# "Khaṇ̣̣a Tripuṭa tāḷa kuraippu in kalpana svaram" 

By

## Srilatha.R

## Research Scholar

The Music Academy Research Centre

## I. Introduction:

The word 'Kuṛaippu' broadly means 'to reduce'. In Karnataka music, it denotes a process of reduction in the āvartas of tāla. One of the main segments in the laya-oriented manōdharma form - tani-āvartanam, 'kuṛaippu', also finds a place in the solfa-oriented manōdharma form of kalpana svaram, as its concluding segment.

Although not a compulsory component of every presentation of kalpana svaram, kuṛaippu, when rendered, certainly creates the effect of a grand finale to a rāga-s delineation in kalpana svaram. Each rendition of kuṛaippu invariably culminates in a kōṛvai. The aspects of kuṛaippu and kōṛvai serve as avenues for showcasing skill and expertise in laya.

One of the most common tālas in wh ch $\mathrm{ku} u$ ạpp u is presented is catuśa jāti trip uạ tāla, commonly known as ādi tāla. This is owing to its structural split-up being even, with the pūrvānga and the uttarāñga consisting of 4 kriyā-s / akṣara-s each. This even break-up of tāla, makes the process of reduction in kuṛaippu easy, in contrast, to a tāla such as khaṇ̣a jāti tripuṭa tāla, which being odd-numbered comprising 9 kriyā-s / akṣara-s, makes each step in the reduction of āvarta, more intricate to handle. This can further be complicated, with complex eḍuppu positions taken up in kuraippu.

Further, as observed from many renditions of kuraippu, this aspect of kalpana svaram is rendered, predominantly in the $2^{\text {nd }}$ degree of speed; though, there are occasional instances of encountering kuraippu in the $1^{\text {st }}$ speed also.

With regards the use of khaṇ̣a tripuṭa tāla in musical forms, this tāla, seems to be a popular choice for many a musician for the manōdharma form Rāgam-tānam-pallavi, employed in
different naḍai-s and for a variety of eḍuppu-s. Even so, the presence of kuṛaippu in kalpana svaram, is seen to be rather less, with the popular preference being the rendition of rāgamālikā kalpana svarams. Nevertheless, there are renditions of kuṛaippu in khaṇ̣̣a tripuṭa tāla, amongst which one detailed approach, has been identified and presented here.

Before going into the analysis of kuṛaippu in khaṇ̣a tripuṭa tāla, it is essential to first outline its noteworthy aspects.

## II. Notable aspects in kuraippu:

## 1. Reduction in āvarta:

This is the main connotation of kuṛaippu, meaning halving the duration of the tāla-āvartas.
The steps involved in kuraippu and the extent of reduction in kuṛaippu varies with tāḷa ${ }^{1}$.

## 2. Eduppu:

This denotes the point of commencement of melody, in tāla. In kuraippu, it would refer to the position in tāla, where the sāhityā line that is taken up for the rendition of kalpana svarams and kuraippu is commenced. Further, in relation to the sāhityā line, the eḍuppu for which kuraippu is rendered, whether for the eḍuppu of the sāhityā line, or for sama eḍuppu irrespective of the eḍuppu of the sāhityā line, is a noteworthy aspect.

## 3. Homecoming point in kuraippu, accompanied by a period of rest:

In kuraippu, it is the trend to select a particular svara as the homecoming point for each kuraippu passage ${ }^{2}$, in contrast to the kalpana svaram passages, where the chosen sāhityā line is the homecoming point. This svara that is chosen as the homecoming point in kuraippu is accompanied by a period of rest of a certain kāṛvai duration. Commonly, a kāṛvai of 3 for the period of rest is noticeable in kuraippu (in some cases 6 in the elaborate kuṛaippu passages). Further, there are also varieties of kuṛaippu, such as khaṇ̣a kuṛaippu, miśra kuraippu, etc, where the period of rest employed is also halved with each subsequent step in kuraippu.

[^0]
## III. Kuraippu in khaṇ̣̣a Tripuṭa tāla:

1. Mostly renditions of kuraippu in khaṇ̣a tripuṭa are seen to be rendered in 2-kalai and 1-kalai of the tāla; even with 4-kalai rāgam-tānam-pallavi-s presented.
2. Commencing with 1 -āvarta of 9 akṣara-s / kriyā-s, reduction in kuraippu is from 9 akṣara-s to $41 / 2$ akṣara-s to $21 / 4$ akṣara-s and finally 1 and $1 / 8^{\text {th }}$ akṣara-s of tāla. These steps in kuṛaippu for 2-kaḷai and 1-kaḷai of khaṇ̣̣a tripuṭa tāla, are as illustrated in the chart below:


The delineation of kuraippu that is being presented, is one, wherein, employing a period of rest of 3 kāṛvai-s duration, the rāga is portrayed through various permutations and combinations of svaras, in a variety of p aterns of tiśram, catuśram, khaṇạam, and so on, adhering to a certain progression in the thought process.

