

A COMPARATIVE STUDY OF SOME OF
THE LEADING MUSIC, SYSTEMS OF THE
15TH, 16TH, 17TH & 18TH CENTURIES.

by
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B A, LL B

FOREWORD

These short commentaries of the Sangeet Granthas of the past ages form a very valuable contribution to the music literature of modern times. In these the author has left behind a smooth path for a student of the past history of our music through the labyrinth of the ever changing system of Rag-Raginis. Indeed, had it not been for the late learned Prof. Bhatkhande's persistent application to the study of the old literature on the subject with a definite aim at solving the diverse and therefore mysterious and baffling methods of explanation of a common topic with which it is filled perhaps the history of our music of the past centuries would have remained oblivious to us today. Ever since the time of the Sangeet Ratnakar our music had been going through a process of reformation as it were. The old system of Grama-Moorchhana-Jati was abandoned and gave place to the Raga-Ragini or the Janya-Janak (Thata-Raga) theory. In Northern India the Mahomedan rulers proved to be great patrons of music and dancing. They brought with them their own music which, as it always happens in this country, was assimilated into the then Hindu music. New melodies, new styles of interpretation, new types of songs, new Talas were introduced. Thus today we have got what we know as Hindustani music which is a beautiful monument of the fusion of Hindu and Islamic Culture.

In the midst of this reformation a few Granthas expounding the system of music in vogue in their respective times were written. Two of these, Ahobala's Sangeet Parijat and Somnatha's Ragavibodh had already been published when Prof. Bhatkhande took up the study of the Granthas. This does not however mean that they were understood by anybody. In their anxiety to link up the ancient system of music with that current in their own days the authors of these Granthas have rendered themselves difficult to understand. E. G. Somnath explains his music scale in terms of Shrutis as the ancients did. As to what was his exact interval of the Shruti he is mum. He bases his theory on a chromatic scale which is current today in the south as Mukhari and describes his flats and sharps with reference to this scale. In the north even perhaps at Somnatha's time a diatonic scale had already been adopted as the standard scale. Ragavibodh was therefore difficult for the northerners to understand. Similarly Ahobala dutifully accepts the Shrutis and Moorchhanas of the ancients and describes them in elaborate details in the Swaradhyaya. When however he comes to the Ragadhyaya he quietly selects from the Swaradhyaya whatever had a practical bearing on the music current in his time and throws the rest of the bundle overboard.

Even the facts that Somnatha's standard scale was like the Mukhari scale of the Karnatak system of music and that Ahobala's standard scale was like the Kaphi of the Hindustani system of music were hardly discovered before Professor Bhatkhande's commentaries on these Granthas, namely Raga-vibodha-Praveshika and Parijata-Praveshika came out. At least there is no record to prove it.

Under such circumstances it was but natural that the literature of our music of the past should have remained unattended to so long.

These articles deal with over a dozen Granthas and give enough information which makes it quite easy to understand them. Some portion of this book has already appeared in print in "Sangeeta" the Journal of the Morris College of Hindustani Music, Lucknow. But unfortunately the journal having ceased to appear after the fifth issue the rest of this book remained unpublished until the late Mr. Bhalchandra Sitaram Sukthankar the editor and publisher of the Kramik Pustak Malika thought of bringing the whole series out into a book form. This volume was half way through the press when unfortunately Mr. Sukthankar fell ill and died in April 1940. The printing was taken up again a few months ago. Coming, as it is, from the pen of the foremost authority on the subject, it need hardly be added that this book will prove a very interesting and enlightening study.

S. N. Ratanjankar

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But how are we going to systematise it? What systems are we going to adopt? We know that our music in the past was highly systematised and that the system adopted was the best for its needs. I would even go further and say that the system adopted by some of our old Shashtra writers would be found suitable even for the classification or systematisation of our own music. The putting on a different suit of clothes does not change the individual clothed, and similarly, though there may be, and are changes in the music as it is now, from what it was then, there is no such fundamental alteration in it as to make the modern music an essentially different thing. It is, therefore, necessary, in my opinion, to consider the system or systems adopted by our old Shashtra-writers in order to construct a good workable system for our present music. Though the external appearance of our music has to some extent changed, yet, the frame work, to my mind, appears the same. This is apart from the pride one feels for what is one's patrimony. Then again by studying the ancient texts, we can also restore some of the Ragas, which were formerly popular, but have ceased to be in vogue and can correct the method of singing some melodies which are at present incorrectly sung. The principal changes which have taken place, are either as regards the names of the Ragas, or the notes used in them, or as to the Thatas to which they are to be assigned; or perhaps some of the ancient graces and "Gamaks" have lost their ancient forms and so forth but in the main the substratum of our music is undoubtedly the music of the past, and that being so, a study of the past music, in my opinion, is essential. All art, as we know from experience, is progressive, and the Music of today will be the music of the past in a few years more. But the study of any art is incomplete without the study of the progress which it has made, which again is of material assistance in the study of the art as it exists. It is rightly observed that in order that a body of artists who represent any particular art should really be proficient in it, they must be well-versed in the fundamental principles of it. In the present moment, unfortunately, most of our professional artists are not learned in the science of music and the theorists are not well-versed in the art. I am only speaking of my part of the country. This state, however, is happily passing away, and the Indian nation is now taking a great interest in the subject. It is to be expected that at no distant future we shall have people who combine in themselves both the art and the science of Music and then the progress we make will be both rapid and stable.

Having so far tried to show the importance of the study of the ancient sanskrit books, I shall now come to the second question, namely, the subject matter of the study. Before taking up the consideration of this question, I may here point out that the Sanskrit works I have selected for consideration almost all belong to the period when the

country was under the influence of the Mohammedan rulers. The Granthas belong, as will appear, from the title of this series, to the 15th, 16th, 17th and 18th centuries.

The number of treatises on Indian Music which are still extant will go over a hundred, and these lie scattered all over the country. Intending students will find a list of the works extant in the famous book on Indian Music by Captain Day, the reports of the Poona Gayan Samaj, and the catalogue of the Granths of the Bikaner library by the late Rajendralal Mitra. I have already mentioned in the first part of Hindustani Sangeeta Paddhati at pages 192-195, the names of the music works which I came across during my travels. The libraries of Bikaner, Mysore and Trivandrum contain the most valuable collections of Music books. I am informed that there is a decent collection of Music Manuscripts in the Nepal library too, but I have not been able yet to get access to it. Still we can get at nearly fifty to seventy-five treatises on music from libraries I have mentioned above. I mention hereunder the treatises which are available in each of the libraries above referred to.

In the Library of His Highness the Maharajah of Bikaner there is a large collection of Sanskrit works on Music. I give the names of some of them below:

- | | |
|--------------------|-----------------------|
| 1 सगीत सूत्र | 18 राग स्याम |
| 2 रत्नाकरटीका | 19 राग काव्यरत्न |
| —, —सि० भू० | |
| 3 स० राजरत्नकोश | 20 सकीर्ण राग |
| 4 अनूप स. रत्नाकर | 21 गमक मजरी |
| 5 स० अनूप विलास | 22 स० मकरद |
| 6 स० अनूपार्कश | 23 सं. पृक्तावली |
| 7 संगीत विनोद | 24 नृत्याध्याय |
| 8 सगीत वर्तमान | 25 पुखादि चाली |
| 9 स० अनूपराग सागर | 26 रागमाला (पुढरीक) |
| 10 सगीतोपदेश | 27 रागमजरी— |
| 11 शृंगार हार | 28 नर्तन निर्णय— |
| 12 स्वरमेल कलानिधि | 29 स० रा० चन्द्रोदय " |
| 13 हृदय कौतुक | 30 सगीत शरीर |
| 14 हृदय प्रकाश | 31 स० सार नृत्याध्याय |
| 15 स० कल्पतरु | 32 स्वराध्याय भाषा |
| 16 राग विबोध | 33 पुरलीप्रकाश |
| 17 रागमाला | 34 सगीत पारिजात |

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|-----------------------|---------------------|
| 35 सं० सार कलिका | 40 संगीत दर्पण |
| 36 सं० रागतत्त्वविबोध | 41 सं० आनंदजीवन |
| 37 हनुमन्तरागविभाषा | 42 सं० दर्पण-हिंदी |
| 38 सं० रामकौतुक | 43 रागमाला |
| 39 सं० उपनिषत्सार | 44 संकीर्णरागाध्याय |

45 रत्नाकर टीका (कच्चीनाथ)

The following Sanskrit works will be available in the Government Oriental Library, Mysore.

- | | |
|-----------------|---------------------|
| 1 अभिनयदर्पण | 8 संगीत मकरंद |
| 2 अभिनयमुकुट | 9 अभिनयप्रकरण |
| 3 अभिनवभरतसार | 10 रत्नाकरव्याख्या |
| 4 आदि भरत | 11 संगीत लक्षण |
| 5 संगीत दर्पण | 12 संगीतसमयसार |
| 6 भरतसार | 13 संगीतलक्षणदीपिका |
| 7 संगीत चूडामणि | 14 स्वरप्रस्तार |

15 स्वरमेलकलानिधि

The following Music granthas will be found in the Palace Library at Trivandrum.

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|------------------|--------------------|
| 1 अंगहारलक्षण | 8 रसार्णवसुधाकर |
| 2 नाट्यग्रंथ | 9 संगीत चिंतामणी |
| 3 नाट्यवेदविवृति | 10 ,, चूडामणि |
| 4 नृत्तरत्नाकर | 11 संगीत सुधा |
| 5 बालरामभरत | 12 ,, सुधाकर |
| 6 नाट्यवेद | 13 सप्तस्वरलक्षण |
| 7 मावप्रकाश | 14 स्वरतालादिलक्षण |

The following will be found in the Central Library at Baroda :

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|------------------|------------------|
| 1 संगीत रत्नावली | 3 स्वरमेलकलानिधि |
| 2 संगीत रसकौमुदी | 4 संगीत मकरंद |

I am informed there are some more lately acquired by the Baroda Government.

