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# DYNAMICS OF RHYTHM - THE TĀLA DAŚA PRĀNA-S IN BHARATA NATYAM

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### **ABSTRACT**

Rhythm has been very closely associated with mankind ever since primitive times. Man felt the need for rhythmic impulses in order to co-ordinate his emotional movements. The simple sounds created naturally and consciously with the help of his body were man's first attempts at the manifestation of rhythm - his first attempts to create preinstrumental music. Rhythm is innate in nature. Universe will cease to function if the activities become arrhythmic. All activities- visible and non-visible adhere to the principle of rhythm. Rhythm is governed by the concept of speed or tempo. This is visible in both ordinary life as well as in the arts. Both plastic as well as performing arts are governed by rhythm. Especially in music and dance, rhythm becomes its very soul and reason for existence. Rhythm in dance is also governed by the body movements. This concept of rhythm has been deeply and minutely explored in music, which has given rise to the concept of the ten elements of musical time or tāladaśaprāna-s. The present paper is a study of the concept of 'tāla' in relation to its ten vital aspects. Each element is defined and explored from the perspective of Indian classical dance, namely, Bharata Natyam. Particular emphasis is given to the element- 'yati' by studying it from the practical aspect of Bharata Natyam.

**Keywords:** Rhythm, Rhythmic Movement, Tāla, Daśa Prāna, Yati

### 1. INTRODUCTION

Every activity whether significant or insignificant, large or small, begins with the rising of the Sun and this is the first indication of rhythm. At day break, birds leave their nests and return as the Sun sets; and the Moon rises in the sky only to be again followed by sunrise. This play of the Sun and the Moon reflects the rhythm of Nature leading to the manifestation of day and night. The cycle of seasons plays a great role in the sustenance of mankind. The journey of living beings from birth to death is also a rhythmic cycle. Even the daily disciplined routine reflects the cycle of rhythm. The gallop of horses, the running train, etc. have a specific rhythm. The rhythmic heartbeat indicates the existence of life. The entire Universe revolves around the concept of rhythm! Not all rhythms are similar; rhythms are manifested in different speeds viz. slow (vilambita), medium (madhya) and fast (druta). Because of this variety of speed, there exists harmony in nature. Language possesses rhythm. Paintings and sculptures consist of a hidden rhythm whereas music and dance are exclusively governed by rhythm. The very life-breath of music and dance is the concept of rhythm.

Man's first musical forays were through his own body. Primitive man was quite unaware as he stamped the ground, slapped his body or clapped his hands that in his actions were the seeds of the earliest musical expression. Man felt the need for the rhythmical movements and manifestations in order to regulate and co-ordinate his emotional movements. Man is the first animal to dominate rhythm. He does so by dancing, clapping his hands, stamping the ground, slapping his abdomen, chest, thighs, buttocks, etc. "There are only a few very primitive peoples, such as the Vedda in the interior of Ceylon, or certain Patagonian tribes, that not only do not possess any musical instruments, but do not even clap their hands or stamp the ground." (Sachs, 1940, p.26). Certain impulses in man resulted in the creation of certain musical experiments. The collective experiences and initial experiments led to the primitive fashioning out external tools to imitate the natural sounds that he heard daily. He also tried to bring in the element of lyricism and enjoyment and thus were born the prototypes of musical instruments. Thus, man made two types of music – vocal and instrumental.

The next step was to respond to the natural rhythm that he observed. The most fundamental rhythm that he was conscious of and responded to was his own heartbeat. Then on his responses enlarged to encompass the rhythm of the universe and natural phenomena. And just as he created musical instruments to produce certain sounds, he fashioned instruments on which he could create rhythm– the percussion.

