CHAPTER EIGHT

The theory of Nāda according to Musicology

The concept of ‘śruti’ and musical ‘svaras’ are special contributions of the musicologists.

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In this background, the musicologists, like Śaṅgadeva2, Śubhaṅkara3, etc., opined that the science of music has been handed down to us from Sāmaveda.

But as per some other texts on musicology, Music has grown along with Tantra and Āgamas, as part of their meditative means (sādhanmārga). For instance, Aumāpatam, an earliest book on music and Musicology, after Nāṭyaśāstra of Bharat, amply speaks of āgamīka impact on musicology. Its General Editor, T.

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Chandrasekharan, in his Introduction to Aumāpatam, stated that — "This work contains valuable material for research in ancient texts on music, musicology in the Tantras, and Dance literature......The work is co-eval with śaivāgamas and must be assigned the early centuries of the Christian Era.” According to Aumāpatam because of Brahman, Nāda, the cause of causes, Nāda arises; and along with Nāda, the Tāla also is born, supported by ākāśa, conjoined with vāyu and agni. In Saṅgītaratnākara, Sāranga deva too has followed āgama traditions. While praising Śankara as an embodiment of Nāda (‘Nādatanu’), he also refers to the origin of Nāda out of Brahmagranthi (Mulādhāra Cakra).5

Śāradatanaya in his ‘Bhāvaprakāśanam’ followed Kāsmīrśaivism while expounding Śiva-Śakti principle with 36 tattvas. 6 ‘Saṅgītopaniṣad Sāroddhāra’ of Shri Sudhākalaśa also declared that ‘The universe of animate and inanimate things consists of Śiva and Śakti’, and Śakti does not exist without Śiva, nor Śiva without Śakti; deprived of Kunḍalani (Śakti), Śiva becomes ‘śava’ (a dead body).7

Even regarding the origin of Nāda in human body, the musicologists followed Tantrāgamas. According to Aumāpatam in the body composed of Panca Bhūtās, as desired by Mahādeva, Nāda arises in Mulādhāra in Trikoṇa form; and this Nāda composed of Fire and Air, being pushed by air, passes through an air-struck-agni-tri koṇa-cave (=pavanāhata-koṇāgni-jvālāpūrita-kandaraḥ = a narrow lane or a cave formed as a triangle stuffed with air and fire (energy)). And there sprouts ‘dhvani’ with ‘bindu’ (‘ghanasvāra’) at the heart. Having obtained the support from veins (nādi), the said dhvani rises higher, and with the help of mind, it ultimately gets the name śabda, and svara, the generator of ‘śruti’, and obtains different svaras like Udāṭta, etc. Here the description of origin of nāda also is similar to that of Āgama traditions. Mataṅga also in his work, ‘Bṛhaddeśī’ refers to Āgama and says that Svaras like śaḍja, rṣabha gāṇḍhāra,
etc., with mātras have their base (svarodhāra) in Agamas.9 It is only in these circumstances that Caitanya Puṇḍarīka Desāī, the commentator of Nānyabhūpāla's Bhāratabhāṣyam10 stated that from the descriptions of the origin of Nāda, given as ‘na nādēna vinā gītāṇi ..........tasmānādātmakaṁ jagakat, ......nādarūpomāheśvaraḥ’ (Br.16,17,18), etc., and from the descriptions of Nādis and Cakras (S.R. 1-2-120-163), it is clear that whatever is said regarding the origin of Nāda, they are translations of texts on Tantras”. (original in Hindi). In the Chapter pertaining to Tantrāgama, I have highlighted such intimate relationship between Tantrāgamas and music.

Thus Indian Music has dual traditions of the Vedas and Tantrāgamas. Indian Music appears to have originated in Śāmavedic singing, but it has grown along with Tantrāgama traditions, as part of their philosophy and meditative techniques.

In relation to the subject of my thesis, the concept of ‘śruti’, in the sense the musicologists have used, as part of svara, is the special contribution of the Musicologists. The word Nāda, according to the musicologists, is derived from the verb ‘nada’ (to sound) and this Nāda, according to them, consists of ‘śrutis’ and ‘svara’. Then a question arises as to: What is ‘śruti’? What is ‘svara’? And what is the relation between the two?