The following are the treatises available in the Library of His Highness the Maharaja of Kashi.

- | | |
|--------------------------|-------------------------|
| 1 संगीत रत्नाकर | 6 रागसारावली |
| 2 संगीत रघुनंदन | 7 रत्नाकर टीका सि० भू० |
| 3 सं० रत्नाकर स्वराध्याय | 8 उक्ते गुणा-(पर्शन) |
| 4 संगीत सारावली | 9 नघमाते आसर्फी (पर्शन) |
| 5 संगीत पारिजात | 10 नाददीपक |

The following are the Sanskrit works available in the Tanjore Palace Library :

- | | |
|------------------------|-------------------------------|
| 1 संगीत सारामृत | 9 रागप्रस्तार |
| 2 " पुक्तावली | 10 तालदशप्राणदोषिका . |
| 3 रागरत्नाकर | 11 राग लक्षण |
| 4 अभिनयदर्पण | 12 दतिल कौहलीयम् |
| 5 अष्टोत्तरशतताललक्षणं | 13 मगीत मकरद |
| 6 तालप्रस्तार | 14 चत्वारिंशच्छत राग निरूपणम् |
| 7 ताल लक्षण | 15 संगीत दर्पण |
| 8 ताल दोषिका | 16 सं० रत्नाकर |

The Government Oriental Library at Madras has the following

- | | |
|-----------------|------------------|
| 1 वृत्ताल पुराण | 5 संगीत सारामृत |
| 2 राग विशेष | 6 स्वरमेलकलानिधि |
| 3 मगीत दर्पण | 7 संगीताध्याय |
| 4 " रत्नाकर | 8 कौहलरहस्य |

The following works are supposed to have been acquired for the Royal Asiatic Library at Calcutta, by Mahamahopadhyaya Harprasad Shastri :

- | | |
|------------------|-------------------|
| 1 रागविबोध | 8 आनदजीवन |
| 2 गार्धर्ववेद | 9 सोमेश्वरमत |
| 3 रागचुनकमणि | 10 गीतगिरीशकाव्य |
| 4 संगीतसंग्रह | 11 संगीत रसकौमुदी |
| 5 संगीतविधानिदान | 12 संगीतसार |
| 6 संगीतकल्पलता | 13 गीतसार |
| 7 संगीत रघुनदन | 14 भरतगानशास्त्र |
| | 15 सामप्रकाश |

Having so far given a list of the works which are extant on the subject, and having also stated where they are available, I shall now mention the titles of such of them as have been already printed and published

- | | |
|---------------------|-------------------|
| 1 संगीत रत्नाकर | 7 संगीत मकरद |
| 2 भारतनाट्य शास्त्र | 8 सद्भागचन्द्रोदय |
| 3 स्वरमेलकलानिधि | 9 रागतारिणी |
| 4 रागविबोध | 10 संगीत पारिजात |
| 5 चतुर्दशप्रकाशिका | 11 हृदयकौतुक |
| 6 संगीत सारामृत | 12 हृदयप्रकाश |

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|------------------------------|---------------------|
| 35 सं० सार कलिका | 40 संगीत दर्पण |
| 36 सं० रागतच्चविवोध | 41 सं० आनंदजीवन |
| 37 इन्द्रमन्तगगविभाषा | 42 सं० दर्पण-हिंदी |
| 38 सं० रामकौतुक | 43 रागमाला |
| 39 सं० उपनिषत्सार | 44 संकीर्णरागाध्याय |
| 45 रत्नाकर टीका (कर्त्तानाथ) | |

The following Sanskrit works will be available in the Government Oriental Library, Mysore.

- | | |
|-----------------|---------------------|
| 1 अभिनयदर्पण | 8 संगीत मकरंद |
| 2 अभिनयप्रकृत | 9 अभिनयप्रकरण |
| 3 अभिनवभरतसार | 10 रत्नाकरव्याख्या |
| 4 आदि भरत | 11 संगीत लक्षण |
| 5 संगीत दर्पण | 12 संगीतसमयसार |
| 6 भरतसार | 13 संगीतलक्षणदीपिका |
| 7 संगीत चूडामणि | 14 स्वरप्रस्तार |

15 स्वरमेलकलानिधि

The following Music granthas will be found in the Palace Library at Trivandrum.

- | | |
|------------------|------------------|
| 1 अंगहारलक्षण | 8 रसार्णवसुधाकर |
| 2 नाट्यमंथ | 9 संगीत चिंतामणी |
| 3 नाट्यवेदविवृति | 10 ,, चूडामणि |
| 4 नृत्यरत्नाकर | 11 संगीत सुधा |
| 5 बालरामभरत | 12 ,, सुधाकर |
| 6 नाट्यवेद | 13 सप्तस्वरलक्षण |
| 7 भावप्रकाश | 14 स्वरतालालक्षण |

The following will be found in the Central Library at Baroda :

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|------------------|------------------|
| 1 संगीत रत्नावली | 3 स्वरमेलकलानिधि |
| 2 संगीत रसकौमुदी | 4 संगीत मकरंद |

I am informed there are some more lately acquired by the Baroda Government.

The following are the treatises available in the Library of His Highness the Maharaja of Kashi.

- | | |
|--------------------------|------------------------|
| 1 संगीत रत्नाकर | 6 रागसारावली |
| 2 संगीत रघुनंदन | 7 रत्नाकर टीका सि० भू० |
| 3 सं० रत्नाकर स्वराध्याय | 8 उक्ते गुणा-(पर्शन) |
| 4 संगीत सारावली | 9 नघमाते आसकी (पर्शन) |
| 5 संगीत पारिजात | 10 नाददीपक |

The following are the Sanskrit works available in the Tanjore Palace Library:

- | | |
|-----------------------|-------------------------------|
| 1 संगीत सारामृत | 9 रागप्रस्तार |
| 2 " पुक्तावली | 10 तालदशप्राणदीपिका |
| 3 रागरत्नाकर | 11 राग लक्षण |
| 4 अभिनयदर्पण | 12 दतिल कोइलीयम् |
| 5 अष्टोत्तरशतताललक्षण | 13 संगीत मकरंद |
| 6 तालप्रस्तार | 14 चत्वारिंशच्छन राग निरूपणम् |
| 7 ताल लक्षण | 15 संगीत दर्पण |
| 8 ताल दीपिका | 16 स० रत्नाकर |

The Government Oriental Library at Madras has the following

- | | |
|-----------------|------------------|
| 1 नृत्ताल पुराण | 5 संगीत सारसमूह |
| 2 राग विशेष | 6 स्वरमेलकलानिधि |
| 3 संगीत दर्पण | 7 संगीताभ्यास |
| 4 " रत्नाकर | 8 कोइलाहस्य |

The following works are supposed to have been acquired for the Royal Asiatic Library at Calcutta, by Mahamahopadhyaya Harprasad Shastri:

- | | |
|--------------------|-------------------|
| 1 रागविबोध | 8 आनंदजीवन |
| 2 गार्धर्ववेद | 9 सोमेश्वरमत |
| 3 रागचुंबकमणि | 10 गीतगिरीसकाव्य |
| 4 संगीतसमूह | 11 संगीत रसकोषुदी |
| 5 संगीतविद्यानिदान | 12 संगीतशा |
| 6 संगीतकल्पलता | 13 गीतसार |
| 7 संगीत रघुनंदन | 14 भारतगानशास्त्र |
| | 15 सामप्रकाश |

Having so far given a list of the works which are extant on the subject, and having also stated where they are available, I shall now mention the titles of such of them as have been already printed and published.

- | | |
|---------------------|------------------|
| 1 संगीत रत्नाकर | 7 संगीत मकरंद |
| 2 भारतनाट्य शास्त्र | 8 सद्भागचंद्रोदय |
| 3 स्वरमेलकलानिधि | 9 रागतरंगिणी |
| 4 रागविबोध | 10 संगीत पारिजात |
| 5 चतुर्दशिकाशिक्षा | 11 हृदयकोजुक |
| 6 संगीत सारामृत | 12 हृदयप्रकाश |

- | | |
|----------------------------|---------------------|
| 35 सं० सार कलिका | 40 संगीत दर्पण |
| 36 सं० रागतत्त्वविबोध | 41 सं० आनंदजीवन |
| 37 हनुमन्तरागविभाषा | 42 सं० दर्पण-हिंदी |
| 38 सं० रामकौतुक | 43 रागमाला |
| 39 सं० उपनिषत्सार | 44 संकीर्णरागाध्याय |
| 45 रत्नाकर टीका (कल्लीनाथ) | |

The following Sanskrit works will be available in the Government Oriental Library, Mysore.

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|------------------|---------------------|
| 1 अभिनयदर्पण | 8 संगीत मकरंद |
| 2 अभिनयमुकुट | 9 अभिनयप्रकरण |
| 3 अभिनवमरतसार | 10 रत्नाकरव्याख्या |
| 4 आदि भरत | 11 संगीत लक्षण |
| 5 संगीत दर्पण | 12 संगीतसमयसार |
| 6 भरतसार | 13 संगीतलक्षणदीपिका |
| 7 संगीत चूड़ामणि | 14 स्वरप्रस्तार |

15 स्वरमेलकलानिधि

The following Music granthas will be found in the Palace Library at Trivandrum.

- | | |
|------------------|--------------------|
| 1 अंगहारलक्षण | 8 रसार्णवसुधाकर |
| 2 नाट्यग्रंथ | 9 संगीत चिंतामणी |
| 3 नाट्यवेदविवृति | 10 ,, चूड़ामणि |
| 4 नृत्तरत्नाकर | 11 संगीत सुधा |
| 5 बालरामभरत | 12 ,, सुधाकर |
| 6 नाट्यवेद | 13 सप्तस्वरलक्षण |
| 7 भावप्रकाश | 14 स्वरतालादिलक्षण |

The following will be found in the Central Library at Baroda :

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|------------------|------------------|
| 1 संगीत रत्नावली | 3 स्वरमेलकलानिधि |
| 2 संगीत रसकौमुदी | 4 संगीत मकरंद |

I am informed there are some more lately acquired by the Baroda Government.