This approach to kuraippu has been rendered by Madurai Sri T.N. Seshagopalan for a rāgam-tānam-pallavi in rāga Śañkarābharaṇam, for 1/4-eḍam eḍuppu. Kuṛaippu is rendered for the eḍuppu of the pallavi line.

## IV. RTP - Structure:

The structure of the rāgam-tānam-pallavi in 2-kaḷai of khaṇ̣a tripuṭa tāla, as rendered by Sri T.N. Seshagopalan is as follows:

Rāga : Śañkarābharaṇam
Eḍuppu $\quad: 1 / 4$ eḍam or $2 / 8^{\text {th }}$ position from samam
Aṛudi kāṛai :5
Sāhityā of pallavi : "Guha Muruga Ṣaṇmukha nīvā - kāvā kōvē"
Melodic structure :

| , - m g, <br> , - gu ha | p m g , muru ga. |  | $\begin{aligned} & ,-\mathrm{p}, \quad \underline{\mathrm{~s} \mathrm{n}} \\ & .- \text { ṣan. } \mathrm{mu} \end{aligned}$ | $\begin{aligned} & \frac{\text { p(dp,d) }), ~ p \mathrm{mg},}{\text { kha } \ldots .} . \end{aligned}$ |  | $\begin{aligned} & \text { m p d n } \\ & \text { nī } . \end{aligned}$ | \| |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & ,- \text { - s , , (n) } \\ & \text {. }-\mathrm{ka} \text {. . } \end{aligned}$ | 1 | $\begin{array}{\|l\|} \hline \text { lp , , , } \\ \text { vā } . . \end{array}$ | $\frac{\mathrm{ppmg}}{\mathrm{kō} \ldots \mathrm{~g}} \mathrm{~g}_{\mathrm{ve}}^{\mathrm{s}}$ | II |  |  |
| r - "guha" |  |  |  |  |  |  |  |

Framework of pallavi consisting of a pūrvāngam and uttarāngam of 19 and 12 mātra-s respectively, divided by means of an aṛudi kāṛvai of 5 . The split-up of the pūrvāngam and uttarāngam are as given below:

Pūrvāñgam (19 mātra-s) $: 3_{\{1+2\}}+5_{\{2+3\}}+7_{\{3+4\}}+4$
Aṛudi kāṛvai
: 5
Uttarāñgam (12 mātra-s) : $3+4+5$

Thus the structure of the pallavi ${ }^{3}$ would be:
$1+2+2+3+3+4+4-(5)-3+4+5$

## V. Steps in Kuraippu:

[^1]A broad outline of the steps involved in kuṛaippu for 2-kaḷai of khaṇ̣a tripuṭa tāla is as follows:


## 1. 1-āvarta kuraippu:

In 1-āvarta kuṛaippu of 72 mātra-s, pattern-sequences are rendered for 69 mātra-s, after excluding a kārvai of 3 as the period of rest. 3 such sequences are rendered in 1 -āvarta kuraippu.
1.1. The first sequence of 69 mātra-s can be categorised in 3 segments of 23 mātra-s each, with each segment of 23, expressed as 3 miśram-s interspersed with a kāṛvai each $\left\{\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k} \mathrm{t}_{\mathrm{m}}()+,\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}()+,\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}\right\} * 3$ times.

Taking this sequence as the base idea, and varying its first and the third segments are derived the respective segments of the subsequent 2 sequences.

