

SIMPLE REPETITIVE RAGAS IN KARNATAK MUSIC

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The number of *ragas* in the Karnatak music system can theoretically be considered as infinity. But they can be grouped into classes such as *varja*, *Vakra*, *Upanga*, *Bhashanga* and their combinations like *Varja vakra*, *Vakra upanga* etc. But all the *ragas* can be said to be derived from 72 *Melakartas*. To count all the *Janya ragas* is a tedious task. Leaving *Vakra ragas* and *Bhashanga ragas* and their combinations aside, the number of other possible *janya ragas* can practically be counted.

Each of the 72 *Melakartas* admits of the following kinds of *Janya ragas* and their number is given below :

1.	<i>Audava — Sampurna</i>	15
2.	<i>Shadava — Sampurna</i>	6
3.	<i>Sampurna — Shadava</i>	6
4.	<i>Sampurna — Audava</i>	15
5.	<i>Shadava — Shadava (6x6)</i>	36
6.	<i>Shadava — Audava (6 x 15)</i>	90
7.	<i>Audava — Shadava (15x6)</i>	90
8.	<i>Audava — Audava (15 x 15)</i>	225

Thus the total number of <i>Janya ragas</i> according to this scheme of computation is	483
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Since every *Melakarta* admits of all these 483 varieties the total number of *janya ragas* that can be derived from 72 *Melakartas* comes to $483 \times 72 = 34,776$. All these *ragas* come under *Varja* and *Upanga ragas* only.

In the above figure 34,776 there are some repetitive *ragas*; for instance *raga Mohana*, with *s r g p d ś — ś d p g r s* in the *arohana* and *avarohana* respectively. Let us consider the following *Melakartas*, *Harikambhoji* (28th

Mela) *Dhira Sankarabharanam* (29th *Mela*), *Vachaspati* (64th *Mela*) and *Mechakalyani* (64th *Mela*).

The only difference between *Harikambhoji* and *Sankarabharanam* is *Kaisiki Nishadham* and *Kakali Nishadham* respectively. Similarly but for *Ni* every *swara* is common in *Vachaspati* and *Kalyani*. But for *Ma* every *swara* is common in *Sankarabharanam* and *Kalyani*.

Since *Ma* and *Ni* both are eschewed in *Mohana raga* it can be assumed to be derived from *Harikambhoji*, *Sankarabharanam*, *Vachaspati* and *Kalyani*. In other words each group of 483 *Janya ragas* derived from *Harikambhoji*, *Sankarabharanam*, *Vachaspati*, and *Kalyani*, *Mohana raga* (*s r g p d s — s d p g r s*) is counted for obvious reasons. But in reality it should have been counted once. In this case from the total figure 34,776, three should have been subtracted. Like this many *ragas* are repeated.

Late Prof. P. Sambamurty deserves recognition for working on the Repetitive *ragas* and evolving 14 principles of repetition published in the *South Indian Music*, Book III (Sixth Edition, 1964).

The following are the principles of the Repetition of Sambamurty:

(1) When the *arohana* or the *avarohana* is *Sampurna*, there is no repetition. Thus *Shadava-Sampurna*, *Sampurna-Shadava*, *Audava-Sampurna* and *Sampurna-Audava ragas* do not repeat and hence these might be termed as the Non-Repeating *janya ragas* for the purpose of this topic. The repeating *janya ragas* are only the *Shadava-Shadava*, *Shadava-Audava*, *Audava-Shadava* and *Audava-Audava* varieties.

(2) When in the *arohana* and *avarohana* taken together all the *sapta svaras* are represented, as in the instances of;

(a) *s r m p d ś — ś n d m g s*

(b) *s r g m p d ś — ś n d p m g s*
there is no repetition.

(3) A *suddha madhyama janya raga* does not repeat in the *prati madhyama* group and vice versa.

(4) As many *suddha-madhyama janya ragas* are repeated in the *purva-melakartas*, are also repeated in the *uttara melakartas* with the *prati madhyama* instead.