The following are the treatises available in the Library of His Highness the Maharaja of Kashi.

- | | |
|--------------------------|------------------------|
| 1 संगीत रत्नाकर | 6 रागसारावली |
| 2 संगीत रघुनंदन | 7 रत्नाकर टीका सि० भू० |
| 3 सं० रत्नाकर स्वराध्याय | 8 उक्ते गुणा-(पर्शन) |
| 4 संगीत सारावली | 9 नघमाते आसकी (पर्शन) |
| 5 संगीत पारिजात | 10 नाददीपक |

ed out of the ancient Swaras I may quote here what my learned friend Dr. Prabhakar Bhandarkar of Indore has to say about the difficulty of determining the relative pitches of the Swaras used in the Sama-Veda. He says "From Sangeeta Ratnakara I Chap v P, 58, and the Naradi Shiksha, it would appear that a "Rig" was chanted in mono-tone, a "Gatha" in two notes, and a Sama in three notes, a scale of four swaras seems also to have been used, and was called Swarantara. In what relations of pitch the notes stood in the last three cases, it is impossible to say. We are also ignorant of the stages by which the three notes of the Sama chant rose to the number seven, nor can we say with any certainty what relation these seven notes bore to the well known seven notes of the later music. The former were named Krishta, Prathama, Dwitiya, Titiya, Chaturtha, Mandra and Atiswara. It is certain that these are in descending order of pitch, but in what exact relation, it is impossible to say. Moreover, the names of the Sama notes, seem to have varied from time to time and in different parts of the country. The enumeration and notation by the first seven numerals is more modern" (Vide P 162 Indian Antiquary July, 1912)

In order to obtain, if possible, more information about the exact pitch relations of the Sama swaras, I personally visited Benares and consulted there such learned Samavedis as Wamanacharya, Bapat Shastri, Ganesh Guru and others, but I am sorry to say that they were unable to give any satisfactory explanation. I understand, however, that a lot of research work on this subject is going on in the southern presidency where, it is said, a more intimate knowledge of the Sanskrit granthas exists. For myself I have already confessed that I am unable to throw any light on the Sama scale just at present. In any case I suppose, it would not be of any practical use to enter into the subject of Sama music for the study of our present music.

The Granthas with which I propose to deal in this series, as being, in my opinion, necessary for such study will be

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|--------------------|----------------------|
| 1 रागतरंगिणी | 10 अनूपसर्गातरङ्गाकर |
| 2 हृदयकौतुक | 11 अनूपविलास |
| 3 हृदयप्रकाश | 12 अनूपकृश |
| 4 सर्गात पारिजात | 13 रमर्कामुदा |
| 5 सद्भागवद्बोध | 14 स्वरमेलकल्पानिधि |
| 6 रागमाला (पुडरीक) | 15 रागविबोध |
| 7 रागमजरी (पुडरीक) | 16 सगात सर मृत |
| 8 नर्तननिर्णय | 17 चतुर्दशप्रकाशिका |
| 9 रागतरङ्गविबोध | 18 रागलक्षणम् |

We should bear in mind that it has granted that the first thirteen of those referred to the names of Northern India, and the remaining five to the names of the Southern provinces. It is well-known that there are two systems of music prevalent in the country. The Northern system is known as the Hindustani system, and the Southern is called the Karnatik system. I do not expect in the Southern system, but I have studied the same system in its relation to that system. I am of opinion that a student would gain more from the Granthas *Harasamita-Mahandhi*, *Raga Manohari*, *Chandrika*, *Chandrika-Tatkalika* and *Raga Latahana* and *Raga* and *Raga* in comparison with his knowledge of the Southern system.

The results will perhaps be accepted to see that among the Granthas I propose to deal with the names of the *Natya Shastra* of Bharata and *Ratnakara* and *Ratnakara* do not appear. I have omitted these to save space. I do not deny their importance, but as far as I know, none of our modern scholars have successfully solved the questions in all questions that I see a student who wishes to make a careful study of these ancient works. I know there are some who study with them, but they do not satisfy me. Attempts are made now and then to show that the scale used by Bharata and *Ratnakara* is exactly the same as the one used by our present musicians. The scales, the way of interpreting them, by some clever interpretation, or what I call misinterpretation, is sought to be unearthed from the ancient Sanskrit texts. Ancient *Murchhara*, *Jatis*, and *Ragas* are boldly placed before the public for acceptance in their new garb. It might be stated that these have up to now failed to impress those who have devoted some of their time to the study of the Granthas. I have therefore studiously avoided entering these controversial matters in these articles and have selected those Granthas only which I may expect to be the most important to me to be of great practical importance. I do not, for a moment, insinuate that the attempts to solve Bharata and *Ratnakara* that I mentioned above are deliberately mischievous. We may say they are perfectly honest. But as they fail to satisfy the usual test, I have preferred to omit the consideration of the two ancient treatises on this occasion. I may mention here that there is a great difference of opinion among our modern scholars themselves as to the question whether or not the *shruti* was a fixed unit. Some scholars say it was, others deny that. Needless to say, the definition of *Shuddha* scale hinges on the solution of this question. We all know that the *Ragas* of *Ratnakara* are defined in terms of the *Murchhara* and *Jatis*, and there would remain indefinite so long as the *Shuddha* scale remains unsatisfactory and indefinite. So that, until there is a consensus of opinion as to the right value of a *Shruti* and until it becomes possible to determine the *Shuddha* scale of *Natya*

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and Ratnakara, the two works are bound to remain sealed books. These two books, therefore, in my opinion, go outside the sphere of study of the ordinary music student and enter that of the research scholar. Reverting then to the list I have already mentioned, I shall deal with the Granthas therein named. About these there is a tolerable amount of certainty and also not much difference of opinion. I do not suggest that the music of those books is the same as that of Ratnakara or of Bharata, but these treatises are likely to throw considerable light on the music we sing and play today.

The great difficulty which a student of Natya Shastra and Ratnakara meets with at the very outset is that of correctly locating the positions of the Shrutis and the Swaras of those two ancient treatises. In the absence of a satisfactory solution of these, the remaining portions of the treatises remain perfectly unintelligible. The Gramas, Murchhanas, Jatus and the Ragas, have all to be evolved, as we know, from the Shuddha and Vikrita Swaras which again depend upon their Shrutis. The positions of those Shrutis and Swaras, therefore, require to be placed beyond all reasonable doubt. It will perhaps not be out of place here to indicate how the difficulty for the student arises while attempting to study the Natya Shastra. I do not think it is anywhere disputed now that the Shruti Swara arrangement of Sharangdeva is essentially the same as that expounded by Bharata. If we then are able to arrive at any satisfactory conclusions as regards Bharata's Shrutis and Swaras, it would hardly be necessary to investigate the Shrutis and Swaras of Sharangdeva. We are told by our research scholars that Bharata lived in the 5th century AD and that Sharangdeva wrote his Ratnakara about the middle of the thirteenth century AD. We shall not dispute these dates. The great question before us is, what does Bharata say about his shrutis and Swaras, in the Natya Shastra. Fortunately for us, Bharata has very lucidly explained his Shrutis and Swaras at P 304, Chap 28 of his work the Natya Shastra. But while doing so, it will be interesting to go through his explanation. But while or three important rules generally followed by careful research scholars while interpreting ancient texts

- (1) The mind has to be kept entirely free from any preconceived ideas or theories
- (2) No statements or assumptions should be made which are not strictly warranted by the text in hand.
- (3) In the interpretation of ancient texts the directions given by the author himself as a guide for interpretation must be strictly adhered to. It will not be permissible to take as a guide what subsequent writers have said on the subject.

With these important cautions in mind, we shall now approach the subject of Bharata's Shrutis and Swaras.

To begin with, says the author: "मध्यमग्रामे श्रुत्यपकृष्टः पंचमः कार्यः । पंचम श्रुत्युत्कर्षादिपकर्षाद्वायदन्तरं मादवादायतत्त्वाद्वा तन्प्रमाणश्रुतिः In fact, in this small sentence he lays down the definition or rather the measurement of his Shruti. He takes it for granted that his learned readers are practical musicians, who know the difference between the Panchama of his Shadja Grama and that of the Madhyama Grama. With that assumption, he further explains his method of fixing the Shrutis of his scale. The Sanskrit passage may be translated thus: "In the Madhyama-Grama, the 'Panchama' is lowered one shruti. This lowering of the Panchama to obtain the Madhyama Grama 'Panchama' or the raising of the Madhyama Grama 'panchama' by one shruti to obtain the Shadja Grama 'panchama' is the measure of a shruti."

निदर्शनं तासामभिव्याख्यास्यामः ।

Translation.—"The following examples will clearly indicate the position of the shrutis."

यथा द्वे वीणे तुल्यप्रमाणतन्धुपचादनदण्डमूर्च्छने षड्ज ग्रामाभिते कार्ये ।

Translation.—"First let the vinas having wires, instruments of playing, wooden frame, and murchhanas be made of identical quality and let them both be tuned to the Shadja Grama scale." (Evidently he expects readers to know how to do it).

Now,

तयोरेकतरस्यां मध्यमग्रामिकीं कृत्वा पंचमस्यापकर्षे श्रुतिम् ।

Translation.—"Set one of the two Vinas to Madhyama Grama by lowering its 'panchama' one shruti only." (The reader as a practical musician is expected to know the lowered 'panchama').