## To elucidate:

1.2. Reducing 3 mātra-s from the first segment of the first sequence ( 23 minus 3 ), while simultaneously increasing the third segment by 3 ( 23 plus 3), at the same time, retaining the second segment of 23 mātra-s, makes the second pattern-sequence of 69 mātra-s. Thus the 3 segments of this sequence would be 20,23 and 26 mātra-s respectively; where the first segment of 20 mātra-s is expressed as 3 patterns of 6 , interspersed with a kārvai each -

6 (1) 6 (1) $6-t d_{2} k t t_{m}()+,t d_{2} k t t_{m}()+,t d_{2} k t t_{m}$; while the third segment of 26 mārra-s is rendered as 3 patterns of 8 , interspersed with a kārvai each -

$$
8 \text { (1) } 8 \text { (1) } 8-\mathrm{td}_{2}-\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{td} \mathrm{~d}_{2}-\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{td} \mathrm{~d}_{2}-\mathrm{tdkt} \mathrm{t}_{\mathrm{m}} \text {. }
$$

Thus, the 3 segments of the second pattern-sequence rendered one after the other in succession are:

$$
\begin{aligned}
& \mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}(,)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}} \\
& t d_{2}-t d k t t_{m}(,)+t d_{2}-t d k t ̣ t_{m}(,)+t d_{2}-t d k t t_{m}
\end{aligned}
$$

1.3. In the same manner, deducting 6 mātra-s from the first segment of the first sequence ( 23 minus 6), while simultaneously increasing the third segment by 6 ( 23 plus 6), makes the third pattern-sequence of 69 mātra-s. Thus the 3 segments of this sequence would be 17, 23 and 29 mātra-s respectively; with the first segment of 17 expressed as 3 patterns of khaṇdam interspersed with a kāṛvai each - 5 (1) 5 (1) $5-\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}()+,\mathrm{tdk} \mathrm{t}_{\mathrm{m}}()+,\mathrm{tdk} \underline{t} \mathrm{t}_{\mathrm{m}}$; and the third segment of 29 rendered as 3 patterns of sañkīrṇam, interspersed with a kārvai each 9 (1) 9 (1) $9-t_{2} d_{2}-t d k t ̣ t_{m}()+,t_{2} d_{2}-t d k t!t_{m}()+,t_{2} d_{2}-t d k t t_{m}$.

The 3 segments of this sequence would thus be:

$$
\begin{gathered}
t \mathrm{dkt} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{tdkt} \mathrm{t}_{\mathrm{m}} \\
\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{kt} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{kt} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{kt} \mathrm{t}_{\mathrm{m}} \\
\mathrm{t}_{2} \mathrm{~d}_{2}-\mathrm{td} \mathrm{~d}+\mathrm{t}_{\mathrm{m}}(,)+\mathrm{t}_{2} \mathrm{~d}_{2}-\mathrm{tdk} \mathrm{t} \mathrm{t}_{\mathrm{m}}(,)+\mathrm{t}_{2} \mathrm{~d}_{2}-\mathrm{tdk} \mathrm{t} \mathrm{t}_{\mathrm{m}}
\end{gathered}
$$

Here, the cogency in the patterns employed in the 3 sequences of 1-āvarta kuṛaippu is prominent; with the constituent segments of the first sequence consisting of patterns of miśram; the second sequence consisting of patterns of 6,7 and 8 ; while the third comprising patterns of khaṇ̣am, miśram and sañkīrṇam respectively.

These sequences in 1-āvarta kuṛaippu are illustrated in the following chart:


## 2. $\mathbf{1 / 2 - a ̄ v a r t a ~ k u r a i p p u : ~}$

1-avarta kuṛaippu is followed up with $1 / 2$-āvarta kuṛaippu of 36 mātra-s where after excluding a kāṛvai of 3 as the period of rest, pattern-sequences are rendered for 33 mātra-s. 33 is rendered as 3 sequences of 11 . Each sequence of 11 can be viewed in 2 parts - as the 'kāṛvai' segment and the 'svara' segment, where, by reducing the 'kāṛvai' segment, while simultaneously increasing the 'svara' segment, gives forth various sequences in 1/2-āvarta kuṛaippu.
2.1. The first variation of 11 in the sequence of 33 mātra-s is rendering 11 as a combination of 6 and 5 . This is again rendered in 2 ways differing in the manner of splitting the kārvai segment of 6 mātra-s as 3 and 3 " $\left(t_{3}+t_{3}\right)$ " and as 2 and 4 " $\left(t_{2}+t_{4}\right)$ ".