Primitive man used percussion in dance to produce sound in response to the body movements or to emphasize the body movements. Primitive dancers or onlookers keep time by stamping the ground either gently or violently or by slapping the various parts of the body to produce sharper sounds. Thus, the upper arm, the chest, the abdomen, the buttocks and the thighs initially became the musical instruments. In the more advanced cultures because of the increasing use of garments or protective outer covering, effective sound could not be produced by slapping the above-mentioned parts of the body and therefore the primitives resorted to clapping of the hands besides stamping. There are reliefs which show the ancient Assyrians beating their throats to obtain some sound effects. (Wachsmann, 1961). Even today we find in some parts of Africa the mouth tapped in ululation. In West Bengal and Kerala, we find women producing sounds similar to the ululation during festivities, by moving the tongue. Here we see that although the human voice is used, there is no speech or song. The effect here is purely instrumental. The sounds that are produced by the body – either by the human voice or by slapping the various parts of the body, are without help of tools or instruments. According to Wachamann, these primitive practices go one step further when in the advanced cultures the performer, instead of hitting his bare thigh hits the solid leather of his breeches or the soles of his boots, as in the Schuhplattlertanz of Upper Bavaria. This is similar to the fixing of rattling devices, dry seed shellings of bones and teeth, snail shells or twigs to the legs or to some other part of his body or clothing – or the tying of the ankle bells around the feet by the present-day dancer. Thus we see that some rhythmic melodic impulses gave rise to the music of man and his musical instruments; the first instrument being the body itself, which was used for keeping rhythm - rhythm being innate in man. That is why our ancients called the human voice as 'gātra vīnā' (the body vīnā) or the daivī vīnā (the God-given vīnā) and all other vīnā-s as the daravi vīnā-s or vīnā-s of wood (Deva, 1977). The term 'vīṇā' seems to have meant any instrument capable of producing melody, including the voice.

### 2. TĀLA

Tāla signifies 'time measure'. The word 'tāla' comes from 'tala' (palm of the hand) and primarily refers to beating of time by clapping of hands. (Ghosh, 1961). The clapping of the hands must have been a giant step in the process of evolution of man. Man's longing for rhythm resulted in vigorous body movements in the beginning. Finally, these movements were controlled, and man found a better way of expressing his longing for rhythm by using the less strenuous, simple clap of the hand. Since ancient times, the subject of 'tāla' has been treated at great length. Indian musicians have developed an elaborate tāla system wherein a systematic study of 'time' as an absolute factor is undertaken. Tāla is a major determinant of Indian musical structure. Both in Hindustani as well as in Carnatic music, an elaborate system of tāla-s have been devised and are practiced – unparalleled by any other musical system of the world.

The earliest extant treatise on the performing arts of drama, dance and music is the Nātyaśāstra of Bharata. Chapters 28-33 are exclusively related to music – both instrumental and vocal. The earliest known tāla-s are mentioned in the Nāţyaśāstra. The texts which are of significance following the Nātyaśāstra are Brhaddeśī of Matangamuni (6th century C.E. – 8th century C.E.), Bharatαrnava of Nandikeśvara and Bharatabhāsya by Nānyadeva (11th-12th centuries C.E.). Nārada's Saṅgīta Makaranda which is said to be between the Nᾱtyaśᾱstra and the Saṅgītaratnᾱkara discusses the 101 tāla-s in a detailed manner. In the course of his discussion, N $\bar{\alpha}$ rada refers to the etymology of  $t\bar{\alpha}$ la and the daś $\bar{\alpha}$ pr $\bar{\alpha}$ na-s. The next notable treatise is the Saṅgītaratnαkara by Śαrṅgadeva (13th century C.E.) that refers to 120 tāla-s in the 5th adhyāya. Also, Sangīta Samayasāra by Pārśvadeva (13th century C.E.) and Saṅgīta Dāmodara by Śubhaṅkara (15th century C.E.) are works which discuss different tāla-s. King Tulajα (1723-1735 C.E.) the Maratha king of Tanjavur is credited with the treatise Sangīta Sārāmrta which discusses tāla-s in the 13th chapter. The Caturdandi Prakāśikā by Venkatamakhi (1620 C.E.) is well-known for the introduction of the concept of 72 melakart $\bar{\alpha}$ -s. In its Gīta Prakarana, various tālas are discussed. Other works of significance that discuss various tāla-s are the Saṅgītasāra by Pratapasingh Deva, Saṅgītarāja by Rana Kumbha (15th century C.E.), etc. Several works on tāla like the Tāladīpikā, Tālakalābdhi, Saṅgītasuryodaya, etc. throw significant light and enumerate the concept of  $t\bar{\alpha}$ la.