तामेव पंचमवशात् षड्ज ग्रामिकीं कुर्यात्

Translation.—"The next step is to make this Madhyama-grama-vina a Shadja-grama-vina, not by restoring the lowered 'panchama' to its original pitch, but by taking it as a real Shadja-grama 'panchama' of four srutis." (In other words the author wishes the reader to lower all the other swaras of the scale, namely सा, रे, ग, म, घ, नि,

Thus, एवं (सा वीणा) श्रुतिरप कृष्टा भवति ।

Translation.—"The whole Madhyama-grama-vina after this would be lower than the other untouched shadja-grama-vina by one sruti."

पुनरपि तद्वदेवापकर्षात् ।

Translation — "By repeating the same operation (i.e. by lowering the new madhyama-grama-vina 'panchama' one sruti and accepting the same as shadja grama 'panchama') the result would be

गांधारनिषादवन्तौ स्वरा इतरस्या धैवतर्षभा प्रविशतः द्विश्रुत्यधिकत्वात् ।

Translation — "The swaras 'Gandhara' and 'Nishada' would coincide with the 'Rishabha' and 'dhaivata' of the Shadja-grama-vina because they are only two srutis higher in pitch than the 'rishabha' and 'Dhaivata' "

पुनस्तद्वदेवापकर्षाद्धैवतर्षभावितरस्या पचम षड्जाप्रविशतः त्रिश्रुत्यधिकत्वात् ।

Translation — "Another similar operation and the 'dhaivata' and 'nshabha' of the 'Chala Vina' will enter, that is, will coincide with the 'panchama' and 'Shadja' of the untouched vina the distance between them being only three srutis (We know that according to all ancient writers the 'dhaivata' and 'rishabha' are only three srutis higher than the panchama and 'Shadja' respectively) तदपुनरपवृष्ट्या तस्या पचमम ष्यमषड्जा इतरस्या मध्यम गांधार निषादवन्तः प्रवेश्यति चतुः श्रुत्यधिकत्वात् ।

Translation — "One more repetition, and the 'panchama' 'Madhyama' and 'shadja' of the chala-vina will coincide with 'madhyama' 'gandhara' and 'nishada' of the 'achala-vina,' the distance between the two sets of swaras being only four srutis "

एवमनेन निदर्शनेन द्वैमासिकयो द्वाविंशतिः श्रुतयः प्रत्यवगन्तव्याः ।

Translation — "This illustration will clearly show the twenty two srutis of the two gramas the author expects the reader to locate the srutis and Swaras in the light of this explanation.)

If we assume our interpretation of the text to be correct it will appear that Bharata's reasoning is quite lucid and at the same time sufficiently simple. The following observations will make Bharata's view more clear. To begin with, Bharata says, that the two vinas are first to be tuned to the shadja grama scale. We will say there are only seven wires to represent the seven notes of the scale on each of the two vinas. Evidently then, seven wires are to be tuned to the seven correct notes of the shadja grama scale. I have already said that Bharata pre-supposes in his reader a perfect knowledge of the 'panchamas' of the two Gramas and an ability to tune the vinas according to the directions he proposes to give. When one of the vinas is to be made *Madhyama gramic*, all that he means is that the wire representing the 'panchama' in the shadja grama is to be slightly loosened so as to make it produce the 'panchama' of the madhyama, all other notes remaining in their original positions. The second direction of the author is most important. He directs the madhyama gramic vina to be

verted again into a shadja gramic vina, but he wants this to be done not by restoring the 'panchama' to its original pitch, but by accepting the changed 'panchama' as a proper 'panchama' for the new shadja gramic vina. Now we know that this can be accomplished only by lowering all the other notes of the vina by one sruti and that is what Bharata says will be the result. He says

“ एवं सा वीणा श्रुत्यपकृष्टा भवति । ”

Translation.—When the Chala-vina is thus made shadja gramic the pitch of 'Sa' will be three srutis, that of 'ri' will be six srutis, of 'ga' eight sruti and so forth. By repeating this process another series of srutis namely, two, five, seven, eleven, fifteen, eighteen, twenty will be discovered. But the 'ga' and 'Ni' of the Chala vina will now coincide with the 'ri' and 'dha' of the achala vina. On another repetition of the same process, the swaras 'sa', 'ma', 'pa' of the chala vina will coincide with the 'ni', 'ga' and 'ma' of the Dhruva or achala vina.

It will be readily conceded, I suppose that the process so elaborately described by Bharata will be possible only if the Sruti interval remained the same all through the octave. According to Bharata then, the sruti was a real unit of measurement in determining the ratio between the several Swaras. In other words, the ratio of the first to the second sruti was equal to the ratio between any two consecutive srutis. There are twenty two srutis in all and if we take the starting point to be the sruti of 'ni' in the lower octave, and as equal to 1, then the twenty-second sruti, that is of the higher 'ni' would be 2. There being twenty-two equal intervals between the higher and the lower 'ni' each interval would be equal to the twenty-second root of 2.

I do not claim any originality for this explanation of Bharata's srutis. The view was submitted before the first All-India Music Conference by a learned scholar of my part of the country, namely the late Mr. V. V. Phadke, retired first class subordinate judge, in the year 1916. The view appeals to me, and I have therefore, thought it proper to place it before my readers. The late Pandit Abraham of Tanjore also read a paper before the first All-India Music Conference at Baroda on the srutis of Sharangdeva Pandit, and showed that no scale in which the srutis were taken as unequal could under any circumstances be accepted as Sharangdeva's shuddha scale. The Pandit's paper is now printed and published, and I shall not write about it here.

The chief object of these articles is to place before the readers a comparative analysis of the different Sanskrit works on Indian Music written at different times, in order that such comparison should help in the determination of a suitable system for our present Hindustani Music.

In dealing with the Sanskrit texts, I propose, as I said before, to give in each case the following details —

- (1) The name and place of the author, so far as can be traced
- (2) The probable date of the work
- (3) The explanation of the Srutis and Swaras as explained in the treatise
- (4) The Thatas, if any, used for the classification of the Ragas
- (5) The Janya Ragas and their classification under the Thatas
- (6) General remarks

In some cases charts showing the positions of the Srutis and Swaras will be given for ready reference

RAGA TARANGINI

The author of this work is Lochana Pandit. He lived some where in the Mithila district. The date of the work as given by the author himself is as follows.

भुजवसुदत्तमितशाके श्रीमद्दहालसेनारज्यादी ।
वर्षकषाष्टिभोगे पुनयस्त्वास्तु विशाखायाम् ॥

According to this, the date works out at Shaka year 1082. Some of our music scholars are of opinion that the date is more or less doubtful, and in support of their view they rely on the following internal evidence supplied by the work. Lochana Kavi quotes from another poet Vidyapati, who, it is believed, lived about the end of the fourteenth century A.D. The late Raja S. M. Tagore in his Universal History of Music tells us that Vidyapati was in the service of Shiva Singh the Raja of Mithila in the latter half of the fourteenth century A.D. Copper plate evidence also goes to show that a Rajah of Mithila named Shiva Singh gave a jahagir to the poet Vidyapati in the year 1399 A.D. Unless it can be proved that this Vidyapati is not the same as that from whom Lochana quotes, we must uphold the contention of the scholars. Another point these scholars lay stress on is that Lochana in his Tarangini mentions clearly named Ragas like 'Imam' and 'Farodast', which ragas, they argue, could not have become so popular about the Shaka year 1082 when the work purports to have been written. Lochana in the above sloka gives some astronomical details, but as I have not been able to ascertain what the reference really means, I am unable to fix the date for

them. Hrdaya Narayana Deva, the author of Hrdaya Prakasa and Hrdaya Koutuka quotes from the Tarangini. These two last named treatises, were written about the year 1660 A.D.

We shall now go into the subject matter of the Tarangini. Lochana, after giving the divisions of Gita as Nibaddha and Anibaddha at once takes up the question of the Srutis. In common with all his predecessors, he recognises twenty two srutis, to the scale, with their well-known names Tivra, Kumudvati, etc. The distribution of srutis among the seven shuddha swaras, as चतुश्चतुश्चैव षड्जमध्यमपञ्चमाः । ६० is also accepted by him. The swara becomes manifest on its last sruti. The accompanying chart will show at a glance how he places his swaras on his twenty two srutis.

Chart Showing the Shuddha and Vikrita Swaras of the Raga Tarangini.

Shrutis.	Shuddha swaras.	Vikrits swaras.	Shrutis.	Shuddha swaras.	Vikrits swaras.
१ तीव्रा			१२ प्रांती	...	(तीव्रतम गांधार)
२ कुमुद्वती			१३ मार्जनी	शुद्ध मध्यम	अति तीव्रतम गांधार
३ मन्दा			१४ क्षिती		
४ छन्दोवती	शुद्ध षड्ज		१५ रक्ता	...	तीव्रतर म
५ दयावती			१६ सन्दीपिनी		
६ रंजनी	...	कोमल ऋषभ	१७ आलापिनी	शुद्ध पंचम	
७ रक्तिका	शुद्ध ऋषभ		१८ मदन्ती		
८ रौद्री			१९ रोहिणी	...	
९ क्रोधी	शुद्ध गांधार		२० रम्या	शुद्ध धैवत	कोमल धैवत
१० वज्रिका	...	(तीव्र गांधार)	२१ उग्रा		
११ प्रसारिणी	...	तीव्रतर गांधार	२२ क्षोभिणी	शुद्ध निषाद	
१ तीव्रा	...	(तीव्र निषाद)	२ कुमुद्वती	...	तीव्रतर निषाद=काकळी
३ मन्दा	...	(तीव्रतम निषाद)			

(For detailed explanation, the reader is requested to refer to the translation which follows).

रागतारंगिणी स्वरसंज्ञा प्रकरणम् ।
स्वस्वशेषश्रुतिं त्यक्त्वा यदा ऋषभ धैवतौ ।
गायन्ते गृणिभिः सर्वेस्तदा तौ विकृता मता ॥

Translation.—When the notes 'ri' or 'dha' are played or sung on their penultimate srutis, literally when they give up their last srutis,

they are supposed by experts to have become komal ri and Komal dha, (flat 'ri' and flat 'dha').