For instance the *raga s r m p n ś — ś n p m r s* taking the *chatussruti rishabha*, *suddha madhyama*, *panchama* and *kaisiki nishadha* occurs in the

melakartas 20 (*Nathabhairavi*), 22 (*Kharaharapriya*), 26 (*Charukesi*) and 28 (*Harikambhoji*).

The same *raga* with the *prati madhyama* instead occurs in the corresponding *prati madhyama melakartas* 56 (*Shanmukha Priya*), 58 (*Hemavati*), 62 (*Rishabhapriya*) and 64 (*Vachaspati*).

(5) All the *Madhyama-Varja Janya ragas* (i.e., *janya ragas* where in the note *MA* is *varja* or absent) of the *shadava* or *audava* type, derived from the *melakartas* of *purva* group are repeated in the derivative *ragas* of the corresponding *melakartas* of the *uttara* group and Vice Versa.

Thus a *raga* having the following *arohana* and *avarohana* :- *s r g p n ś — ś n p g r s* belonging to the *Dhira Sankarabharana Melakarta* is repeated in the list of derivative *ragas* under the *Mecha Kalyani* Group.

(6) A *Gandhara-Varja Janya-raga* (i.e., a *janya raga* where in the note *GA* is *varja* or absent) of the *shadava* or *audava* type, derived from a *melakarta* is repeated in any other *melakarta*, provided the difference between the two *melakartas* lies in the *varja* (absent) *swara* or *swaras* of the *janya raga*.

Thus a *raga* with the following *arohana* and *avarohana*, *ś r m p d s — ś d p m r s* belonging to the *Dhira Sankarabharanam melakarta* is repeated in the *janya ragas* of the *melakarta ragas*, *Kharahara priya*, *Gaurimanohari* and *Harikambhoji*, the difference between these *melakartas* and *Dhira Sankarabharanam melakarta* lying in the character of the *varja swaras*) *GA* and *NI* of the *janya ragas*.

(7) A *Rishabha varja Janya-raga* (i.e., a *janya raga* wherein the note *RI* is *varja* or absent) of the *audava* or *shadava* type, derived from a *melakarta* is repeated in any other *melakarta* provided the difference between the two *melakartas* lies in the *varja* (absent) *swara* or *swaras* of the *janya raga*.

Thus a *janya-raga* having the following *arohana* and *avarohana*: *s r m p d ś — ś d p m g s* and belonging to the *Dhira Sankarabharana melakarta* is repeated in the *janya ragas* of *melakarta ragas* *Chakravakani*, *Suryakantani* and *Harikambhoji*, the difference between these various *melakartas* lying in the character of the *varja swaras* (i.e., *RI* and *NI*) of the *janya-raga*.

(8) A *Dhaivata-Varja janya raga* (i.e., a *janya raga* wherein the note *DHA* is *varja* or absent) of the *audava* or *shadava* type, derived from a *melakarta* is repeated in any other *melakarta* provided the difference between the two *melakartas* lies in the character of the *varja* (absent) *swara* or *swaras* of the *janya raga*.

Thus a *janya-raga* with the following *arohana* and *avarohana*: *s r g n m ś*

— $\dot{s} n m g r s$, belonging to the *Mayamalavagaula melakarta* is repeated in the *janya ragas* of the *nelakartas Suryakantam* (17) and *Hatakambari* (18) the difference between these three *melakartas* lying in the character of the *varja swara DHA* of the *janya raga*.

(9) A *Nishadha varja janya-raga* (i.e., a *janya raga* wherein the note *NI* is *varja* or absent) of the *audava* or *shadava* type, derived from a *melakarta* is repeated in any other *melakarta* provided the difference between the *melakartas* lies in the character of the *varja* (absent) *swara* or *swaras* of the *janya-raga*.