Thus the 2 variations in the first sequence of $1 / 2$-āvarta kuṛaippu are:

$$
\left(\mathrm{t}_{3}+\mathrm{t}_{3}\right)+\mathrm{tdk} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{3}+\mathrm{t}_{3}\right)+\mathrm{tdk} \underline{t} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{3}+\mathrm{t}_{3}\right)+\mathrm{tdk} \underline{t} \mathrm{t}_{\mathrm{m}}
$$

$$
\left(\mathrm{t}_{2}+\mathrm{t}_{4}\right)+\mathrm{tdk} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{2}+\mathrm{t}_{4}\right)+\mathrm{tdk}+\mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{2}+\mathrm{t}_{4}\right)+\mathrm{tdk}+\mathrm{t}_{\mathrm{m}}
$$

2.2. The second variation of 11 in the sequence of 33 mātra-s in $1 / 2$-āvarta kuraippu is 5 and 6 -

$$
\left(\mathrm{t}_{3}+\mathrm{t}_{2}\right)+\mathrm{td} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{3}+\mathrm{t}_{2}\right)+\mathrm{td} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{3}+\mathrm{t}_{2}\right)+\mathrm{td} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}
$$

2.3. The third variation of 11 is 4 and $7-$

$$
\left(\mathrm{t}_{4}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k} \underline{t} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{4}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k} \underline{t} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{4}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k} \underline{t} \mathrm{t}_{\mathrm{m}}
$$

2.4. The fourth variation of 11 is 3 and 8 -

$$
\left(\mathrm{t}_{3}\right)+\mathrm{tk} \underline{t}+\mathrm{tdk} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{3}\right)+\mathrm{tk} \underline{t}+\mathrm{tdk} \underline{t} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{3}\right)+\mathrm{tk} \underline{t}+\mathrm{tdk} \underline{t} \mathrm{t}_{\mathrm{m}}
$$

2.5. The fifth and last variation in the sequence of 11 is a combination of 2 and 9 -

$$
\left(\mathrm{t}_{2}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{2}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}_{\mathrm{m}}-\left(\mathrm{t}_{2}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}_{\mathrm{m}}
$$

These variations in the sequences of 1/2-āvarta kuraippu are presented in the form of a chart:


## 3. 1/4-āvarta kuraippu:

Succeeding $1 / 2$-āvarta kuṛaippu is $1 / 4$-āvarta kuraippu of 18 mātra-s where after excluding a kāṛvai of 3 as the period of rest, pattern-sequences are rendered for 15 mātra-s. The variations presented for 15 , are as illustrated in the chart:

3.1. The first variation of 15 is 3 khaṇ̣am patterns $-\left\{\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}\right\} * 3$ times.
3.2. The second variation is as 5 tiśrams $-\left\{\mathrm{t}_{3}\right\} * 5$ times
3.3. The third variation of 15 is as a combination of 5 and $10-\mathrm{tdk}+\mathrm{t}_{\mathrm{m}}+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}, \mathrm{m}$
3.4. The fourth variation is a reverse of the third, as 10 and $5-t_{2} d_{2} k_{2} \mathrm{t}_{2} \mathrm{t}, \mathrm{m}+\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}$

## 4. 1/8-āvarta kuraippu:

4.1. The final step in kuṛaippu is $1 / 8$-āvarta, consisting of 9 mātra-s, where patterns are rendered for 6 mātra-s, after excluding a kāṛvai of 3 as the period of rest (3) $+6=\left(\mathrm{t}_{3}\right)+\mathrm{td} \mathrm{d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}$.
4.2. Following a few such sequences of 9 as $\left(\mathrm{t}_{3}\right)+\mathrm{t} \mathrm{d}_{2} \mathrm{k} \mathrm{t}_{\mathrm{t}}$; $\left(\mathrm{t}_{3}\right)+\mathrm{t} \mathrm{d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}$ etc, the summing up of the kuṛaippu svaras is presented with variations in the patterns of sañkīrnams, rendered in succession up to the commencement of the kōrvai.
4.3. The shift in the pattern of sañirnam is facilitated by the increase in the 'kārvai' segment of a pattern of 9 by 1 mātra.

## To elucidate with an example:

* The kāṛvai segment of (3), in the combination of 9 as (3) and 6 is increased by 1 to become (4). This alters its adjacent 'svara' segment, reducing it from 6 to 5 . Hence the split up of 9 has been altered from one of (3) +6 to (4) +5 .
* Similarly, the next step is to increase the kārvai segment of (4) by 1 , making it (5), thereby reducing the 'svara' segment from 5 to 4 , making the combination of sañkīrnam as (5) and 4. This process is continued until the last possible variation in the pattern of sañkīrṇam as (8) and 1.
* Subsequent to rendering sañkīrnams in different combinations, whole patterns of sañkīrnam are rendered as " $t_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}_{\mathrm{m}}$ "; both in catuśra naḍai as well as tiśra naḍai. Entire āvarta-s of these whole sañkīrṇam patterns are also rendered, which directly lead in to the kōṛvai. The kōrvai too, is construed of in whole patterns of sañkīrnam and in a combination of a catuśram and khaṇ̣am pattern as well; rendered both in catuśra naḍai as well as tiśra naḍai in the third round. Hence, the summing up of kuṛaippu can be said to be a kind of prelude to the structure of the kōrvai; where the kōrvai does not stand as an individual component but blends well with the structure of kuraippu.