Observation.—Shuddha ri and shuddha dha are the sounds of the seventh and twentieth srutis respectively in the ordinary twenty two sruti scale. Komal ri and komal dha therefore, will be the sounds of the sixth and the nineteenth srutis. The Orthodox view has always been that a shuddha swara manifests itself on its last sruti

गृह्णाति मध्यमस्यापि गंधारः प्रथमां युतिम् ।
यदा तदा त्रैरेव तीव्र इत्यभिधीयते ॥

Translation —When Gandhara stands on the first sruti of Mad-dhyama it is said by the experts to become 'tivra' or sharp

Observation.—The srutis between shuddha 'ga' and shuddha 'ma' are four, the fourth being the sound of the shuddha 'ma'. The gandhara therefore could move up four srutis, right upto the place occupied by the shuddha 'ma'. It will be carefully noted that the note 'ri' only became komal but not tivra. The note gandhara again, only moved up and became tivra, but was not allowed to go back and become komal.

द्वितीयामपि चेदेव तदा तीव्रतरः स्मृतः ।
तृतीयामपि चेदेव तदा तीव्रतमः स्मृतः ।
चतुर्थीमपि चेदेव मतितीव्रतमः स्मृतः ॥

Translation —When gandhara stands on the second sruti of mad-dhyama, it becomes tivratara 'ga' and when it stands on the third sruti of that note it becomes tivratama 'ga'. When again it rises up to the fourth or last sruti of 'ma' it becomes at-tivratama 'ga'.

Observation —A glance at the sruti swara chart will show that at-tivratama 'ga' and shuddha 'ma' are identically the same sound. The object of giving two different names to the same note will be clear when we examine the definitions of the ragas later on.

षष्ठस्य च निशादभेद गृह्णाति प्रथमां युतिम् ।
तदा तर्गातिभिः सोऽपि तीव्रइत्यभिधीयते ॥
द्वितीयामपि चेदेव तदा तीव्रतरः स्मृतः ।
तृतीयामपि चेदेव तदा तीव्रतमः स्मृतः ॥

Translation —When nishada takes the first sruti of shadja, it becomes tivra nishada, according to those who are learned in music. When nishada takes the second sruti of shadja, it becomes tivratara 'ni' and when it takes the third sruti of shadja, it becomes, tivratama ni.

Observation.—It will be observed that although the distance of the shuddha shadja above the nishada is four srutis, the rise of nishada is only through three srutis. Shadja and panchama do not under any circumstances, take the names of their respective preceeding notes. It will be remembered that gandhara could rise up to the fourth sruti of maddhayama, and become ati-tivratama 'ga'. There are four srutis between 'ma' and 'pa', but ma could rise only upto the third sruti of 'pa' and become tivra 'ma' tivratara 'ma' and tivratama 'ma'. There is no ati-tivratama 'ma'.

षड्जस्य द्वे श्रुती गृह्णन् निषादः काकली स्मृतः ।
तन्नि्तरे निषादैव गेया. सैव विचक्षणैः ॥

Translation.—When nishads takes two srutis of shadja, it is also called Kakali nishada. It should be sung in the place of tivratama nishada.

Observation.—Kakali is a well-known swara name in the southern music system. Kakali nishada corresponds with the tivra nishada of the Hindusthani system. Sadharana 'ga' Antar 'gā', Kaishika 'ni', and Kakali 'ni', are now universally understood to mean komal 'ga' tivra 'ga', komal 'ni', and tivra 'ni', of the Hindusthani system. The important question before us will now be what was the shuddha Thata of the Raga Tarangini? The answer will be it was no other than the Kafi Thata of our current Hindusthani music system. The shuddha 'ga' and shuddha 'ni' of Lochana Pandita are the Hindusthani komal 'ga' and komal 'ni'. The conclusive evidence, however, on this point will be seen when we come to discuss the Thata definitions. The shuddha Thata of the Tarangini could never be our modern Bilawala Thata, because, the tivra 'ga' and tivra 'ni' necessary in the Bilawala scale are vikrita notes according to the Tarangini. Then again it will be noted that the notes 'ri' and 'dha' become komal 'ri' and komal 'dha'.

Lochana Pandita lays down the following twelve Thatas and then classifies his 'janya' ragas under them:—

(१) भैरवी	(५) केदार	(९) घनाक्षी
(२) तोडी	(६) इमन	(१०) पूर्वा
(३) गौरी	(७) सारंग	(११) मुखारी
(४) कर्णाट	(८) मेघ	(१२) दीपक

These Thatas are described by the author as follows:—

(1) BHAIRAVI.

शुद्धाः सप्तस्वरा रन्वया वादनायाः प्रयत्नतः ।
तेन वादनमात्रेण भैरवी जायते शुभा ॥

Translation—The seven shuddha swaras should be carefully sung or played and the moment that is done the Thata called Bhairavi will be produced

Observation—This definition of the Bhairavi Thata will no doubt cause surprise. The Bhairavi Thata known to the student of Hindusthani Music takes komal 'ri' and komal 'dha' that of Lochana is the Kafi Thata. The Bhairavi mela of the southern system takes 'ri' tivra and 'dha' komal of the Hindusthani system. Lochana evidently knew the southern practice as well. Because in the next verse he says —

अन्ये तु भैरवी रागे धैवतं कौमलं विदुः ।
तदशुद्धं यतस्तादृक् नायं रागास्तुरजकः ॥

Translation—Others use a komal dhavata in the Bhairavi raga I know, but that is incorrect. Bhairavi with a komal dhavata will not be pleasing

(2) TODY

शुद्धाः सप्तस्वराः कार्यौ स्थिौ तेषु च कोमलौ ।
तोडी सुरागिणो ज्ञेया ततो गायकनायकः ॥

Translation—Take the seven shuddha swaras again. Make 'ri' and dha komal and the resulting Thata will be Todi. It should be sung as such by the singer

Observation—The Todi Thata of all ancient Sanskrit writers corresponds with our modern Bhairavi Thata of the Hindusthani system. Any of our southern friends will confirm this statement. The Todi Thata of the southern system is even now the same as our modern Bhairavi Thata. This verse proves that the shuddha scale of Lochana was our modern kafi Thata, because the Kafi Thata could easily be converted into the Todi Thata, our modern Bhairavi by making 'ri' and 'dha', komal

(3) GOURI

एवं सति च गंधारी द्वे श्रुती मध्यमस्य चेत् ।
गृह्णाति काकली नि-स्यात्तदा गौरी प्रवर्तते ॥

Translation—If in the last mentioned Todi Thata, the note gandhara takes two srutis of maddhyama, and the note nishada becomes Kakali, the resulting Thata will be Gouri

Observation—The Gouri Thata of the ancient writers is universally admitted to correspond with our modern Bhairava Thata. Here again we have further proof to show that the Shuddha Thata of Lochana was our Kafi

(4) KARNAT.

शुद्धाः सप्त स्वरास्तेषु गांधारो मध्यमस्य चेत् ।

गृह्णाति द्वे श्रुती गीता कर्णाठी जायते तदा ॥

Translation.—If you take the shuddha swara scale of seven notes and raise gandhara therein by two srutis, the resulting Thata will be Karnat.

Observation.—The Karnat Thata will be the modern Khamaj Thata of our Hindusthani system in which all notes except the nishada are shuddha.

(5) KEDARA.

एवं सति निषादश्चेत् काकली भवतिस्फुटम् ।

वीणायां व्यक्तिमाधत्त केदारसंस्थितिस्तदा ॥

Translation.—If in the Karnat scale, the nishada becomes Kakali the vina will produce the Thata known as Kedara.

Observation.—The Kedara Thata of the Tarangani will correspond with our modern Bilawal scale.

(6) IMAN.

एवं सति च संस्थाने मध्यमः पंचमस्य चेत् ।

गृह्णाति द्वे श्रुती राग ईमनो जायते तदा ॥

Translation.—If in the last mentioned Kedara Thata the mad-dhyama takes two srutis of panchama, the resulting Thata will be Iman.

Observation.—This is exactly our modern Yaman Thata of the Hindusthani system. The only difference is that the modern Hindusthani musician uses the swara names tivra 'ga' tivra 'ni' and tivra 'ma' in place of Lochana's Tivratara 'ga' tivratara 'ni' and tivratara 'ma'.

(7) SARANG. (A)

एवं सति च गांधारः शुद्धमध्यमतां व्रजेत् ।

धश्च शुद्ध निषादः स्यात् सारंगो जायते तदा ॥

Translation.—If in the Iman Thata just described, the Ga coincides with the shuddha maddhyama and the dhaivata takes the place of the shuddha, nishada the scale produced would be the Saranga Thata.