The word ‘śruti’ is derived from the root ‘śru’ to hear. Thus ‘śruti’ is that which is heard (or perceived). In the words of Simhabhūpāla, one of the commentators of Saṅgītaratnākara, --‘the word ‘śruti’ is the one that is heard’ (‘śrūyant iti śrutaya ityarthah). Because they are audible to human ear, they are called śrutis. While commenting on the statement of Sangītaratnākara “...............”11 Simhabhūpāla said that audibility is common to both tones (svara) and ‘śrutis’, but such audibility by itself would not be a distinguishing factor. According to him, the distinguishing factor would be that the ‘śrutis’ when produced for the first time with the
help of air would be without any resonance (anuraṇaṇa śūnya), and when it becomes audible (śravaṇaṇayogyatvam) with sweet resonance (snigdhaḥ anuraṇātmakaḥ), it becomes ‘svara’. In other words, an audible and pleasing sound to the listener (śroṭcciṭtam raṇjayati) is ‘svara’. By clarifying what is ‘śruti’, he stated that ‘the dhvani’ made available to the ear in the earliest moment is ‘śruti’. (prathamakṣaṇavarti śravaṇamātrayogyadhvani), but the same ‘śrutis’ when they assume the resonance they become ‘svara’. The word ‘śruti’ is translated in English as ‘microtone’.

Regarding the nature of the relationship between śrutis and svaras, there are a number of theories among musicologists. Some, like Śubhaṅkara, take it for granted that even Brahman is unable to explain the principle as to how svaras are situated in śruti, (śrutishāne svarāṇ vaktum nālam brāhmāpi tatvataḥ)-12 Aumāpatam, on the other hand, thinks that their relationship can be understood only by God and but not by men.13 In fact, according to Nārada, the exact relation between ‘svara’ and ‘śrutis’ cannot be understood just like the path that is followed by the fish in the water and the birds in the sky.14 He further added that śrutis do exist in svara just like ‘ghi’ in curds, and fire in wood, and they can be availed of with human effort.15

Matāṅga16 considered certain philosophical theories which definitely throw light on the relationship between ‘svaras’ and ‘śrutis’, and they are five as under:

1) ‘Svaras’ and śrutis are not perceived separately and hence they cannot be categorized. Being perceptible to the ear simultaneously, they are identical. (The theory of identity — (‘tādatmya vāda’)

2) The svaras are projected by the śrutis just like a face is reflected in the mirror. Hence they have the relationship of appearance and reality. (The theory of reflection —(‘vivartata vāda’))
3) Srutis are the material cause and svaras are the effect, just as mud is the material cause out of which the pot is made. Thus there is the relationship of cause and effect between srutis and svaras. (The theory of causation — (‘kāryatva vāda’))

4) The srutis get transformed into svaras, like milk into curds and gold into ornaments. (The theory of transformation — (‘parināmita vāda’))

5) The srutis are the manifesters of svara just like the lamp manifests the existing ghāṭa in darkness. (The theory of manifestation — (‘abhivyāñjaka vāda’)).

The first three theories would not be acceptable, according to Matanga. It cannot be said that both svaras and srutis are identical. Nor can it be said that svaras are the matters of reflection of ‘śruti’. There is also no ‘pramāṇa’ to prove that ‘svaras’ are caused by ‘śruti’, since both are perceptible simultaneously. In the case of cause and effect relation, the cause would not be visible in effect, just like the seed out of which the tree has grown would not be perceivable in tree. According to Matanga Muni, the theory of transformation (“Pariṇāma Vāda) and the theory of manifestation (‘abhivyāñjaka vāda’) are justified proposition. He personally held the view of ‘tādātmya vāda’.

For Matanga, ‘śrutis’ arise as qualities of ‘ākāśa’ and ‘svaras’ are modifications, bursting out of (bheda) ‘śrutis’. In this state ‘svara’ becomes sweet (rakta svarah) and progenitor of ‘rāga’ (‘ṛgajanako dhvani svarah’).