The following chart portrays the variations presented in the patterns of sañirirnam, in continuation from 1/8-āvarta kuṛaippu:


## VI. Notation:

## 1-āvarta kuraippu:

## Sequence 1:

| , , - , , , - ¢ | , ísin, - n , n |  | , sind, - $\mathrm{p}, \mathrm{d}$ | , ndp ¢ m, p, |  | d pm, - p, d, | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{ndp},-\mathrm{d}, \mathrm{n}$, |  | \| | nd , - $\dot{\mathrm{r}}$, s, n | d $\mathrm{p},-\mathrm{g}, \mathrm{m}, \mathrm{p}$ | \\| |  |  |
| $\mathrm{d} \mathrm{n} \S\left(\mathrm{s}^{\text {, , , }}\right.$ |  |  |  |  |  |  | 1 |

## Sequence 2:

| , ,-, , , - gm, | pdp,-mp,d |  | nd, - pd, ns | $\mathrm{n} \S \mathrm{m}, \mathrm{p}, \mathrm{dnd}$ |  | , - p,d,nsin- | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| , - d, n, siris§ | $\dot{\mathrm{g}}, \dot{\mathrm{r}}, \mathrm{s} \mathrm{n} \mathrm{d}$, | 1 | , - $\dot{\mathrm{r}}, \dot{\mathrm{s}}, \mathrm{ndp}$ | , , - g , m, pd | II |  |  |
| , n § ( s, , ) |  |  |  |  |  |  | I |

## Sequence 3:

| , , - , , , - gmp | dp, -mpdnd |  | , - pdnsin§g, | m, pdp, -m, |  | $\mathrm{p}, \mathrm{dnd},-\mathrm{p}$, | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{d}, \mathrm{n}$ s n §g, m | , gmpdp,-m | I | , p, mpdnd | , -g, m, p,d | II |  |  |
| , n § ( ${ }_{\text {s , , }}$ ) |  |  |  |  |  |  | I |

## 1/2-āvarta kuraippu:

Sequence 1: $\quad\left(6_{(3+3)}\right)+5=\left(t_{3}+t_{3}\right)+\mathrm{tdkt} t \mathrm{~m}$

$$
\left(6_{(2+4)}\right)+5=\left(\mathrm{t}_{2}+\mathrm{t}_{4}\right)+\mathrm{tdkt} \operatorname{tm}
$$

| , , - , , - - (s , , | s, , ) - $\dot{\text { g i }}$ sind - | ( $\mathrm{n}, \mathrm{n}, \mathrm{n}, \mathrm{l}$ - $\mathrm{r} \dot{\text { s }}$ | ndp-(d, , p, | , )-gmpdn§(s, | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| , ) - | I |  | \\| |  |  |
| , , , , , - - , s |  | $\mathrm{n}, \mathrm{n}$, , , r ${ }_{\text {s }}$ | $\mathrm{ndp}-\mathrm{m}, \mathrm{m}$, , | , - g mpdn§ (s, | 1 |
| , )- |  |  |  |  |  |

Sequence 2: $\left\{\left(5_{(3+2)}\right)+6\right\} * 3=\left\{\left(\mathrm{t}_{3}+\mathrm{t}_{2}\right)+\mathrm{t} \mathrm{d}_{2} \mathrm{kt} \mathrm{t}_{\mathrm{m}}\right\} * 3$

| , , - , , , - ('s , , |  | $(\mathrm{n},,,,)_{\text {r }}^{\text {s }}$, | ndp-(m, , , , | $\mathrm{gm}, \mathrm{pdn}-(\mathrm{s}$, | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| , ) - | I |  | ॥ |  |  |

Sequence 3: $\{(4)+7\} * 3=\left\{\left(\mathrm{t}_{4}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}+\mathrm{t}_{\mathrm{m}}\right\} * 3$

| , ,- , , , - ( ${ }_{\text {s , , }}$ | , $\dot{\mathrm{g}}, \dot{\mathrm{r}}$, $\mathrm{s}_{\text {n }}^{\text {d - }}$ | n, , , $\mathrm{r}, \mathrm{s}$, | $n \mathrm{dp}-\mathrm{d}$, , , - g | , m, pdn-(s, | I |
| :---: | :---: | :---: | :---: | :---: | :---: |
| , ) - | । |  | \\| |  |  |

