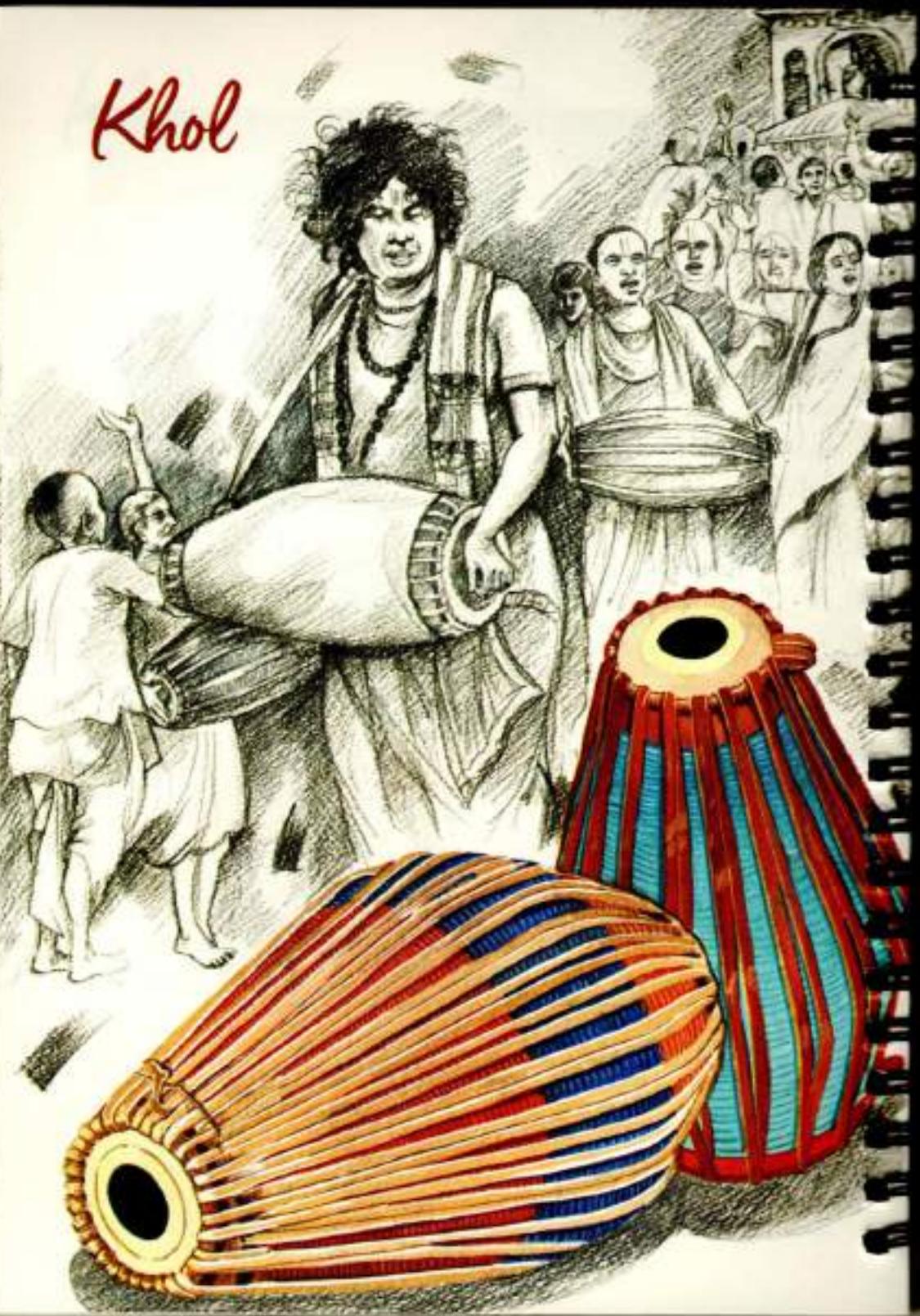
Khamak



Khamak

The *khamak* is half drum and half string. A small, narrow drum is put under the left arm. The drum has only one resonator at the bottom of the drum. A string, sticks to the inside of the drum skin, has a wooden ball at the end. The drummer holds the ball in his left hand and in his right hand is a plectrum. He makes sounds which are like a guitar with loose strings, but quite musical. The tension of the string is controlled by the wooden ball in his hand, which decides the notes by the tension of the string. Tighter is treble and loose is bass.