Observation.—The Gandhara which stands in the place of shuddha 'ma' would be called ati tivratama 'ga' and the dhaivata standing in the place of shuddha nishada would be called tivratara 'dha'. In ancient music, two notes of the same denomination were not allowed to appear in the same scale. Hence the use of the atitivratama

'ga' for shuddha 'ma' The Saranga scale was to be formed from the Imam, and this last already had the tivra 'ma' in it

(8) MEGHA

घनिषादौ च शार्दंगस्य वर्णाटस्य गर्मो यदि ।
मवेता रामराजन्यो मेघरागः प्रजायते ॥

Translation—In the Megha Thata the dhaivata and nishada, will be those of Saranga, and the gandhara and maddhyama will be the same as used in the Karnat Thata

Observation—The retention of dhaivata and nishada of Saranga merely means that both nishadas have to be used in the megha scale. The 'ga' and 'ma' of Karnat would mean tivratara 'ga' and shuddha 'ma' practically. In the Saranga Thata there were two maddhyamas (tivra and komal), but no gandhara. The ati-tivratama 'ga' was only another name for Shuddha 'ma'. The difference, therefore, between the Megha and Saranga scales, will be clearly seen. Our modern shuddha 'dha' of the Kafi Thata does not appear in the Megha scale

(9) DHANASRI

ऋषभः कोमलो गस्तु द्वेश्रुती मध्यमस्यचेंद्र ।
गृह्णाति द्वे श्रुती मध्य पचमस्य विशेषतः ॥
धैवतः कोमलो निरच षड्जस्य द्वे श्रुती यदा ।
गृह्णाति रागिणी रम्या धनार्थीर्जायते तदा ॥

Translation—When nishabha becomes komal and gandhara takes two srutis of maddhyama, when maddhyama takes two srutis of panchama when dhaivata becomes komal and the nishada takes two srutis of the shadja, the beautiful scale known as Dhanashri is the result

Observation—This scale is the same as that of our Puriya Dhanashri. It is well-known that in this Hindusthani scale, the 'ri' and 'dha' are komal, and 'ga' 'ma' and 'ni' are tivra

(10) PURVA

इमन स्वर सस्थाने निषादप्रथमा युनिम् ।
गृह्णाति धैवतर्धया पूर्वायाः स्वरसंस्थितिः ॥

Translation—In the Purva thata, all the notes of the Imam thata with the exception of the Dhaivata are to be retained. The dhaivata is to be raised one sruti

Observation—In this scale then we have 'sa', 'ri', 'ga', 'ma', 'pa', 'dha', 'ni', 'sa', 'ri', 'ga', 'ma', 'pa', 'dha', 'ni' which will be called tivra

'dha' by Lochana. No such scale appears to be in use in the music system of Western India at present. But there is one like it in the Southern system and is known there by the name of Chitrambari.

(11) MUKHARI.

शुद्धाः सप्तस्वरास्तेषु धैवतः कोमलो भवेत् ।
वाजायां जायते शुद्धा प्रखारी संस्थितिस्तदा ॥

Translation.—If in the shuddha swara scale the dhaivata becomes komal, the resulting scale will be called shuddha Mukhari, or Mukhari.

Observation.—This scale will correspond with the modern Hindusthani Asawari Thata or according to some the Jaunpuri Thata. The Southern scale answering this description would be Nata Bhairavi. There is a Mukhari scale in the Southern system also but it materially differs from Lochana's Mukhari.

(12) DEEPAKA.

The author gives no definition of this Thata. He simply says:—

सर्वैर्मिलित्वा लेख्यः ।

This shows that the Raga Deepaka had already gone out of use. Lochana says, if the Raga has to be revived, its features should be settled by the best living experts, evidently in a Conference.

Quaere.—What becomes of the usually told story that the raga deepaka was sung by Miya Tansen with disastrous results to himself in Akbar's Court.

The twelve thatas of Lochana with their swaras may be written in terms of the Hindusthani swara names thus.

- (१) भैरवी—सा, ग शुद्ध, ग कोमल, म शुद्ध, प शुद्ध, ध शुद्ध, नि कोमल ।
- (२) तांडा—सा, री कोमल, ग कोमल, म शुद्ध, प शुद्ध, ध कोमल, नि कोमल ।
- (३) भौरी—सा, री कोमल, ग शुद्ध, म शुद्ध, प शुद्ध, ध कोमल, नि शुद्ध ।
- (४) कर्णाट—सा, री शुद्ध, ग शुद्ध, म शुद्ध, प शुद्ध, ध शुद्ध, नि कोमल ।
- (५) केदार—सा, री शुद्ध, ग शुद्ध, म शुद्ध, प शुद्ध, ध शुद्ध, नि शुद्ध ।
- (६) इमन—सा, री शुद्ध, ग शुद्ध, म तंत्र, प शुद्ध, ध शुद्ध, नि शुद्ध ।
- (७) सारंग—सा, री शुद्ध, म शुद्ध, & तंत्र, प शुद्ध, X, नि कोमल & शुद्ध ।
- (८) मेघ—सा, री शुद्ध, ग शुद्ध, म शुद्ध, प शुद्ध, X, नि कोमल & शुद्ध ।
- (९) पूर्वा—सा, री शुद्ध, ग शुद्ध, म तंत्र, प शुद्ध, X, नि कोमल & शुद्ध ।
- (१०) धनाश्री—सा, री कोमल, ग शुद्ध, म तंत्र, प शुद्ध, ध कोमल, नि शुद्ध ।
- (११) मुखारी—सा, री शुद्ध, ग कोमल, म शुद्ध, प शुद्ध, ध कोमल, नि कोमल ।
- (१२) दीपक—Nil.

The author classifies his seventy-five 'janya' ragas under these Thatas as follows :—

- (१) भैरवी—भैरवी, नीलावरी ।
- (२) तोड़ी—तोड़ी ।
- (३) गौरी—मालव, धीगौरी, चेतीगौरी, पदादी गौरी, देसी तोड़ी, देसवारी, गौग, त्रिवण, पुलतानी, धनाधी, वसन्त, भैरव, विमान, रामकली, युजैती, बट्टली, रंवा, मटिया, खट, मालवपंचम, जयतधी, आमावरी, देवगांधार, सिन्धी आमावरी, गुणकरी ।
- (४) कर्णाट—कर्णाट, वागीश्वरी, सम्पाच, सौरट, परज, मारु, जयजयवन्ती, हृष्टम, कामोद, केदार, मालवकौशिक, त्रिदोल, हृषसार्ई, अडाणा, माराकनडा, भोगग ।
- (५) केदार—केदारनाट, आमारनाट, खवात्री, चंकरामरण, विदागारा, इंदी, श्याम, छावानट, भूपाली, मीमपलामी, कौशिक, मारु ।
- (६) इमन—इमन, शुद्धकल्याण, पूरिया, जयकल्याण ।
- (७) सारंग—सारंग, पटमजरी, मिद्रावनी, सामन्तमारग, बडईम, ।
- (८) मेघ—मेघमङ्गल, गौडसारंग, त्रिलावळ, अहैया, शुद्धसुहव, देम, शुद्धनाट ।
- (९) धनाधी—धनाधी, ललित ।
- (१०) पूर्वा—पूर्वा ।
- (११) मुखारी—मुखारी ।
- (१२) दांपक—Nil.

It will be observed that all these janya ragas of the Tarangini are known to the Hindusthani musicians of the present day. The grantha therefore should be of the greatest historical importance to them. It is interesting to note how many of these janya ragas have changed their swaras during the Mohamedan regime. Some of the ragas seem to have retained their original Thatas even to this day. The author does not give any detailed definition of the janya ragas because I believe the work Tarangini is essentially a book on prosody and not on Music. As to the times assigned for the singing of these ragas the author says as follows :—

अत्राज्ञान गगमभयाः ।

ब्रह्मे मुहूर्ते गात्रव्यो भार्वा रागमचमः ।
 अक्षरोदपवेलाया गेया रामकली पुनः ॥
 शतवेलावली गेया पूरुकि हृष्टमोऽपि च ।
 पूरुकि काले गायत्री तौडिमति मनोहरम् ॥
 छन्दोदो वरादी च गेया गायकनादकेः ।
 शिवा कुर्यात् ददरे गात्रव्यासावगे जनेः ॥
 कादी मध्यान्दमनये सारगोऽपि च गीयते ।
 अक्षरके नये ह्यस्तदन् गायेतु मारुचम ॥

अपराहावसाने वा सायाह्ने सति याति वा ।
 सायंकालस्तु कालो वै गौरारामस्य भूतले ॥
 निशामुखे तु कल्याणः केदारस्तु महानिशि ।
 द्वितीयप्रहरे रात्रौ कर्णाटः सर्वसंमतः ॥
 तृतीयप्रहरे रात्रावहानोऽपि च गायते ।
 अपराह्नेपि सौरान्द्रः प्रभाते संगवेऽपि च ॥
 पंचमो मेघसंचारे महारः परिकीर्तितः ।

These times of singing throw a good deal of light on the modern classifications of the Hindusthani ragas. The following times for instance will attract particular attention of the Hindusthani Musician.

BHAIRAVA & RAMAKALI.—To be sung in the early morning.

GOURI.—To be sung in the evening.

BILAWALI.—To be sung in the first quarter of the day.

KALYAN.—To be sung in the first quarter of the night.

TODI and SUHA.—To be sung in the forenoon.

SARANG.—To be sung at midday.

KANADA.—To be sung at midnight.

ADANA.—To be sung in the third quarter of the night.

MEGHA.—To be sung in the rainy season.

Lochana has also included in the Tarangini a small chapter on Raga mixtures,

(सकलदेश साधारण गुणिगण प्रसिद्ध रागसंकराः)

which also deserves attention.

HRDAYA KOUTUKA AND HRDAYA PRAKASHA

These are two small but interesting treatises. The name of the author is Hridaya Naraindeva. He describes himself as follows :—

“ इति गडादेशनरेश श्री हृदयसाहि विरचितं हृदय कौतुकम् ”

No date is given in the book by the author, but we can fix an approximate date for the author with the help of some other works. In the Hridaya Koutuka, the swara prakarana we find is borrowed bodily from the Raga Tarangini. That means that the work was written some time after the fifteenth century. Dr. Sukthankar, late of the Archaeological Survey, India, at my request tried to ascertain the date of Hridaya Narain and found that the last named ruler, ruled in Gada desha about the Samvat year 1724, i.e. A.D. 1660. The great importance of Hridaya's works lies in the way he fixes the exact places of his shuddha and vikrita swaras. He describes these in terms of the lengths of the

sounding string of his Vina. The relative pitches of those notes therefore could be easily fixed with mathematical accuracy. Ahobala Pandita the author of the Sangeeta Parijata has also done it, but we are not sure whether he copied from Hydaya's book or vice versa.

We shall now proceed to the swara prakarana of Hridaya Koutuka thus.