From the nature of the relation between ‘śruti’ and ‘svara’, it is clear that the ‘śruti’ of Musicologists is similar to ‘prākṛta dhvani’ and their ‘svara’ is similar to ‘vaikṛta dhvani’ of Bhartrhari.

The credit should necessarily go to Bharatamuni, for demonstrating such relationship between ‘svara’ and ‘śrutis’, for the first time. These ‘svaras’ are seven, viz., śaḍja, ṛṣabha, gāndhāra,
madhyamā, pāñcama, dhaivata and niśāda generally indicated by signs (saṃjña) as ‘sa, re, ga, ma, pa, dha, ni’. Bharatamuni demonstrated with the help of five Veenas—one fixed and the other four adjustable with four strings (catuḥsaṅraṇa) that such śrūtis are twenty two in one register (saptaka). He took five veenas—one with fixed wires, the other four with adjustable wires of sufficient length with a capacity that the next svara can be slightly lower than the earlier. If the earlier svara of static Vīṇā is at Pancama the next reduced svara should be of madhyama. That means the later svara at madhyam is less by one ‘śrūti’. If this process is continued, one gests 22 ‘śrūtis’ in a spectrum of seven svaras (called as saptak). He proved that those 22 ‘śrūtis’ are distributed in a saptak of seven svaras. On the basis of the result of this experiment, others, like Pārvadeva, thought that śrūtis are sixty six (22x3) by taking three register-capacity of the human voice, -mandra, madhya, and tāra-²¹ Yet some others thought by taking theoretically unlimited saptakas that such śrūtis are unlimited.

If that is so, the next question that naturally arises is—‘How are śrūtis related to svaras?’

According to Bharata, an individual śruti is not perceptible by the human ear, and śrūtis become perceptible in a group in the form of svara. What is perceived is the svara consisting of śrūtis. In other words, a svara is a sonic entity consisting of a group of certain number of śrūtis. These śrūtis stand distributed among seven svaras: śaḍja madhyamā, and pāñcama get 4 śrūtis each, rśabha and dhaivata get 3 śrūtis each and gāndhāra, niśāda get two śrūtis each as under:

<table>
<thead>
<tr>
<th>Svara</th>
<th>śrūtis</th>
</tr>
</thead>
<tbody>
<tr>
<td>śaḍja</td>
<td>4</td>
</tr>
<tr>
<td>rśabha</td>
<td>3</td>
</tr>
<tr>
<td>gāndhāra,</td>
<td>2</td>
</tr>
<tr>
<td>madhyamā,</td>
<td>4</td>
</tr>
<tr>
<td>pāñcama,</td>
<td>4</td>
</tr>
</tbody>
</table>
The above distribution of śrūtis may be indicated with the help of a diagram as under:

![Diagram of śrūti distribution](attachment:image.png)

(Based on Bharata’s view - Nāṭyaśāstra; Ch.28.24-26)

If we reexamine the five theories noticed by Matāṅga, in terms Bharata’s experiment, it would be clear that different svaras are constituted of different number of śrūtis, out of the series of 22 śrūtis, in a saptak, and as such, svaras and śrūtis cannot be identical, as opined by the first theory. It cannot be said, in terms of the second theory, that svaras are the appearance of śrūtis. In the case of appearance, what is perceived is the appearance only but not the original entity. But here both svaras and śrūtis are perceptible.

Even the third theory would be untenable for the reason that after causing the effect, the cause ceases to be perceptible. Though the seed is the cause for the tree yet after the tree has grown, the seed disappears, but here śrūtis continue to be perceptible along with svaras. But, on the other hand, there is some substance in the fourth and fifth theories. The śrūtis get transformed into svaras and, as such, svaras are the transformations (parīṇāma) of śrūtis and, accordingly, śrūtis manifest (abhivyakti) svara. Out of the series of 22 śrūtis, the first 4 śrūtis transform into ‘ṣadja’, next three into vṛṣabha, and thereafter next two śrūtis into ‘gāndhāra’, etc., and, accordingly, they manifest ‘sa’, ‘re’, ‘ga’, etc.
If this is their relation now, the next question would be —How are the svaras distinguished from śrūtis?