Khol



Khol

The khol also known as a mridanga (Sanskrit: lit. "mrīt+anga" = "clay limb; not to be confused with mridangam) is a terracotta two-sided drum used in northern and eastern India, for accompaniment with devotional music (bhakti). It originates from the states of West Bengal, Assam and Manipur. It is closely associated with Vaishnavite music of Bengal and Assam.

The khol is a barrel shaped asymmetrical drum. Its two faces are of different sizes. The right face of the drum, which is three to five inches in diameter, has a high pitch and produces a metallic sound, whereas the left face, which is six to eight inches in diameter, produces a lower bass sound. The relation between the two faces is almost of an octave. The drum is made of a special clay, which is available on the banks of the Ganges in Bengal. The two faces of the drum are covered with two layers of leather. These are held by braids, both of which are connected with thin leather strips, equally distributed into thirty-two spaces. The entire instrument is painted with a paste of flour mixed with red colour. The *syahi* (the black permanent mixture, that provides a good tonal quality) is also put on the central portion of the right face of the khol, like other percussion instruments.

The khol is made of fixed pitches and on-the-spot tuning is not possible. However, by putting a wet cloth on the left face of the drum, the note can be lowered a little. The khol invariably dangles around the neck of the player with the help of a strap and is played with palm and fingers. The instrument is also very popular in Rabindra Sangeet and almost all the folk music forms of Bengal.