Thus a *janya raga* with the following *arohana* and *avarohana*: $s r g m d \dot{s}$ — $\dot{s} d m g r s$ belonging to the *Kharaharapriya melakarta* is repeated in the *Gaurimanohari melakarta* the difference between these two *melakartas* lying in the character of the *varja swara NI* of the *janya raga*.

(10) A *janya-raga* of a *melakarta* is repeated in the *janya ragas* of any other *melakarta* only when the *varja-swara* or *swaras* admit of the varieties.

Thus a *janya-raga* with the following *arohana* and *avarohana*: $s r g m d n s$ — $s n d m g r s$ belonging to the *Kharaharapriya melakarta* is not repeated in any other *melakarta*, since the *varja swara* of this *janya raga* viz., *PA* does not admit of varieties.

From this two axioms follow :

(a) A *Panchama-varja Shadava* or *Shadava-Audava* or *Audava—Shadava raga* of a *melakarta-raga* is not repeated in any other *melakarta*.

(b) In a *Panchama-varja audava raga* of any *melakarta* there can be only one repetition.

But when the *rishabha* is *suddha* and *Gandhara* is the second *varja swara* there can be two repetitions. Similarly when the *dhaivata* is *suddha* and *Nishadha* is the second *varja swara* there can be two repetitions.

A *janya raga* of *Mayamalavagaula* with the *arohana* $s r m d n \dot{s}$ and *avarohana* $\dot{s} n d m r s$ can be repeated in *Dhenuka* and *Ganamurti*.

When the *gandhara* is *Antara* and *rishabha* is the second *varja swara*, there can be two repetitions. Similarly when the *nishadha* is *kakali* and the *dhaivata* is the second *varja swara*, there can be two repetitions. A *janya raga* of *Vagadhiswari* with the *arohana* $s g m d n s$ — and *avarohana* $s n d m g s$ can be repeated in *Harikambhoji* and *Chakravakam*.

A *janya raga* of *Kamavardhini* with the *arohana* $s r g m d \dot{s}$ and *avarohana* $\dot{s} d m g r s$ can be repeated in *Namanarayani* and *Dhavalambari*.

A *janya raga* of *Simhendramadhyama* with the *arohana* and *avarohana* $s r g m n \acute{s} - \acute{s} n m g r s$ can be repeated in *Dharmavati* and *Nitimati*.

(11) Subject to the above mentioned axioms, a *shadava*, *shadava* — *audava* or *audava-shadava raga* of any *melakarta raga* is repeated only once in another *melakarta*.

(12) Subject to the above axioms, an *audava raga* of any *melakarta* is repeated only in three other *melakartas*.

(13) When in a *janya raga* of the repeating group, all the *purvanga* notes (viz., $s r g m$) are present, then the *janya-raga* can possibly repeat in the *melakartas* of the same *chakra*.

(14) When in a *janya raga* of the repeating group, all the *Uttaranga* notes (viz., $p d n \acute{s}$) are present, the *janya raga* can possibly repeat only in the *melakartas* of the same rank but belonging to the other *chakras*.

Applying these 14 principles, it is found by calculation that of the 34,776 *janya ragas* as many as 6,144, roughly over 1/5 of the total number, are repeated.

Based on the detailed calculation the author broadly agrees with the principles of repetition of Prof. Sambamurty but differs with him over certain points.

While showing some of the discrepancies in the principles of repetition of Sambamurty, the author uses the following notation; so that, by giving the *arohana* and *avarohana* the *raga* can be conceived in detail:

The elaboration of the symbols are given below:

<i>Sa</i>	<i>Shadja</i>	(<i>Madhyama Sthayi</i>)
<i>Ri1</i>	<i>Suddha Rishabah</i>	„
<i>Ri2</i>	<i>Chatussruti Rishabha</i>	„
<i>Ri3</i>	<i>Shatssruti Rishabha</i>	„
<i>Ga0</i>	<i>Suddha Gandhara</i> $\equiv Ri2$	„
<i>Ga1</i>	<i>Sadharana Gandhara</i> $\equiv Ri3$	„
<i>Ga2</i>	<i>Antara Gandhara</i>	„
<i>Ma1</i>	<i>Suddha Madhyama</i>	„
<i>Ma2</i>	<i>Prati Madhyama</i>	„
<i>Pa</i>	<i>Panchama</i>	„
<i>Dha1</i>	<i>Suddha Dhaivata</i>	„
<i>Dha2</i>	<i>Chatussruti Dhaivata</i>	„
<i>Dha3</i>	<i>Shatssruti Dhaivata</i>	„
<i>Ni0</i>	<i>Suddha Nishadham</i> $\equiv Dha2$	„
<i>Ni1</i>	<i>Kaisiki Nishadham</i> $\equiv Dh3$	„
<i>Ni2</i>	<i>Kakali Nishadham</i>	„
<i>Sa</i>	<i>Shadya</i>	(<i>Tara Sthayi</i>)

The following are some of the discrepancies in the statements and principles of Sambamurty.

He mentioned in principle 10(b) that in a *panchama varja audava raga* of any *melakarta* there can only be one repetition.

But he had also given examples in the same principle when there can be 2 repetitions. It may be pointed out here that there are many cases of a *panchama varja audava raga* where there can be two repetitions, though there are cases of one repetition also.

Therefore the author modifies the axiom 10 (b) as follows.

10(b) In a *panchama varja audava raga* of any *melakarta* there can be one repetition or maximum two repetitions.

He mentioned in the principle 11 that subject to the above mentioned axioms, a *shadava*, *shadava-audava* or *audava-shadava raga* of any other *melakarta* is repeated only once in another *melakarta*.

The author wishes to point out that the above axiom need not be correct always. For example the following example :-

$Sa Ri_2 Ga_2 Ma_1 Pa Ni_2 \acute{S}a - \acute{S}a Ni_2 Pa Ma_1 Ga_2 Ri_2 Sa$

We can say this *raga* can be derived from *Dhirasankarabharanam* (29), *Sarasangi* (27), *Naganandini* (30). But Sambamurty might not have considered it as derived from *Naganandini*.

Similarly many examples can be given that a *shadava raga* need not necessarily be derived from two *melakartas*. In certain combinations one repetition occurs and in some other combinations two repetitions are possible. There can be *shadava-shadava ragas* without repetitions also. For example consider the following *raga*;

$Sa Ri_2 Ga_2 Ma_1 Pa Dha_3 \acute{S}a - \acute{S}a Dha_3 Pa Ma_1 Ga_2 Ri_2 Sa$.

It can be concluded that it is derived from *Naganandini*. In no other *mela* is it repeated.

Therefore the author would like to modify the principle 11 as follows :

“Leaving *Panchama varja shadava-shadava raga*, a *shadava-shadava raga* can be derived either from one or two or maximum from three *mela-kartas*.”

So far the principles 10(b) and 11 are discussed in detail and modified. But there are other principles too which require modification. This view is substantiated with many illustrations.

Now the principle 12 will be considered here. He stated that subject to the above mentioned axioms, an *audava raga* of any *melakarta* is repeated in three other *melakartas*.

This statement is also partially correct, in the sense, there are certain *audava-audava ragas* which can be derived from four *melas* or which repeat in three *melas*. But this need not be true always. For example, In *South Indian Music* (Book III Page 12) it is mentioned that "Taking *swara sthanas* into consideration, *Latangi*, *Sarasangi* and *Mechakalyani* might be cited as other possible *Janaka melas* for *Hamsadhwani* (apart from *Dhirasankarabharanam*)."

The author emphasizes that the above statement is not fully correct, *Hamsadhwani* has the following *arohana* and *avarohana* respectively,

$Sa Ri_2 Ga_2 Pa Ni_2 \dot{S}a$ — $\dot{S}a Ni_2 Pa Ga_2 Ri_2 Sa$

Since *Ma* and *Ni* are both absent in this *raga* it can as well be thought to be derived from *Naganandini* (30) and *Chitrambari* (66).