Śāraṅgadeva offers a comprehensive definition of svara as under:

“Immediately consequent upon śrūti (śrutantarabhāvī), creamy (snigdha) and resonating (anuraṇanātmaka), sound, that delights (raṇjati) the listeners’ minds by itself is called svara.” The translators, R.K. Shringy and Prem Lata Sharma, clarify the import of this definition by stating that:

“When a string of the vīnā is plucked, the first sound produced is considered to be ‘śrūti’ and the next sounds following it, which would be resounding of the śrūtis is called ‘svara’. In other words, śrūti is essentially free from resonance, and resonance (anuraṇana) is the essential characteristic of svara.”

Both ‘svara’ of musicologists and ‘vaikṛtadhvani or nāda’ of Bhartṛhari are matters of ‘vibrations or resonances in the air’, as manifested by ‘prākṛtadhvani’ (or śrūtis), produced by the vocal chord. Svara, thus, is a suspended vibrating or resonating phenomenon of sound waves in the air, (caused by vocal chord or musical instrument). In Shahanai, the first detachable part—generally called ‘mouth piece’, produces Prākṛta dhvani and the rest of Shahanai—with holes, on which fingers operate causing different svaras, produces ‘vaikṛta dhvani’ or nāda. (See Fig.10.1) According to the Musicologists, ‘dhvani’ and ‘nāda are matters of two stages of one and the same sound (dhvani). At the vocal chord, when a sound arises, it is called ‘dhvani’, and this dhvani has 22 śrūtis’ and with the combination of different number of ‘śrūtis’ a particular required ‘svara’ (nāda) arises. (See Fig.10.2)

A svara by itself has no musical significance. Its significance consists in its relation with a group of svaras. A minimum of 5 svaras
are required to constitute a rāga. A rāga is a group of svaras ‘traditionally recognised pattern’, that can be manipulated with different combinations of the constituting svaras, resulting in different melodic patterns, pleasing to the ears. In fact, a svara is a particular variety of ‘nāda’.

Thus, Nāda is a generic concept, and a particular svara is one of the species of nāda. In other words, the sounding effect of ‘svara’ depends on the number of śrutis it has taken, either in the lower half or in the upper half of the saptak. The seven svaras: sa, re, ga, ma, pa, dha, ni, with given number of śrutis as stated above, are called ‘śuddha svaras’ (or prakṛti svaras) Out of those 7 svaras, ṣadja and pañcama are considered to be unalterable (acala). But the rest 5 (, re, ga, ma, dha, and ni) are alterable. An alterable svara, for instance ‘svara ‘re’, can become a lower ‘re’ (vikṛti or modified ‘re’) by losing its own upper śruti and by occupying the śruti of a lower svara. Such an altered svara is also called ‘komala ṛṣabha’ and the western musicologists call it ‘half tone’ and they are indicated by black keys in harmonium. Thus, it is the combinations of śrutis that is responsible for producing ‘seven prakṛti svaras (śuddha svaras)’, and ‘five vikṛti (or modified svaras)’ (half tones) and thus resulting in all 12 svaras, in a svara-saptak. (That is 7 śuddha svaras + 5 komala svaras). This phenomena of ‘svara’ losing its own upper śruti and occupying the upper śruti of lower svara, etc., is called “śrutyararabhāvi”. ‘Śrutyaranta’ means a gap between two śruti.23a

A svara by retaining its own śruti or śrutis allows it (allows them) to overlap (śrutis-sādhāraṇa) with śruti or śrutis of its neighbouring svara (upper or lower) and thereby gets itself modified into either śuddha or komal svara.23b This “śrutyararabhāvi” principle helps the musicians to have modifications of ‘dhvani’ (sound) in different svaras and a capacity to glide from one svara to another, as is in the case of a ‘mīnd’.
On the linguistic side also, there are 'svaras', in relation to consonants, used in the formation of words and sentences. Then a question arises: How about the 'svaratva' of 'ṣaḍja' and the like, in relation to 'svaratva' of linguistic consonant (vyañjana) like 'ka'? 