Madal



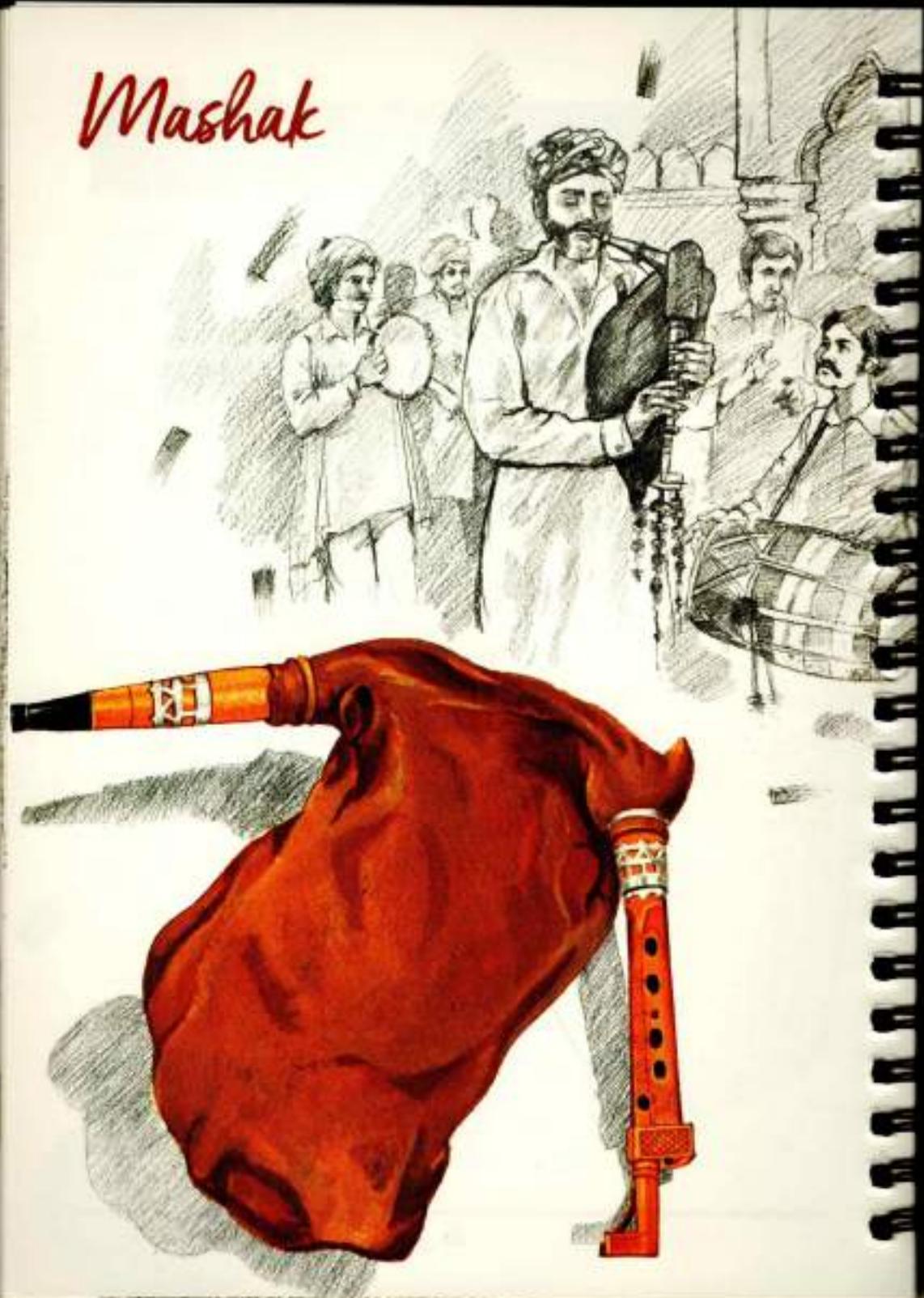
Madal

The *madal* is Indian tribal traditional drum, considered the backbone of most Nepali folk music. It is about 2ft long, made of hollowed tree trunks with skins stretched at both ends. Leather covers the hollow inside. It contains a black layer known as *khari*. It is played with both hands.

The *madal* is played horizontally and has a strand that goes around the waist of the person playing it. Playing technique involves rhythmic striking of either of the heads at each end with the palm of the hand. The heads vibrate to produce sound when struck.

The drum consists of a cylindrical body, its centre has a slight bulge. The cylinder is closed on both ends by the skins. Typically, a wooden log is carved to form a hollow cavity. Playing technique involves rhythmic striking either of the heads at each end with the palm of the hand. The heads are not of the same size; the larger and the smaller heads are often referred to as male and female respectively. The *madal* is tuned using the strands that overlay the central body of the drum. The tighter the strands, the sound goes higher.