To present the arguments in a more prudent way consider the following combinations:

$Sa Ri_2 Ga_2 Ma_1 Pa Dha_3 Ni_2 \dot{S}a$ — *Naganandini* (30).
 $Sa Ri_2 Ga_2 Ma_2 Pa Dha_3 Ni_2 \dot{S}a$ — *Chitrambari* (66).

From these combinations take the following common combinations :

$Sa Ri_2 Ga_2 Pa Ni_2 \dot{S}a$ — $\dot{S}a Ni_2 Pa Ga_2 Ri_2 Sa$.

This combination is same as that of *Hamsadhwani*. But this combination was not counted by Sambamurty while counting the common *ragas* of *Naganandini* and *Chitrambari*.

From this example it can clearly be seen that *Hamsadhwani* has repeated in 5 *melas* instead of 3 *melas* as stated by Sambamurty.

It may be pertinent to state here that an *audava-audava raga* can be derived from maximum 9 *melas* or it can repeat maximum in 8 *melas*. The following are the examples :

Example I

$Sa Ri_1 Ma_1 Pa Dha_1 \dot{S}a$
 $Sa Dha_1 Pa Ma_1 Ri_1 Sa$

Arohana
Avarohana.

This above *arohana* and *avarohana* combination is common to *melas Kanakangi*(1), *Ratnangi*(2), *Ganamurty*(3), *Senapati*(7), *Hanumathodi*(8), *Dhenuka*(9), *Gayakapriya*(13), *Vakulabharanam*(14) and *Maya Malava Gaula*(15).

Example 2

<i>Sa Ga₂ Ma₁ Pa Ni₂ Śa</i>	<i>Arohana</i>
<i>Śa Ni₂ Pa Ma₁ Ga₂ Sa</i>	<i>Avarohana.</i>

This combination is common in *Maya Malava Gaula*(15), *Suryakantam*(17), *Hatakambari*(18), *Sarasangi*(27), *Dhirasankarabharanam*(29), *Naganandini*(30), *Gangeya Bhushani*(33), *Sulini*(35) and *Chalanata*(36).

Example 3

<i>Sa Ri₁ Ma₂ Pa Dha₁ Śa</i>	<i>Arohana</i>
<i>Śa Dha₁ Pa Ma₂ Ri₁ Sa</i>	<i>Avarohana</i>

This *raga* is common to *Salagamu*(37), *Jalarnavamu*(38), *Jhalavarali*(39), *Gavambhodhi*(43), *Bhavapriya*(44), *Subhapantuvavali*(45), *Dhavalambari*(49), *Namanarayani*(50) and *Kamavardhini*(51).

Example 4

<i>Sa Ga₂ Ma₂ Pa Ni₂ Śa</i>	<i>Arohana</i>
<i>Śa Ni₂ Pa Ma₂ Ga₂ Sa</i>	<i>Avarohana</i>

This *raga* can be derived from *melas Kamavardhini*(51), *Gamanasrama*(53), *Viswambari*(54), *Latangi*(63), *Mechakalyani*(65), *Chitrambari*(66), *Dhatuvardhini*(69), *Kosalamu*(71) and *Rasikapriya*(72).

Similarly there are four more *ragas* which can be derived from 9 *melakartas*. The *arohana* and *avarohana* of the *melas* are as follows:

Example 5

<i>Sa Ri₁ Ma₁ Pa Ni₂ Śa</i>	<i>Arohana.</i>
<i>Śa Ni₂ Pa Ma₁ Ri₁ Sa</i>	<i>Avarohana.</i>

This *raga* is common in *melakartas Ganamurty*(3), *Manavati*(5), *Tanarupi*(6), *Dhenuka*(9), *Kokilapriya*(11), *Rupavati*(12), *Mayamalava Gaula*(15), *Suryakantam*(17) and *Hatakambari*(18).