Maṭanga answered this question by saying that there is the 'svaratva' of 'ṣaḍja' and the like, on accout of their being 'asāḍhāraṇa' (lit. uncommon, special), but there would not be any such speciality in 'svaratva'of consonants beginning with 'ka'. What Maṭanga emphasizing here is that 'svaras', like ṣaḍja, etc., have special characteristics of moving upwards as 'riṣabha', 'gāndhāra', etc., but linguistic 'svaras' (vowels) in relation to 'vyañjana' (consonants), have no such special characteristic. He further stated that even these svaras in relation to vyañjana are also called svaras like 'a' 'ā', etc., (14 vowels). These 'svaras', in the sense of 'vowels', are also of uncommon nature (ie., of special character used for the pronunciation of consonants). But svaras, like ṣaḍja, etc., (because of their uncommonness of upward movements 're' 'ga', etc.,) are also called svaras... by virtue of being technical terms (pāribhāṣā) (a technical abbreviation or sign), that has been handed down to us by ācāryas (teachers).

According to Pāṛśva-deva, such a specialty in musical svaras is there, a) because of ‘/aptopadeśa’ (testimony of trustworthy persons); b) because some other people say that this name is only a ‘sanketa’ (a preconcerted sign, = an arbitrary or conventional symbol used in musical notation to indicate ‘tonality’, ‘tempo’, etc. Some authors use ‘saṃjña’ instead ‘sanketa’ ) and, according to some a matter of technical term (pāribhāṣā).

Pāṛśva-deva, elaborating such specialty in musical svaras says—' because of pronunciation (ucchāraṇa) of ‘ṣaḍja’, ‘ṛṣabhā’,etc., — seven svars (in a saptak) as ‘sa, re, ga, ma, pa, dha, ni’. They
manifest in the ascending order, and, accordingly, their ‘svaratva’ (sounding mode or pronunciation or utterance) stands determined. In fact ‘in practice’ it is like that²⁵

Question: Is it not a fact that (in the instruments) like nissāraṇa, dhāmaru, etc., ‘ṛhaṇa ḍhaṇa’ varṇa is heard. Is it not of the characteristic of svara?

Pārśvadeva says –‘No’; because of the characteristic of svara - is that it is ‘the rāga-generating (janaka) dhvani’ (rāgajanako dhvaniḥ svara)²⁶ (but these ‘ṛhaṇa ḍhaṇa’ varṇas, do not cause ‘rāga’, and hence they are not ‘svaras’²⁷

Thus according to the musicologists, ‘Dhvani’ (sound) ultimately manifests as a delightful (rakta or snigdha) ‘svara’ as the progenitor of rāga. In this context, Matāṅga quotes Kohala, who says : “By the will of the ‘ātman’, the ‘vāyu’ (that is) moving upward from the base of the earth (nābhi, naval), (and ) is held on the ‘wall’ of the ‘nāḍīs’ and in the space, is known as ‘svara’, the delightful sound.²⁸ Commenting on this verse, Pārśvadeva says : ‘In the context of music, ‘svara’ itself is ‘śrīti’. Due to striking of the dhvani to the places (in mouth) dhvani becomes a resonant nada, and from it arises svara, as ‘one’ or ‘many’, or pervasive or non-pervasive. In its pure form svara is only one (and) it takes many forms as ṣaḍja etc”. (.....tatra niṣkalarupeṇaika eva svaraḥ ṣaḍajādirūpāṇāneka svaraḥ)²⁹
Here there is a suggestion that basically there is one svara, namely, ‘śaḍja’, and the same ‘śaḍja’ gets modified (vaikṛta) into ṛṣabha, gāṇḍhāra, etc. Naiyāyikas do not accept this theory. For them there cannot be modification of sound, and what we think of a ‘modification’ is, in fact, a matter of ‘substitution’. I will discuss this aspect in Chapter 9 on critical reviews of the theories.