Sequence 4: $\{(3)+8\} * 3=\left\{\left(\mathrm{t}_{3}\right)+\mathrm{tkt}+\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}\right\} * 3$

| , , -, , , - ( ${ }_{\text {s }}$, , - |  |  | ndp§m, , - gm | $\mathrm{p}-\mathrm{gmpdn}$ §(s), | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| , ) - | I |  | II |  |  |

Sequence 5: $\{(2)+9\} * 3=\left\{\left(\mathrm{t}_{2}\right)+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}_{\mathrm{m}}\right\} * 3$

| $,,-,,--\dot{s},-\dot{g}$ | $, \dot{r}, \dot{s}, \mathrm{n}, \mathrm{d} \S$ | $\mathrm{n},-\dot{\mathrm{r}}, \dot{\mathrm{s}}, \mathrm{n}$, | $\mathrm{d}, \mathrm{p} \S \mathrm{m},-\mathrm{g}, \mathrm{m}$ | $, \mathrm{p}, \mathrm{d}, \mathrm{n}-(\dot{\mathrm{s}}$, | l |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## 1/4-āvarta kuraippu:

Sequence 1: $5 * 3=\left\{\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}\right\} * 3$

| ,,,,,$--g m p$ | $d p-m p d n d-p$ | $d n \dot{s} \dot{r}-(\dot{s},$, )-(vio) |  |  | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |


| , - st, sis, - n , | $n \mathrm{n},-\mathrm{s} \mathrm{n} p \mathrm{~d} \mathrm{n}$ | I | (s , , )-(vio) | II |
| :---: | :---: | :---: | :---: | :---: |

Sequence 2: $3 * 5=\left\{\mathrm{t}_{3}\right\} * 5$

| $,,-,,,-\mathrm{g},$, | $\mathrm{m},,-\mathrm{p},,-\mathrm{d}$, | $,-\mathrm{n},,-(\mathrm{s},$, )-(vio) |  |  | I |
| :--- | :--- | :--- | :--- | :--- | :--- |

Sequence 3: $5+10_{(2+2+2+2+2)}=\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}+\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t} \mathrm{t}_{\mathrm{m}}$

| ,$-\mathrm{gmpdn}-\mathrm{g}$, | $\mathrm{m}, \mathrm{p}, \mathrm{d}, \mathrm{n},-$ | l | (s, , )-(vio) |  | $\\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

Sequence 4: $10_{(2+2+2+2+2)}+5=\mathrm{t}_{2} \mathrm{~d}_{2} \mathrm{k}_{2} \mathrm{t}_{2} \mathrm{t}_{\mathrm{m}}+\mathrm{tdkt} \mathrm{t}_{\mathrm{m}}$

| $,,-,,,-\mathrm{g}, \mathrm{m}$ | $, \mathrm{p}, \mathrm{d}, \mathrm{n},-\mathrm{g}$ | $\mathrm{mpdn}-(\dot{s},)-,($ vio $)$ |  |  | l |
| :--- | :--- | :--- | :--- | :--- | :--- |