Mashak



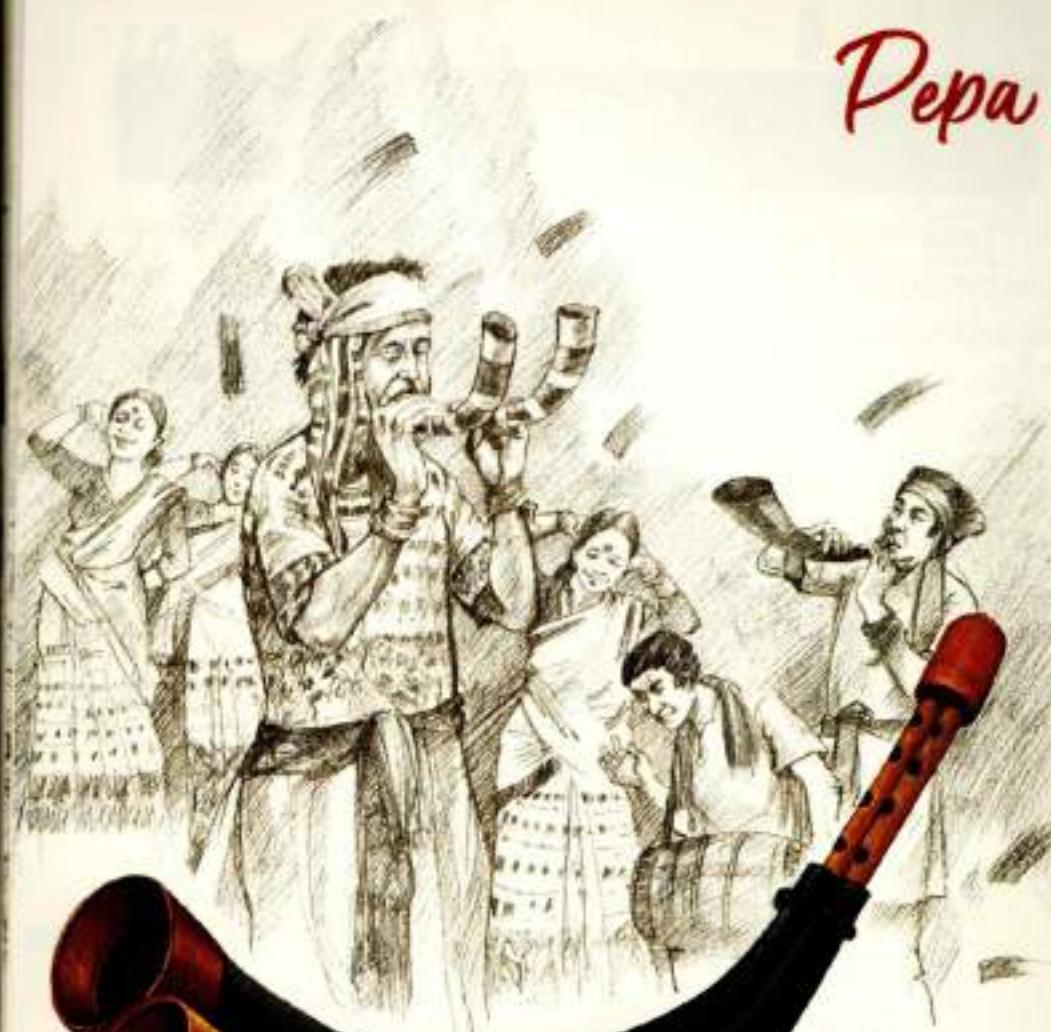
Mashak

This a type of bagpipe, found in Northern India and parts of Pakistan and Afghanistan. The pipe was associated with weddings and festive occasions. In India, it is found in Garhwal in Uttarakhand, Rajasthan and Uttar Pradesh. This bagpipe uses single reeds, and can be played either as a drone or as a melody instrument.

Just like the bagpipe, the player has to breathe into the bag, which is tucked under his left arm. The arm presses the bag and the wind goes through the pipe, making music. The difference is, that while the Scottish bagpipe had only one pipe, Indian musicians imitated the Highland pipe by using "an extra pipe or two" into their *mashak*.

The New Grove Dictionary of Musical Instruments (1984) describes the traditional *mashak* is becoming rare, as it is displaced by the Scottish pipes.

Pepa



Pepa

This instrument is a literal horn, as it is made from a buffalo horn. The horn is hollowed out and a pipe pushed into the narrow part of the horn. The pipe is bamboo which is used during *Bihu* celebrations since ancient times. It was mostly blown by the *Deori* priests in olden times, imitated the music needed to summon *Tian* gods.

The Tibetans and ancient Chinese also used similar instruments named *Rwa-dun* for religious rituals. Later, it was used as a musical instrument for festive occasions, like *Bihu*. An improved version of *Pepa* was also developed in the Chatia kingdom which was known as *Kaali* (made of copper) as mentioned in *Deodhai Buranji*, where Ahom king *Suhungmung* brought *Kaali* instruments from *Sadiya* to *Sibsaga*.

As the buffalo population is dwindling gradually in Assam, due to shrinking pastoral lands, getting a *pepa* is currently very difficult. Cost of a *pepa* in the market has reached ₹2500 in recent years.

Synthesizer



Synthesizer

As electricity became more widely available, the early 20th century saw the invention of electronic musical instruments. The Hammond organ, introduced in 1935, was the first electronic instrument to enjoy wide success.

The Moog synthesizer, developed by Robert Moog and first sold in 1964, is credited for pioneering analog synthesis.

Early synthesisers could only play one note at a time. The first mass-produced synthesiser, was the Yamaha DX7, which was launched in 1983. Software synthesisers now can be embedded on single microchips in any electronic device.

Switched-On Bach (1968), a bestselling album of Bach compositions arranged for synthesiser by Wendy Carlos, took synthesisers to the mainstream. In the 1970s, electronic music composers such as Jean Michel Jarre and Isao Tomita released successful synthesiser-led instrumental albums.