According to Kohala such “Svara is said to be infinite on account of (its) combination with ‘jāti’, and ‘bhāṣā’, etc. Jāti, for
Matanga, stands for various factors in music, like ‘mandra’ (lower register), ‘tāra’ (upper register), ‘auḍava’ (five svara rāga), ‘śāḍava’ (six svara rāga), etc. Such Jātis in combination with ‘bhāṣā’ (language) in the form of ‘padas’ (syllabic units, meaningful or non-sensical) and ‘alaṅkāra’ manifests ‘rasas’

Thus the sound produced by effort, arising from ‘nābhi’ (naval base) becomes sweet (rakta), pervasive (vyāpaka) and ‘para’ (divine). Such a delightful sound (in the space of the vocal organ) is called ‘Nāda’.

Is the ‘Svara’ or ‘Nāda’ eternal or non-eternal?

Matanga in his Brhaddeśī said that -“Svara is extensive (sarvagataḥ), pervasive (vyāpakaḥ), and eternal (nityaḥ) and indestructible (avināśī). He further said that even according to Kohala, “Svara is pervasive (vyāpaka) and extensive (sarvagataḥ) and transcendental (para). This theory is similar to the theory of Mīmāṃskas. According to Mīmāṃskas, a letter-sound (varṇa) is eternal. (See Chapter 5)

Pārśvadeva, a Jaina Musicologist of Digambara Sect, in his ‘Saṅgīta-Samayasāra’, refutes this theory of Matanga and Kohala. According to him, ‘svara’ is non-eternal (anitya) and non-extensive (avyāpaka), because it can project only its special meaning at a particular distance. It cannot be heard in other (far off) places and as such, it is non-extensive. Otherwise, it should have been heard elsewhere, and it does not happen like that. A sound arising due to will to speak (icchā) of a person is heard only in that particular moment, not at other times; and if it were to be eternal, it should have been heard at some other time also. Hence ‘Svara’ is non-extensive and non-eternal. We have already seen this kind of controversy in previous chapters.

From the above discussion, it is clear that ‘dhvani’, ‘śruti’, ‘nāda’ and ‘svara’ would be matters of different stages of Dhvani. Dhvani is the source (māṭrka) of śrutis. Dhvani is the basic material.
It is a basic material like mud in a pot. Due to effort it becomes a seasoned sound (nāda, variable with the help of śrutis), just like seasoned mud, which in turn, can be used to have finished products like pots or terracotta articles. From dhvani arise śruti, from śruti, nāda and from nāda, svara.

A rāga is an independent ‘melodic pattern’ as conceived and presented with the help of a minimum of five svaras. It may consist of six or seven svaras. Matanga defines a rāga as under

“...That with variety of sounds formed of svara (tones) and varṇa (a phonetic unit or melodic movement- in music like sthāī, ārohi, avarohi, saṅcārī anţara,), delights the mind (rañjate) of the good people (‘saccittam’), is known as ‘rāga’. or A special variety of sounds, decorated by svara (tones) and varṇa (a melodic movement) which is delightful to the minds of the people is named as rāga”.

A rāga may constitute of only śuddha svaras or only of komala svaras or of a mixture of both, as per the structure of rāga.

But what still worries me is the fact that, according to musicologists, ‘ma’ and ‘pa’ in the middle of the saptak consist of 4 śruti each; ‘re’ in the lower half and ‘dha’ in the upper half have three śruti each, and ‘ga’ of lower half and ‘ni’ of upper half of the saptak have two śruti each. If there is correlation between svara and śruti, then what makes ‘ma’ and ‘pa’, having the same number of śruti produce different svaras with different pitches (or high or low tones). If they have the same number of śruti, they should have produced the same svaras (tones). The same objection could be raised regarding ‘re’ and ‘dha’ (each having three śruti) and ‘ga’ and ‘ni’ (each having two śruti). The hard fact is that all these svaras produce different tones, so as to constitute seven svaras in saptak. The question is - how could this happen?
The musicologists have not raised such a question nor have they answered it satisfactorily. In my opinion, the Trikoṇa theory of Umāpaṭīśvārya, may help us in this regard. I will be discussing this theory in Chapter 10 on Vocal Applications.