Example 6

<i>Sa Ga₂ Ma₁ Pa Dha₁ Śa</i>	<i>Arohana</i>
<i>Śa Dha₁ Pa Ma₁ Ga₂ Sa</i>	<i>Avarohana.</i>

This combination is repeated in *melakartas Gayakapriya*(13), *Vakulabharanam*(14), *Mayamalava Gaula*(15), *Mararanjani*(25), *Charukesi*(26), *Sarasangi*(27), *Yagapriya*(31), *Ragavardhini*(32) and *Gangeyabhushani*(33).

Example 7

$Sa Ri_1 Ma_2 Pa Ni_2 \dot{Sa}$
 $\dot{Sa} Ni_2 Pa Ma_2 Ri_1 Sa$

Arohana
 Avarohana.

This combination is common for *melakartas* *Jhalavarali*(39), *Pavani*(41), *Raghupriya*(42), *Subhapanthavarali*(45), *Suvarnangi*(47), *Divyamani*(48), *Kamavardhini*(51), *Gamanasrama*(53), and *Viswambari*(54).

Example 8

$\dot{Sa} Ga_2 Ma_2 Pa Dha_1 Sa$
 $\dot{Sa} Dha_1 Pa Ma_2 Ga_2 Sa$

Arohana
 Avarohana

This combination is common in *melakartas* *Dhavalambari*(49), *Namanarayani* (50), *Kamavardhini*(51), *Kantamani*(61), *Rishabhapriya*(62), *Latangi*(63), *Sucharitra*(67), *Jyotiswarupini*(68) and *Dhatuwardhini*(69).

Thus it is clear that there are eight *ragas* each of which repeats in 8 other *melakartas*.

There are *audava-audava ragas* with no repetition in otherwords derived from one *melakarta* only.

Examples

$Sa Ri_3 Ma_1 Pa Dha_3 \dot{Sa}$ — $\dot{Sa} Dha_3 Pa Ma_1 Ri_3 Sa$.
 This is derived from only *melakarta Chalanata* (36).

$Sa Ga_0 Ma_1 Pa Ni_0 \dot{Sa}$ — $\dot{Sa} Ni_0 Pa Ma_1 Ga_0 Sa$.
 This is derived from *Mela Kanakangi*(1) only.

Many other examples can be given but it is beyond the scope of this article to consider all of them.

Hence on detailed calculation the author comes to the conclusion and modifies the principle 12 for any *audava-audava raga* leaving *panchama varja audava-audava ragas* as follows :

There are certain *audava-audava ragas* which do not repeat or they can be derived from 2 *melakartas*, 3 *melakartas*, 4 *melakartas*, 6 *melakartas* and maximum 9 *melakartas*.

On detailed calculation using higher mathematics the author has determined the number of repetitive *ragas* as 6,312 instead of 6,144 as calculated by Sambamurty. Prof. Sambamurty appears to have overlooked to count 168 repetitive *ragas*. Therefore the total number of *janya ragas* of eight kinds mentioned in the first page of this article becomes (34,776 — 6,312) 28,464.

It may be mentioned here that *Swarantara ragas* (Four *swaras* in the *arohana* and *avarohana*) are not taken into consideration while calculating the repetitive *ragas*.

In conclusion the author would like to point out that the above principles are of a simple nature. Actually there are more complex principles of repetition. When these principles are considered the number of repetitive *ragas* increases.

It may be pointed out here that the same above principles and number of repetitive *ragas* holds good for Hindusthani Music also. The only difference is that names of either *Melakartas* or *Janaka Ragas* are not same in Hindusthani and Karnatak Musics.

REFERENCE

Sambamurty P., (1964) :- *South Indian Music*, Book III, Sixth Edition, Indian Music publishing House, Madras-1., Pp. 12 & 13 and 68 to 77.