स्वशेषश्रुतिं त्यक्त्वा यदा क्रमधैवती ।
 गीयते गृणिभिः सर्वैस्तदा तौ कामली मती ॥
 गृह्णाति मध्यमस्यापि गांधारः प्रथमां श्रुतिम् ।
 यदा तदा जर्जरेष तौत्र इत्यभिधीयते ॥
 द्वितीयामपि चेदेव तदा तीव्रतरः स्मृतः ।
 तृतीयामपि चेदेव तदा तीव्रतमः स्मृतः ॥
 चतुर्थ्यामपि चेदेवमतितीव्रतमः स्मृतः ।
 अनितीव्रतमो गंस्तु सांगे परिगीयते ॥
 षड्जस्य च निषादधेद गृह्णाति प्रथमां श्रुतिम् ।
 तदा संगीतिभिः सांगे तौत्र इत्यभिधीयते ॥
 द्वितीयामपि चेदेव तदा तीव्रतरः स्मृतः ।
 तृतीयामपि चेदेव तदा तीव्रतमः स्मृतः ॥
 षड्जस्य द्वे श्रुती गृह्णन् निषादः काकली स्मृतः ।
 तीव्रतरे निषादेव गेया सा च विचक्षणैः ॥

these slokas have been taken by the author from the Raga Tarangini of Lochana and as they have already been translated, it is not necessary to further discuss them here. Hridayesha invents a new raga and calls it Hridaya-rama. He uses two new swaras in it, namely, tri sruti 'ma' and tri-sruti 'ni' and lays down a new Thata for the raga containing these new notes. He says —

रागिणी हृदयंगन या हृदयरमणि ।
 उता तदनुगेधेन स्थितिस्ताम्र त्रयोदशी ॥

Translation—Hridaya having introduced an altogether new raga under the name of Hridaya-rama has also added a new Thata to the ancient twelve

The ancient twelve Thatas he takes from the Raga Tarangini. We have already gone through them and shall not repeat them. About the Deepaka Thata, the author says शड्जस्य द्वे श्रुती गृह्णन् निषादः काकली स्मृतः । This shows that Deepaka Raga was not sung also in his time. It follows a fanciful division of Ragas into four classes

एतासु सकला रागा जायन्ते वादनक्रमाः ।
 ब्राह्मणाः क्षत्रिया वैश्याः शूद्रास्ते स्युःश्चतुर्विधाः ॥
 संपूर्णा ब्राह्मणाः प्रोक्ताः क्षत्रियाः षड्वा मताः ॥
 औडुवाः कथिता वैश्याः शूद्रास्तदितरे क्वचित् ॥

The jānya ragas are fully described in the Hridaya koutuka. The sloka defining a raga, gives not only the 'varjyavarjya' swaras of it, but also gives its swara-swarupa.

Thus.

गमौ पनी धनी सोरिः सनिसा रिगमाः पधौ ।
 मपौ सरी सनिधपा मपौ गम-गमा रिसौ ।
 हंमीररागराजन्यः संपूर्णः कथितो बुधैः ॥
 गमौधसौ सधपगा रिगौ रिसधपा धसौ ।
 रिगौ रिगरिसाश्चैव भूपाली कथितौडुवा ॥
 गमौ पनी सनिधपा मगौ मरिसगाश्च मः ।
 खंदावती च संपूर्णा कथ्यते गायकोत्तमैः ॥
 सरी गमौ पधनिसा रिसौ धपगमा रिसौ ।
 पधौ निसौ च संपूर्णा प्रोक्ता वेलावली बुधैः ॥

This is really a very useful method of describing a raga. I have made use of it in one of my publications on the Hindusthani ragas.

HRDAYA—PRAKASHA.

This is another work by the same author. It is much more interesting than the Koutuka. In this book the author describes the position of the shuddha and vikrita swaras in terms of the lengths of the sounding strings of the Vina. The classification of the ragas also is instructive and more scientific. Ahobala in his Sangeet Parijata also, describes his swaras in terms of the lengths of the sounding string as we shall see hereafter. But we do not know whether he got that idea from Hridaya's book. Some scholars on the contrary suspect that Hridaya took the idea from Ahobala. There is no reliable evidence on the point but there are two facts which may lend some colour to the last mentioned suspicion. Hridaya in his Koutuka omits to fix the positions of his shuddha and vikrita swaras in terms of the lengths of the strings. And secondly, Sangeeta Parijata is a much more elaborate work than the Hridaya Prakasha. All will depend therefore upon the question whether or not the Parijat was written before the Prakasha.

We shall now consider some of the leading features of the Prakasha. The author begins by saying :—

संगीतशास्त्रमर्षस्वममाधारणगोचरम् ।
 वाणादौ रागमैलादिर्हृदयेशेन कथ्यते ॥
 आकारं बहुमेला द्वादशोपयोगिनः ।
 मेलः स्वरममृदः स्याद्रागव्यञ्जनशक्तिमान् ॥

Translation—The secrets of the science of music being intelligible only to the specially gifted, Hrdaya proposes to explain them with the help of the Vina. There are innumerable melas or Thatas, described in the Ocean of Music but only twelve of these are useful here. A Thata is a collection of notes capable of producing ragas.

Observation—Ahobala Pandita has mentioned thousands of Thatas in his Sangeeta Panjata. We wonder whether the word "akara" is cunningly used to hint at those

स्वर प्रकरणम् ॥

स्वराश्च षड्जरूपमौ गांधारो मध्यमस्तथा ।
 पचमो धैवतश्चैव निषाद इति मत्त ते ॥
 द्विश्रुतिगोनिषादश्च प्रत्येकं त्रिश्रुती रिधौ ।
 चतुःश्रुतिममायुक्ताः पूर्ववत्समपाः स्मृताः ।
 स्वात्यश्रुतिस्थिता शुद्धाः स्युरन्ये विकृताः स्वराः ॥

All this represents the universally accepted view, and we need hardly discuss it.

श्रुतिमाधादि तुर्याताः स्वरा ये चोर्ध्ववर्तिनः ।
 तीव्रस्तीनतरस्तीव्रतमा भवति हि क्रमात् ॥
 स्वोपात्यश्रुतिवर्ती तु कोमलः परिर्कीर्तितः ।

Translation—The vikrita swaras are produced when the shuddha swaras rise through one, two, three or four srutis. When the shuddha note rises one sruti, it becomes tivra, when it rises two srutis it becomes tivratara, when it rises three srutis it becomes tivratama, when it is lowered one sruti, it becomes Komal.

Observation—The process is the same as described in the Koutuka. It is this process which distinguishes the northern music system from the southern. In the southern system the shuddha swara is the lowest position of the note and the vikritas are its higher positions. In the northern system, we have the vikritas on both sides of the shuddha note. In other words the shuddha note occupies the central position.

निस्ताम्रतरसहस्रं शारलीत्यापि कथ्यते ॥
 सपयोर्येदि गृहणीतन्मिसस्तिषः श्रुतीर्निर्मा ।
 मृदुमो मृदुपश्चेति तदाग्ये सपयोर्येते ॥

Translation.—The note tivratara nishada is also called Kakali; when the notes 'ni' and 'ma' take the three srutis of 'sa' and 'pa' respectively, they are called mridu 'sa' and mridu 'pa'.

The स्वर संज्ञा प्रकरण practically ends here. The author next explains the terms vadi, samvadi, anuvadi, and vivadi.

प्रयोगो बहुधा यस्य स स्याद्वादी नृपोपमः ।
यथोर्मवेयुः श्रुतयो द्वादशाष्टयवान्तरे ॥
मिथः संवादिनौ तौ स्तौ राज्ञः सचिवसन्निभौ ।
त्रिवादी रक्तिविच्छेदी शत्रुतुल्यः स कीर्तितः ॥
अनुवादी तटस्थो यः किंकरप्रतिमः स्वरः ।
सपौ रिधौ मध्यमसौ निगौ संवादिनो मिथः ॥

Translation.—The note most frequently used in a raga, which it like the king of the raga, is called 'Vadi'. Samvadi stands at a distance of eight or twelve srutis from the vadi. It is like a minister to the raja of the raga. Vivadi destroys the beauty of the raga and is therefore called the enemy. Anuvadi is neutral, and is compared to the servant. The following pairs of notes are samvadis to each other. Sa, pa; ri, dha; ga, ni; and ma, sa;

Then we come to an important point and it is this :

द्वौ त्रयो वापि चत्वारः स्युस्ताना रंजकस्वराः ।
पंचाद्यैरथ रागः स त्रिधा पंचमिरौद्धवः ॥
षड्भिः स्वरैः षाड्वः स्यात्संपूर्णः सप्तभिः स्वरैः ॥

Translation.—Combinations of two or three or four notes, will be only pleasing 'tan's, but no ragas. The ragas must have five six or seven notes. A raga with five notes, is 'odava', one with six is 'shadava' and one with seven is 'sampurna'.

Observation.—It is an accepted rule of Indian music that a raga should have at least five notes पंचनेभ्यः स्वरैभ्यश्च नस्य । द्रागस्य संभवः । A tana may have any number of swaras.

Then follows the most important portion of the work, namely the location of swaras on the sounding wire of the vina. It will be useful to have the sruti swara chart before you in order to follow the details of the next few slokas.

ध्वन्यवच्छिन्नवीणायामध्ये तारकसंस्थितिः ।
त्र्यंशिनस्याद्यभागात्ते मध्यमस्य च पंचमम् ॥

Translation—Exactly in the centre of the wire (that portion of the wire which is capable of producing sound) will stand the tara shadja. If the whole wire is divided into three equal parts, the panchama of the middle octave will stand at the end of the first part.

Observation—Supposing the whole length of the speaking wire of the vina to be thirty-six inches, then the Tara 'sa' will be eighteen inches from either end, the pancham will be 12 ins from the meru, and 24 ins from the 'ghodi' (bridge). The whole length will produce the fundamental note or mandra 'sa'.

मध्यम षड्जयोगे तु सप्तगोर्मध्यमानयेत् ।
अशितस्य तयोर्मध्यस्यावाशान्ते तथार्थम् ॥

Translation—The maddhyama of the middle octave will be exactly between the two shadjas. The shuddha gandhara will stand exactly between 'sa' and 'pa'. If the distance between 'sa' and 'pa' be divided into three equal parts, then the shuddha rishabha, will stand at the end of the first part.