According to the musicologists, there are of two kinds Svaras; 1) produced in musical instruments ('yantraja'); and 2) produced in human body (mukhaja, or piṇḍaja or śarīra). The one produced by human body is considered to be primary and important. (Samayasāra-2.6) According to Pārśvadeva even those produced by the instruments, nonetheless, are the products of human effort (puṣṭa prayatna) and an accidental dhvani arising on account of the falling of a stick on the string of a musical instrument cannot be said to be a svara of music. Here there is clear suggestion that Nāda is not a mere physical sound. A physical sound (prākṛta dhvani) becomes Nāda owing to human effort (puṣṭa prayatna).

According to the Musicologists, the combination of agni (fire) and air (Vāyu) is the immediate cause for the production of Nāda. From Nāda bindu and all the languages (sarvam ca vāṅgmayam) are caused. Matanga also said —“From Nāda is formed ‘bindu’ and from ‘nāda’, all ‘vāṅgmaya’ (whatever is made up of language) is born” For the application of any kind, a material should be capable of being reduced to smaller bits, according to the requirements. In painting, the ‘points’ or dots play a very important role. A line is considered to be a series of dots. Such a smallest sized object in Sanskrit is called a ‘bindu’. “In the Veda, ‘bindu’ is related to ‘indu’, the drop, spark, and also the moon. The Vedic synonym for ‘bindu’ is ‘drapsa’. It figuratively means ‘śukra’, semen, and also the moon” 37 “Bindu is like a drop” (bindurivinduḥ). 38 -

The musicologists have accepted this principle of Āgamas that from ‘nāda’ arises ‘bindu’ and from ‘bindu’ arises Nāda. According to Āgamas bindu is a ‘ghanībhūta śaktī’ but according to
Musicologists, ‘bindu’ is a ‘ghanībhūta nāda’). (See Fig.9.1).

Musicologists, like Nānya deva, Kumbha, Śaraṅgadeva explained the nature of ‘bindu’. For example, Nānya deva said: When struck at one place of a string the one that produces a loud sound, vibrating for a long time - is called ‘bindu’ (ekasyāmeva yastantryaṁ prahāro guruvalgувān) (Nānya deva).\(^{39}\) The music as an Art causes aesthetic appeal with the help ‘Nāda’ and ‘Bindu’ in the form of ‘rāgas’. Music is also called Sangita-vidyā. A vidyā is a science. The science of the soul is called ‘ātma-vidyā’ or ‘parā-vidyā'. Sangita being ‘parāpara, vidyā’ is both bhoga (enjoyment) and yoga (meditation).

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The gist of the theory of Musicologist :-

Nāda is the manifestation of Cosmic –Energy or Kuṇḍalani Śakti in the form of Vocal Sound

Even for Musicologists, just like Tantrāgamās, the Ultimate Reality is ‘Nāda Brahman’. It is KuṇḍalinīŚaktī that causes Nāda. This Nāda, with the support of ākāśa and conjoined with ‘vāyu’ and ‘agni’, while exiting through mouth, generates ‘dhvani’ or ‘svara’. This ‘dhvani’, when used in musical patterns (rāga), is called ‘Svara’. The ‘svara’ is manifested with the help of built-in ‘śrutis’. A ‘śruti’ by itself is not amenable to perception. A combination of two or more ‘śrutis’ is perceivable in the form of Svara. For instance, ‘ṣaḍja svara’ consists of 4 ‘śrutis’, Riṣabhā, two, and Gāndhāra, three, etc. A ‘svara’ of Musicologists is similar to ‘vaikṛta dhvani’ or ‘Nāda’ of Bhārtṛhari.

Is this ‘Svara eternal or non-eternal? 

Mataṅga following the Mīmāṁsa theory, said that ‘svaras’ are eternal’. Pārśvadeva, expounding the Jaina theory, stated that these
svaras, which are the manifestation of atoms or ‘śabda-pudgalas’ are non-eternal

But what worries me is that, according to the musicologists, the number of śrūtis that constitute śaḍja, madhyam, and pancama are four. But these svaras have different pitches. How to account for this kind of variation in pitches. The Triangle Theory as expounded by Aumapātām, which will be considered in Chapter Ten, may solve this riddle.