In music, tāla has a vital role to play. The essential element of music is rhythm. That rhythm made explicit becomes tāla. It provides time-measure of music. Music operates on the domain of time (kāla) and sound (nāda). The measurement of this musical time does not correspond to minutes or seconds but to organized patterns of beats called tāla-s. One of the functions of tāla is that it regularizes the music which adds to its aesthetic beauty. Another notable feature of tāla is that it is cyclical in nature. This tāla cycle is known as tāla āvarta or tāla āvartana. The melody adheres to this cycle which is repeated again and again in a composition or at times at an appropriate juncture the tāla pattern is changed. In such cases, the composition is known to be set in 'tālamālikā' (lit. 'a garland of tāla-s').

# 3. TĀLA DAŚA PRĀNA-S - TEN VITAL ASPECTS OF TĀLA.

The ten vital divisions or prāṇa-s of tāla found in most of the ancient texts on music help in the detailed analytical study of rhythm in all its aspects.

"kālo mārgaḥ kriyāṅgāni graho jātiḥ kalālayāḥ | yatiḥ prastārakaśceti tālaprāṇā daśasmṛtāḥ ||" (Saṅgīta Darpaṇam śloka no. 631)

The daśa prāṇa-s are as follows: - kāla, mārga, kriyā, ańga, graha, jāti, kalā, laya, yati and prastāra.

1) Kāla – It is the fundamental tempo of execution of tāla. This is of three kinds – cauka or vilambita kāla (slow speed), madhyama kāla (medium speed) and dhruta kāla (fast speed). Each kāla is double the speed of the previous kāla. At times, depending upon the structure of the musical composition, the kāla or speed of the composition may change. For example, it is a normal practise in Carnatic music to begin the Varṇam in slow speed and increase the speed from the caraṇam or the uttarāńgam (latter half) of the composition. At the same time, unnecessary quickening or slackening of the tempo during the course of rendering a musical piece destroys the pleasure of listening.

The concept of kāla in Bharata Natyam can be seen especially in the performance of the aḍavu-s (basic steps). For example, the Nāṭṭu aḍavu can be performed in trikālam as follows: -

## Onrām kālam (1st speed / vilambita kāla).

### Irandānkālam (2nd speed / madhyama kāla).

#### Mūndrānkālam (3rd speed / dhruta kāla).

Another classic example, unique to this style of dance is the trikāla jati of the Varṇam.

**2) Mārga** – This prāṇa relates to the "rhythmical construction of a musical composition and helps a person to reckon the tāla accurately." (Sambamurthy, 1994, IV, p.170). It is concerned with the writing of musical pieces in correct notation. The mārga of the piece makes clear the unit number of svara-s or śollu-s a tālākṣara takes. According to the Rasakaumudī of Śrīkaṇṭha, there are four types of mārga:-

- **1) Dhruva –** having kalā (fractional unit) of one mātrā (a mātrā consists of four akṣara measures).
- 2) Citra having kalā of two mātrā-s
- 3) Vārtika having kalā of four mātrā-s
- 4) Dakşina having kalā of eight mātrā-s

The following is an example of a composition in Citra variety, in rāga- Malahari set to tāla Rūpakam: -

1	2 3	4 5	6
m	$p \mid dh$	<b>s</b>   <b>s</b>	<b>r</b>
śrī	-   ga	ņa   <u>nā</u>	<i>thā</i>
Ė	$\dot{s}    \ dh$	p     m	$p  \ $
sin	<u>dhū</u>   -	<u>ra</u>   var	<i>ņa</i>
r	$m \mid p$	dh   m	p
ka	ru   ņa	<u>sā</u>   ga	<u>ra</u>
dh	$p  \mid  m$	g     r	s
ka	<u>ri</u>   <u>va</u>	da   -	na
S	,   r	$m \mid g$	$r \parallel$
lam	-   <u>bo</u>	-   da	<u>ra</u>
s	$r  \mid g$	r   s	,
la	<u>ku</u>   mi	ka   <u>rā</u>	-