Sruti Upanga



Shuti Upanga

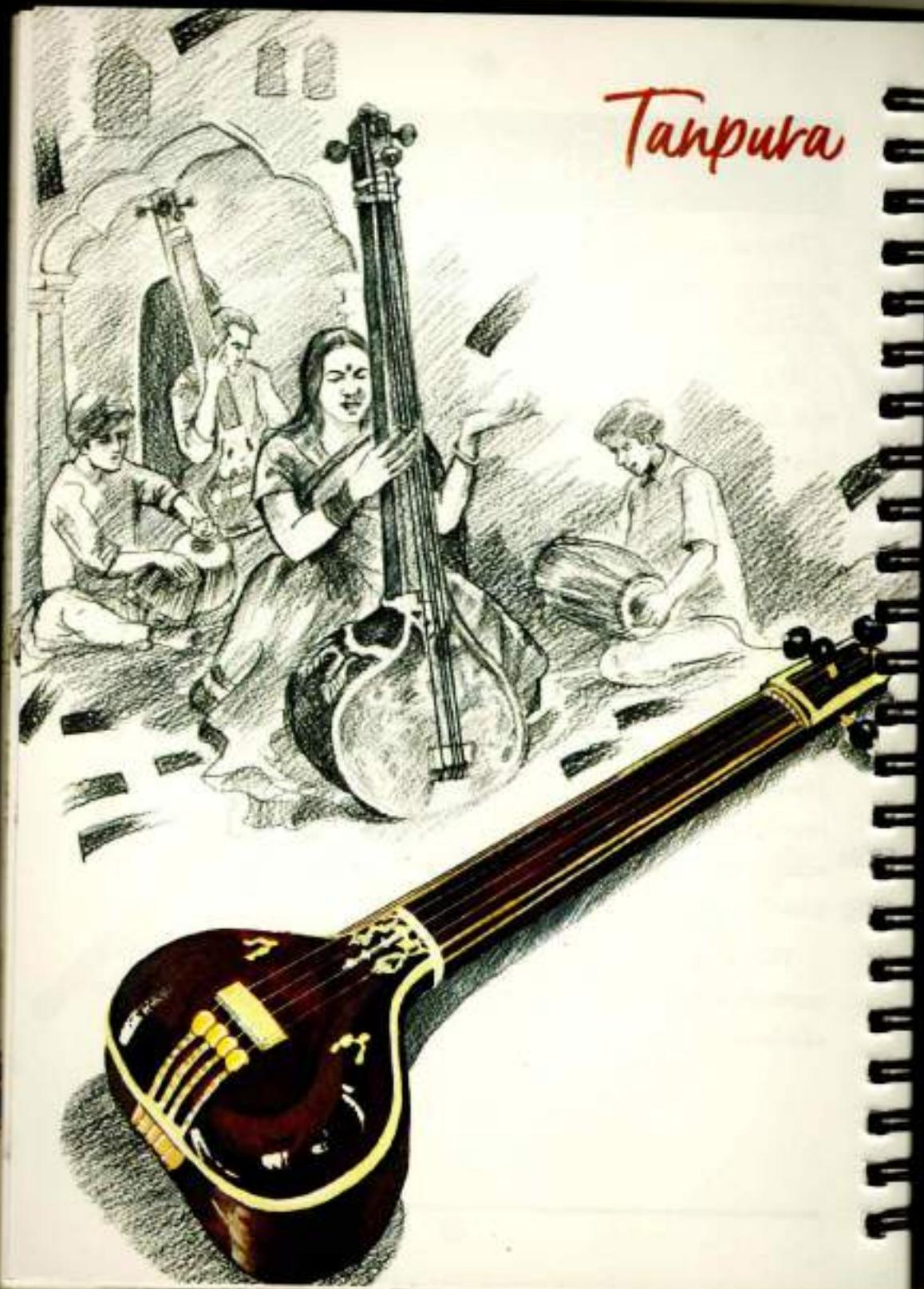
The *shuti upanga* is a type of bagpipe, played in Tamil Nadu. The instrument was often used to supply a drone to accompany the *mukha vina* (Tamil oboe) music.

It has two pipes, one to make music, which means the wind comes out from the bag and the smaller pipe is for breathing wind into the bag. This bagpipe is called *Shuti-upanga* or *Bhazana-shuti* in Southern India. It is used merely as a drone. The holes in the pipe are wholly or partially stopped with wax so as to tune the instrument to the pitch desired. The bag is made of the skin of kid, inflated from the mouth by means of the smaller of the two pipes.

The drone is of cane, mounted in a stock of the same material, and which contains the reed. An enlarged drawing of the reed has been given in the plate, in order to better show its construction, and, as can be seen, the vibrations are controlled by a little piece of wire or fine twine tied roughly round the tongue. The whole reed is in one piece and is generally made of small cane or of the large marsh reeds found almost everywhere. Black wax is used to make the instrument wind-tight.

The *Moshuq* of Northern India does not differ much in outward appearance from this, but contains a chanter, with the addition sometimes of a drone.

Tanpura



Tanpura

"Tan" means melody and 'Pura' means perfect. It looks a little like a sitar. The best wood for *tanpuras* is Spanish Cedar (tun wood). Spanish cedar is now rare to find, so teak has to be used. The wood will be seasoned or kiln-dried, so that the changes in temperature and humidity can not warp the wood. *Tanpuras* are of two types, male and female.

The *Tanpura* is decorated with insets of ivory, making flowers and creepers wind around the stem. Of the instrument.

The total length of the male *tanpura* is fifty-seven inches, the width of the soundboard (tabl) seventeen inches, circumference of the gourd (tumba) is fifty-four inches, and the length of the neck (dandi) or fingerboard is forty inches. The measurements of the female *tanpura* are fifty-one, fifteen, forty-eight and thirty-six inches respectively.

The *tanpura* creates a melodic background, not a melody, but a drone, *Tambora*, *tambura*, *tumbura* or *tamura*, all are synonyms for *Tanpura*, which is relatively a new name in Northern Indian music. In the Carnatic, it is still called *tambura*.

2021

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