## 1/8-āvarta kuraippu:

| , ṡs , pdn (s | , , )-的 $\dot{s}, \mathrm{pdn}$ |  | ( $\dot{\mathbf{s}}, \mathrm{l})$ - $\mathrm{s} \dot{\mathrm{s}}, \mathrm{s} \dot{\mathrm{r}}$ |  | $\underline{\mathrm{g}}(\dot{\mathrm{s}}, \mathrm{l})-\dot{\mathrm{s}} \dot{\mathrm{s}}, \dot{\mathrm{s}}$ | ॥ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | , $\mathrm{r} \dot{\mathrm{g}}$ s $(\mathrm{r}$, | ) - | n ṡíg m ${ }_{\text {( }}^{\text {g }}$, , | , ) - n í rig m ( $\dot{\mathrm{g}}$, | । |
| , , ) - mig rír ${ }^{\text {( }} \mathrm{g}$ | , , , , - - ¢ ¢ ¢ ¢ ¢ ¢ ¢ |  |  |  | $\mathrm{n}(\mathrm{r}$, , , , ) - $\mathrm{g} \dot{\mathrm{r}}$ | II |
| $\dot{\sin }(\dot{r},, \dot{r})-,\dot{g}$ | ris $\mathrm{n}(\mathrm{s}$, , si, ) - |  |  |  | , , , )-nsí-(s, | 1 |
| , , , , ) - < ¢ r ¢ ¢ ( r | , , , , , )-sirg |  |  |  | $\dot{\mathrm{m}}\left(\dot{\mathrm{g}},{ }^{\text {, , , , })-\dot{\mathrm{r}}}\right.$ | \|| |
| $\dot{\mathrm{g}} \mathrm{m}$ ( $\dot{\mathrm{g}}, \ldots$, | , $)$ - $\dot{\mathrm{g}} \mathrm{m}(\mathrm{g}, ~, ~, ~, ~, ~$ | , , ) - $\dot{\mathrm{g}} \dot{\mathrm{m}}$ ( $\dot{\mathrm{g}}, \mathrm{}, \mathrm{}$, |  | , , , ) - $\dot{\mathrm{r}} \dot{\mathrm{g}}(\dot{\mathrm{r}}, \mathrm{}$, | $\dot{r}_{,}$, , $)-\dot{\mathrm{r}} \dot{\mathrm{g}}(\dot{\mathrm{r}}$, | 1 |
|  | , , $\dot{\mathbf{s},,,,)-\dot{\mathbf{s}} \dot{\mathrm{r}}}$ |  | I ( $\dot{\mathbf{s},,, \dot{s},,,)-\mathrm{n}}$ |  |  | \\| |
| $\mathrm{n} \dot{\text { s }}$ ( r, , r, , | , , , ) - ¢ ( ${ }_{\text {g }}$, , , | , , , , ) - r ( $\dot{\mathrm{g}}, \mathrm{}$, |  | , , , , , ) - $\dot{\mathrm{g}}$ ( $\dot{\mathrm{m}}$, | , , , , , , ) - $\dot{\mathrm{g}}$ (m | 1 |
| ,, ,, , , , , - - ${ }^{\text {r }}$ | ( $\dot{\text {, , , , , , , , } \text { ) }}$ |  |  |  | , )- $\mathrm{s}_{\text {( }}^{\text {r }}$, , , , , | ॥ |
| , )-śri, , , ir, | $\underline{\mathrm{r}}, \dot{\mathrm{r}}$ - $\mathrm{s}, \dot{\mathrm{s}}, \mathrm{s}$ | , s, s- ${ }^{\text {s, }}$ |  |  |  | I |
| $\dot{\mathrm{s}}, \dot{\mathrm{s}}, \dot{\mathrm{s}}, \dot{\mathrm{s}}$ - $\dot{\mathrm{s}}$ | $\dot{\text { śs }, \dot{s}, \dot{s}, \dot{s}-1}$ |  | $\mathrm{mpd}, \mathrm{n}, \mathrm{~d} \text {, }$ |  | $\mathrm{n}-\dot{s}, \mathrm{n}, \mathrm{d}, \mathrm{p}$ | \|| |


| $, m-g, m, p$, | $d, p-m, p, d$ | $, n, d-g, m, p$, | $d, p-m, p, d, n, d$ | $p, d, n, \dot{s}, \dot{r}-\dot{g}$, | $l$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\dot{r}, \dot{s}, n, d-\dot{r}$ | $, \dot{s}, n, d, p$ | $l$ | $\dot{g}, \dot{r}, \dot{s}, n, d-\dot{r}, \dot{s}$ | $, n, d, p-\dot{s}, n, d$, | $\\|$ |
| $p, m-$ patterns of sañkirnam are continued for 2 more āvarta-s in tiśra nạai, up to the commencement of |  |  |  |  |  |
| the kōrvai. |  |  |  |  |  |

Note: In the above $1 / 8$-āvarta kuraippu svaras: - the area shaded grey is the svaras rendered by the violin artiste; the segment in bold represents the increase in the kārvai by 1 mātra causing the change in the sañkīrnam patterns, while the highlighted segments denote patterns rendered in tiśra nadai.

## VII. Conclusion:

This analysis of kuraippu in khaṇ̣̣a tripuṭa tāla brings to light the cogency and brilliance in the thought process of kuṛaippu, right up to the commencement of the kōrvai. The progressive manner of rendering svaras in different permutations and combinations is the highlighting feature of this approach to kuraippu where expertise and skill in laya are clearly unmistakeable.

At this juncture, it is imperative to mention that whatever be the form in which a rāga is portrayed, be it ālāpana, tānam, niraval or kalpana svaram, the prime focus is on projecting the aesthetic beauty of a rāga. However, the focus being the creation of different mathematical structures through various svara-combinations, leads to the aspect of 'kaṇakku' taking precedence over aesthetics. This is because, the creation of a perfect balance of a very high quotient of maths in music, and that of an equal quotient of aesthetics in music, is an exceptionally challenging task.