- 3) **Kriyā** This denotes the action involved in the reckoning of a tāla and are of two types saśabda kriyā and niḥśabda kriyā. Saśabda kriyā is when the action produces a sound, for example, the clapping of hands or beating the right hand in the right thigh and niḥśabda kriyā is when the action does not produce any sound. For example, the use of finger counts, the wave of the hand and so on. The sūlādi sapta tāla-s which form the base of Bharata Natyam uses all the above three kriyā-s.
- **4) Ańga** It means the limb or the constituent part of a tāla. There are six ańgas the ṣaḍāṅga-s namely, laghu, dhrutam, anudhrutam, guru, plutam and kākapādam.
  - 1) Laghu The mode of execution of a laghu is one beat of the hand and finger counts. The counting of the fingers begin from the little finger. A laghu is represented by a vertical line ('|'). The value of the laghu is according to the pañca jāti-s.
  - 2) Dhrutam is executed by one beat of the hand and the wave of the same hand. The beat of the hand is known as gāthā. And the wave is known as visarjitam. It is denoted by a circle or full moon ('0') and stands for two akṣara-s. (An akṣara or akṣarakāla is a unit of time-measure in a tāla).
  - 3) Anudhrutam is executed by one beat of the hand also known as gāthā and is denoted by a crescent moon ('o'), standing for one akṣarakāla.
  - 4) Guru is reckoned by a beat followed by a circling movement of the right hand in the clockwise direction with closed fingers. Its duration is eight akṣarakāla-s and is represented by the symbol of the numeral eight ('8').
  - 5) Plutam is reckoned by a beat, kruśya (waving the right hand from right to left) and sarpiṇi (waving the right hand from left to right). Each kriyā

consists of four akṣarakāla-s. According to P. Sambamurthy, there is another mode of reckoning this ańga – a beat followed by a circling movement of the hand and a wave downwards (1994, I). This ańga is represented by using the symbol ('|8') and has a duration of twelve akṣarakāla-s.

- 6) Kākapādam is executed by a beat, patākam (lifting up the right hand), kruśya and sarpiṇi each consisting of four akṣarakāla-s. The symbol '+' is used to represent this ańga and has a duration of sixteen akṣarakāla-s.
- **5) Graha** The place where the music commences in a tāla āvartana is called graha (or eḍuppu in Tamil). They can be broadly divided into two
  - **1) Sama** When the music commences along with the commencement of the tāla.
  - 2) Viṣama When music commences either before or after the commencement of the tāla. Viṣama is again divided into atīta i.e. when the music commences before the tāla (this is known as anāgata in Hindustani music) and anāgata i.e. when the music commences after the tāla (this is known as atīta in Hindustani music). According to Rasakaumudi, there is no rule regarding the beginning or end of viṣama. (Jani, Ed. 1963). In Bharata Natyam this prāṇa is reflected in the musical compositions, especially the Padam-s and Jāvalī-s, where the song either begins on the beat (sama), or before the beat (atīta) or after the beat (anāgata). The sama and viṣama graha-s are also employed in the svara-s and jati-s of Bharata Natyam.
- 6) Jāti Jāti can be simply defined as "units of rhythmic beats". (Rele, Ed. 1992). It refers to the five varieties of laghu namely, tiśra, caturaśra, khaṇḍa, miśra and sańkīrṇa. The number of akṣara-s and their jāti śollu-s are as follows:

```
a) tiśra jāti – 3 akṣarakāla-s (ta ki ṭa).
b) caturaśra – 4 akṣarakāla-s (ta ka dhi mi).
c) khaṇḍa – 5 akṣarakāla-s (ta ka ta ki ṭa).
d) miśra – 7 akṣarakāla-s (ta ki ṭa ta ka dhi mi).
e) saṅkīrna - 9 akṣarakāla-s (ta ka dhi mi ta ka ta ki ṭa).
```