Notes and References

2 R.K. Shringy and Prem Lata Sharma: Saṅgītaratnākara of Śārāṇgadeva; (Vol I); 1.vii.25; (1991); Munshiram Manoharlal; New Delhi -110055.
3 Hariram Acharya (ed) Saṅgīta Dāmodar of Śubhaṅkara; Ch.2.; p.58; (1998); Publication Scheme, Jaipur.
4. Aum.1.3-8
5 S.R.1.1.1.
6 “iha tattvāni śaḍtrīṃśat -śivaḥ śaktiḥ sadāśivaḥ, īśvaraḥ śuddhavidyetī śuddhāt etāni pañca ca” etc. (7.10).
7 Allyn Miner: ‘Saṅgītopaniṣad Sāroddhāra’ of Shri Sudhākalaśa; 1.20 and 1.22; (1998); Indira Gandhi National Centre For Arts; New Delhi & Motilal Banarasidass, Delhi-
8 Aum.1.17
10 Caitanya Puṇḍarīka Desai: Bharatabhāṣya of Nāyabhūpāla; (at p 68); (1961); Pub. Indirā-kalā- Sangīta-Viśvavidyālaya, Khairgaḍ.
11 “śrūtyantarabhāvī yaḥ snīgdhaḥ ’nūraṇanātmakaḥ, svato raṃjayati śrotṛcittam sa svara ucyate” - (verse 1.3.24),
12 Saṅgītādāmodara—ch.4.ja.103
13 Aum.2.23-24
14 Nā. Śi. -1.6.16).
15 Nā. Śi. -1.6.17
Br. -3.28-43)
Br. III.11.39 - 'svarajanakāṇāṁ gaganuguṇānāṁ svaro bhedaḥ)
—pp.21)
Br. IV.15.
Bharatamuni : Nāṭyaśāstra; Ch.28.24-26
Acharyya Brihaspati : Saṅgīta Samaya Sāra; 1.19-27; (1977); Shri
Kundakundana Bharati, Delhi-6
SR.3.24-p.134
SR.( Vol I); p.154;
Bandopadyaya, S. : Saṅgīta Bhāṣya (Terminology of Musical Terms);
p.364; (1985); B.R Publishing Corporation, Delhi-52)
Shringy and Prema Lata Sharma : Saṅgītaratnākara 3.vi.39
(pp.141-146); Munshiram Manoharlal Publishers, New Delhi-55).
Saṅgīta Samayasāra 1.40 p.12
Br.IV.15
Saṅgīta Samayasāra 1.40; p.13
Br. IV.15 —p.29
Saṅgītasamayasāra -1.38 —at p.11
Br.IV.16 —p.31.
Br.IV.16 —p.31
Saṅgīta Samayasāra 1.40 at p.12
svaravarṇaviśeṣaṇa dhvanibhedaṇa ya punah
rañjyate yena caḥ kaścit sa rāga sammataḥ satām (Ch.III.263).
athavā
yo'sau dhvani viśeṣastu svararvarṇabhūṣitaḥ
rañjaka jana cittānāṁ sa ca rāga udāhṛtaḥ
Saṅgīta Samayasāra 2.6
Saṅgīta Samayasāra 2.20 —p.27
Br..II.17).
Kalatattvakosa - _Vol II. p.5
Babulal Shukla Shastri : Nāṭakalaksaparntakoṣaḥ of Sāgaranandi;
— (Verse 24); (1972); Chaukhamba Sanskrit Series Office, Varanasi-1
“ Bindu is a concentrated nāda , like the one produced when the string
of the musical instrument is struck with force. ( binduvektra tantryāṁ
syātpraḥāraḥ ṝṛthunādāvān - Kumbhāḥ ); Sāraṅgadeva -put it
differently when he says: “Bindu is the one producing loud nāda when 
struck at one place of string (in a musical instrumen” —bindurekatra 
tantryāṇī syātprahāro gurunādakṛt). (M. Ramakrishna Kavi : 
Bharatakośaḥ, p.420; (1951); Munshiram Manoharlal, New Delhi-55.