With this concludes the presentation, the aim of which was primarily to comprehend the handling of kuṛaippu in khaṇ̣̣a tripuṭa tāla where the focus was the creation of mathematical structures in a step-by-step manner. This analysis of the handling of kuraippu in khaṇ̣a tripuṭa tāla, gives scope for developing other methodologies in kuṛaippu, both in this same tāla, as well in other tālas, using this as a base idea. Further, such an analysis creates inquisitiveness in the mind of a student of music to attempt to comprehend the applicability
of this pattern-oriented rendition of a rāga in kuṛaippu, to other forms of manōdharma sañgīta, as for e.g. madhyamakāla niraval, where pattern-type formations are noticeable; and also to make a comparitive study of the handling of kuraippu in the laya-oriented form - taniāvartanam, which is an in-depth and individual branch of study by itself.

## Key to Abbreviations:

1. Akṣara - denotes each kriyā of tāla. For e.g.: ādi tāḷa has 8 akṣara-s.
2. Mātra - denotes internal pulse within an akṣara. For e.g. ādi tāḷa (1-kaḷai), in catuśra naḍai has 4 pulses in one akṣara of tāḷa in madhyamakālam.
3. (svara) - a svara enclosed within the open and close parenthesis is a svara rendered as kāṛvai-s.
4. ( , ) - a comma within the parenthesis denotes a gap of 1 kārvai.
5. letter ' t ' - denotes the syllable 'ta'
6. letter 'd’ - denotes syllable 'dhi'
7. letter ' k ' - denotes syllable ' ki '
8. letter 't t ' - denotes syllable 'ta'
9. letter ' $\underline{\prime}$ ' - denotes syllable ' $k a$ '
10. letter 'm’ - denotes syllable 'mi'
11. letter ' $\mathrm{t}_{\mathrm{m}}$ ' - denotes syllable 'tom'
12. letter ' $\mathrm{t}, \mathrm{m}$ ' - denotes syllable 'tom' having a duration of 2 mātra-s
13. A number as subscript within parenthesis

- denotes the total duration in terms of the number of mātra-s

14. A combination of numbers given as subscript within parenthesis

- denotes the internal split-up of a svara

15. pattern-sequence - a collection of patterns, rendered one after the other in succession
16. symbol "§ " - denotes the end of a pattern-sequence

## Audio References:

1. Source: Sangeethapriya - www.sangeethapriya.org Rāgam-tānam-pallavi-s and krti-s rendered in khaṇ̣a tripuṭa tāla by a variety of musicians.
2. Source: You tube - https://www.youtube.com/watch?v=qs7dgSp4c00

Madurai Sri. T.N. Seshagopalan - Cleveland Aradhana Festival, 2013 - Rāgam-tānampallavi - Śañkarābharaṇam - khaṇḍa Tripuṭa (2-kaḷai).

This audio is the sample taken up for analysis.
3. Source: DVD
"Rasikatvam (The Experience of Carnatic Music)" by Sri. T.M. Krishna.

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1. Sāmbamoorthy P, South Indian Music Book, Vol. IV, Madras: The Indian Music Publishing House, 1983.
2. Nēmani Sōmayājulu, "Mridanga Sourabham", Nada Tharangam Trust, December 2013
3. Radha Bhaskar, "Karnataka Music Concerts - An Analytical Study", Ph.D, University of Madras, November 2000.

[^0]:    ${ }^{1}$ For instance, in shorter duration tāla-s like miśra cāpu or khaṇ̣̣a cāpu, kuṛaippu commences with passages of the length of 6 or 4 āvarta-s, while jāti-based tālas like ādi (2 kaḷai), khaṇ̣a tripuṭa, miśra Jhampa etc, being of a longer duration, offer a detailed scope for reduction in āvarta commencing from 1-āvarta of tāla itself.
    ${ }^{2}$ This svara is generally seen to be maintained till the last step in the process of reduction in kuraippu. However, there are exceptions, wherein, other svaras are also taken up as the homecoming point, during the course of kuraippu, depending on the aesthetics of the rāga, and the progression of melody in kuraippu.

[^1]:    ${ }^{3}$ Note: The hyphen demarcates the pūrvāngam, the aṛudi kāṛvai and the uttarāñgam segments in the pallavi-s structure.