It is with the emergence of the sūlādi sapta tāla-s that the different varieties of laghu apart from caturaśra, came into existence. It can be observed that even the aṣṭottaraśata tāla-s had only caturaśra laghu. Thus, the seven basic tāla-s interpreted through the five jāti-s got further expanded into 35 tāla-s. The jāti-s play a very significant and interesting role in the nṛtta of Bharata Natyam. Whether a jatisvaram or a tillānā, these items are incomplete and would be uninteresting without the various cross rhythms that are possible only due to the aesthetic and creative use of jāti-s. For example, the tillānā may be composed in a tāla that adheres to the caturaśra jāti, but several jāti patterns can be woven within the given mathematical calculation by the dance choreography. This is possible by incorporating different aḍavu-s in different jāti-s. Thus, a thorough knowledge of the adavu-s in pañca jāti-s are indispensable in Bharata Natyam. Following is

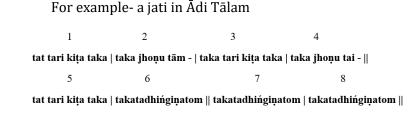
an illustration of the Viṣaru aḍavu in the dhruta kalam in order to understand how the concept of jāti-s can be employed in Bharata Natyam: -

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Caturaśra Jāti -
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```
1 2 3 4 | 1 2 3 4 |
 tā tai tai tat | dhit tai tai tat |
    Tiśra Jāti -
123 | 1 2 3 | 1 2 3 | 1 2 3 |
tā tai - | tai tat - | dhit tai - | tai tat - |
    Miśra Jāti -
123 | 4 5 6 7 || 1 2 3 | 4 5 6 7 ||
tā tai - | tai - | tat - || dhit tai - | tai - | tat - ||
    Khanda Jāti -
1 2 3 4 5 1
                    2 3
                                4 5
tā tai tai tat - | dhit tai tai tat - |
    Sankīrna Jāti -
  1 2 3 4 | 5
                     6 7 8 9 ||
  tā tai tai tat | dhit tai tai tat - ||
```

- Where there is only one fractional unit for each tālākṣara or one svara for each kriyā of the tāla, it is called eka kalā. Consequently, two fractional units or svara-s for each kriyā means dvikalā and four fractional units or svara-s for each kriyā signifies catuśkalā. The duration value of each kalā is variable. For example, when a song is sung in caturaśra laghu and in dvikalā, the total number of fractional units (kalā-s) will be eight. On the other hand, a song sung in caturaśra laghu and tiśra gati will have twelve fractional units or kalā-s (gati, literally means 'gait' but in the sphere of rhythm it signifies a sub-unit of each akṣarakāla. There are five gati-s tiśra, caturaśra, khaṇḍa, miśra and sańkīrṇa. A composition following the tiśra gati will mean that each kriyā of a tāla will have three sub-units). Thus the kalā is a variable unit of time-measure but an akṣara is a fixed unit of time-measure.
- 8) Laya Laya is the basic speed of execution of the tāla and is determined at the very beginning of any musical rendering. There are three speeds of execution commonly known as vilambita or slow, madhya or medium and dhruta or fast. Both, the musician and the dancer must possess laya.
- **9) Yati** This prāṇa refers to the rhythmical arrangement of the aṅga-s in a tāla. Yati is "the rhythmical design or pattern of a rhythm as evidenced by the sequence of its constituent aṅga-s". (Sambamurthy, 1994, IV, p.176). There are six types of yati-s.

1) **Sama or Pippīlaka Yati -** wherein the anga-s are of same size.



**2) Gopuccha Yati (lit. cow's tail) –** wherein the anga-s are gradually diminishing in size.

For example, a jati in Ādi Tālam

1 2 3 4

tat dhit taka jhoṇu | tām - dhit taka | jhoṇu tām - taka | jhoṇu tām - jhoṇu ||

5 6 7 8

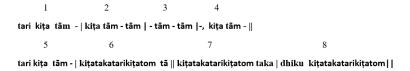
tām - tām - | taka dhiku tadhińgiṇa || tom takatadhińgiṇa || tom tadhińgiṇatom ||

**3) Śrotovaha Yati -** wherein the pattern is like that of the flow of the river, narrow at the commencement and wide towards the end. This is exactly contrary to the gopuccha yati.

For example, a jati in Ādi Tālam.

**4) Damaru Yati** – wherein the pattern is similar to that of a small drum (damaru), the two ends are broad, and the centre is narrow.

For example, a jati in Ādi Tālam



**5) Mṛdańga Yati** – wherein the pattern resembles a mṛdańgam, narrow at the two ends and broad in the centre. This is the converse of the damaru yati.

For example, a jati in Ādi Tālam

```
1 2 3 4

tām - taka tām | - tari kiṭa tām | - tari kiṭa tām | - taka tām - ||
5 6 7 8

tām - taka dhiku | kiṭatakatarikiṭatom - || ta kiṭatakatarikiṭatom | - kiṭatakatarikiṭatom | |
```

**6) Viśama Yati –** wherein the ańga-s do not have any specific, definite order unlike the Sama yati.

For example, a jati in Ādi Tālam.

```
1 2 3 4

tat dhit taka jhoṇu | tām jhoṇu tām taka | jhoṇu tām jhoṇu tām | dhit taka jhoṇu tām ||
5 6 7 8

- taka jhoṇu tām | - ta dhiń gi || ṇa tom tadhińgiṇa | tom - giṇatom ||
```

**10) Prastāra** – This prāṇa indicates the heights to which the genius of man has reached in the sphere of rhythmic calculations. Literally, the word 'prastāra' means 'spreading out'. "Prastāra of a tala anga means splitting up the ańga into its possible component ańga-s..." (1994, IV,182). Scholars give fourteen varieties of 'prastāra'. All the possible permutations and combinations of the ańga-s are considered.

### 4. CONCLUSION

Rhythm and movement are interrelated. There is movement in the Universe and this movement is governed by rhythm. A very traditional śloka not only emphasizes the importance of rhythm but also throws light on the fact that movement is the essence of life. As per the śloka, the three activities of creation, maintenance and destruction are governed by tāla. All creatures move in a rhythmic manner. The Sun and the other planets too move in rhythm. In other words, all activities in this world depend on tāla. The above study is in connection with Bharata Natyam. Nevertheless, the tāla daśa prāṇa-s are applicable to the rhythmic structure of the other classical dance forms as well. This rhythmic structure is of course, dependant on the kinetics of that particular dance style. For example, all Indian classical dance forms include dancing in three speeds- slow, medium and fast. But it is not always that they can be clearly visualized in all dance styles. For example, in the Odissi repertoire, the Pallavi begins with slow music and gradually increases in speed, reaching a crescendo. Here it is not a clear bifurcation of three speeds but a gradual ascent of the speed which reaches its climax. The elaboration of music entails exploration and interpretation through a slow unconscious journey towards an aesthetic climax. In contrast to this, in Bharata Natyam, it is a well - structured, thought-out activity. These features of rhythm have a close connection with the movement pattern of the dance style, in other words, the dance kinetics. In fact, a careful analysis will enable one to understand that the concepts of rhythm and melody – its dynamics used in a particular classical dance style is carefully interlaced and inter-linked with the aesthetics of that particular dance form. As such, the daśa prāna-s of tāla are explored, interpreted in the various dance styles as per the aesthetics of their body movements. Thus, one can observe that rhythm which is an innate part of nature is harnessed by man - the artist, to transform it to 'tāla' - an aesthetic creation. Not simply satisfied with only creating this concept, Man delves deep into it and unfolds the various dimensions of rhythms which are manifested in the form of the innumerable varieties of tāla-s and its different components in the Indian musical system. This research paper makes a study of this dynamics of rhythm woven aesthetically in the classical dance of Bharata Natyam.

### **CONFLICT OF INTERESTS**

None.

### **ACKNOWLEDGMENTS**

None.

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