Observation—In the vina wire of thirty-six inches, therefore, the maddhyama of the middle octave will be at a distance of nine inches from the meru, and twenty-seven inches from the lower bridge or ghodi. The shuddha gandhara will stand exactly between 'sa' and 'pa', that is to say, it will be six inches from the meru and thirty-inches from the ghodi. If the distance between 'sa' and 'pa', (which is twelve inches) be divided into three parts, the shuddha rishabha will be at the end of the first part. It will, therefore, be four inches distant from the meru and thirty-two inches from the "ghodi."

तथैव धैवतं मध्ये सप्तयो स्थापयेद्बुधः ।
तत्र सागद्वयं त्यक्त्वा निषादाख्यं स्वरं नयेत् ॥

Translation—The shuddha dhaivata ought to be placed in the interval between 'pa' and tara 'sa'. If the distance between the 'pa' and tara 'sa', be divided into three parts, the shuddha nishad will come at the end of the second part.

Observation—The description of the place of the dhaivata, has led to some hot controversy among the scholars. No doubt the description at first sight appears somewhat loose, but the author furnishes the reader later on with the key to the difficulty. He says,

स्वः ज्ञानं विद्भिर्भ्यां सागोऽयं बोधितो मया ।
स्वरमवादिता ज्ञानं स्वरस्थापनकाम्यम् ॥
षड्जपञ्चमभावेन षड्जज्ञेया. स्वगबुधः ॥

Translation.—The note tivratara nishada is also called Kakali; when the notes 'ni' and 'ma' take the three srutis of 'sa' and 'pa' respectively, they are called mridu 'sa' and mridu 'pa'.

The स्वर संज्ञा प्रकरण practically ends here. The author next explains the terms vadi, samvadi, anuvadi, and vivadi.

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ययोर्मवेयुः श्रुतयो द्वादशाष्टयवान्तरे ॥
मिथः संवादिनौ तौ स्तौ राज्ञः सचिवसन्निभौ ।
विवादी रत्तिविच्छेदी शत्रुतुल्यः स कीर्तितः ॥
अनुवादी तटस्थो यः किंकरप्रतिमः स्वरः ।
सर्पो रिधौ मध्यमसौ निगो संवादिनो मिथः ॥

Translation.—The note most frequently used in a raga, which it like the king of the raga, is called 'Vadi'. Samvadi stands at a distance of eight or twelve srutis from the vadi. It is like a minister to the raja of the raga. Vivadi destroys the beauty of the raga and is therefore called the enemy. Anuvadi is neutral, and is compared to the servant. The following pairs of notes are samvadis to each other. Sa, pa; ri, dha; ga, ni; and ma, sa;

Then we come to an important point and it is this :

द्वौ त्रयो वापि चत्वारः स्युस्ताना रजकस्वराः ।
पंचाद्यैरथ रागः स त्रिधा पंचभिरौडवः ॥
षड्भिः स्वरैः षडवः स्यात्संपूर्णः सप्तभिः स्वरैः ॥

Translation.—Combinations of two or three or four notes, will be only pleasing 'tan's, but no ragas. The ragas must have five six or seven notes. A raga with five notes, is 'odava', one with six is 'shadava' and one with seven is 'sampurna'.

Observation.—It is an accepted rule of Indian music that a raga should have at least five notes पंचोनेभ्यः स्वरैभ्यश्च नस्य । द्रागस्य संभवः । A tana may have any number of swaras.

Then follows the most important portion of the work, namely the location of swaras on the sounding wire of the vina. It will be useful to have the sruti swara chart before you in order to follow the details of the next few slokas.

ध्वन्यवच्छिन्नवीणायांमध्ये तारकसंस्थितिः ।
च्यंशिनस्याद्यभागाति मध्यमस्य च पंचमम् ॥

Translation—Exactly in the centre of the wire (that portion of the wire which is capable of producing sound) will stand the tara shadja. If the whole wire is divided into three equal parts, the panchama of the middle octave will stand at the end of the first part.

Observation—Supposing the whole length of the speaking wire of the vina to be thirty-six inches, then the Tara 'sa' will be eighteen inches from either end, the pancham will be 12 ins from the meru, and 24 ins from the 'ghodi' (bridge). The whole length will produce the fundamental note or mandra 'sa'.

मध्यम षड्जयोगतु सपयोर्मध्यमानयेत् ।
अशितस्य तयोर्मध्यस्याद्याशान्ते तथाप्यमम् ॥

Translation—The maddhyama of the middle octave will be exactly between the two shadjas. The shuddha gandhara will stand exactly between 'sa' and 'pa'. If the distance between 'sa' and 'pa' be divided into three equal parts, then the shuddha rishabha, will stand at the end of the first part.

Observation—In the vina wire of thirty-six inches, therefore, the maddhyama of the middle octave will be at a distance of nine inches from the meru, and twenty-seven inches from the lower bridge or ghodi. The shuddha gandhara will stand exactly between 'sa' and 'pa', that is to say, it will be six inches from the meru and thirty-inches from the ghodi. If the distance between 'sa' and 'pa', (which is twelve inches) be divided into three parts, the shuddha risbabha will be at the end of the first part. It will, therefore, be four inches distant from the meru and thirty-two inches from the "ghodi."

तथैव धैवतं मध्ये सपयोः स्थापयेदबुधः ।
तत्र मागद्वयं त्यक्त्वा निपादाख्य स्वर नयेत् ॥

Translation—The shuddha dhavata ought to be placed in the interval between 'pa' and tara 'sa'. If the distance between the 'pa' and tara 'sa', be divided into three parts, the shuddha nishad will come at the end of the second part.

Observation—The description of the place of the dhavata, has led to some hot controversy among the scholars. No doubt the description at first sight appears somewhat loose, but the author furnishes the reader later on with the key to the difficulty. He says,

स्वर ज्ञानं विद्वान्मयो मागोऽयं बोधितो मया ।
स्वरसंवादिता ज्ञानं स्वरस्थापनकारणम् ॥
षड्जपञ्चममात्रेण षड्जमेया. स्वराबुधैः ॥

Translation.—I have adopted this simple method of locating the swaras in the interests of those who have not a good swara-dhyana. The exact places of the swaras, have to be fixed with the help of स्वर सम्वादिता ज्ञान. It must always be remembered that the swaras in my shadja grama (shuddha scale) must stand in samvadi relationship. He means to say that the swaras in the 'uttarang' of the scale must be the samvadis or the fifths of those in the purvanga.)

Observation.—This explanation of the author easily solves the difficulty. The shuddha dhaivata which is to be placed between panchama and tara 'sa' will have to be so placed that it will stand as a proper samvadi or the fifth to the shuddha rishabha. The shuddha rishabha has already been definitely fixed and so there will be no difficulty in fixing the position of the shuddha dhaivata. The reason why the author could not fix the exact length of the wire for the dhaivata appears to be that he could not obtain a convenient division of the string for that swara. We see that he has adopted the simplest way of dividing the wire into two or three parts. Such a division would not have given him the right place of the shuddha dhaivata. He knew that his reader could easily determine the position of the dhaivata with the help of the shuddha rishabha, dhaivata being the samvadi of the rishabha.

The shuddha scale of Lochana and Hridaya may be correctly expressed in terms of the lengths of the speaking wire and in the number of comparative vibrations as follows.

Note	Length of the wire.	Comparative vibrations.
sa	36	240
ri	32	270
ga	30	288
ma	27	320
pa	24	360
dha	21½	405
ni	20	432
sa	18	480

This is exactly the modern Kafi Thata of the Hindusthani musicians. The author of Koutuka and Prakasha has laid the whole of the Indian Music loving world under obligation to him for this clear exposition of the scale. As I said, however, the great question remains whether he copied all this from the Sangeet Parijata of Ahobala Pandit. The Parijata is a much more elaborate treatise and strikes the reader as an older treatise than the Prakasha. But until, some conclusive evidence is forthcoming on the point, we may reserve our judgement.

daya deals with his vikṛta swaras in the following verses —

भागवयोदिते मध्ये मेरो कणममंत्तिनः ।
 भागद्वयोत्तरं मेरोः कुर्यात् कोमलरिस्वाम् ॥
 मेरुध्वनयोर्मध्ये तीव्रगांधारमाचरेत् ।
 भागत्रयविशिष्टेरिमत् तीव्रगांधारपद्मजयोः ॥
 पूर्वभागोत्तरं मध्ये म तीव्रतरमाचरेत् ।
 भागत्रयान्विते मध्ये पंचमोत्तरपद्मजयोः ॥
 कोमलो ध्रुवतवः स्थाय पूर्वमणे मनीषिणि ।
 तथैव धसयोर्मध्ये भागत्रयमन्विते ।
 पूर्वभागद्वयादूर्ध्वं निषाद तीव्रमाचरेत् ॥

Translation — If the distance between the meru and the shuddha rishabha be divided into three parts the komal ri will fall at the end of the second part. The tivra gandhara will come exactly between the meru and the shuddha dhaivata. If the distance between the tivra ga and tara sa be divided into three equal parts, the tivratara ma will appear at the end of the first part. If the distance between pa and tara sa be divided into three parts, the komal dhaivata will stand at the end of the first part. If the distance between the dhaivata and the tara sa is divided into three parts, the tivra nishada will come at the end of the second part.

Observation — The placing of the shuddha swaras being satisfactorily effected by the author, it is needless to work out the exact places of his five vikṛta swaras here. It is a purely mathematical calculation.

Hridaya accepts the twelve Thatas of the Raga Tarangini and adds his own Hridayarama to them. But he arranges the Thatas in different groups according to the vikṛta swaras they contain. His classification is as follows —

Group No	मेल नाम
(1)	शुद्धमेल.....(1) भैरवी
(2)	एक विकृतौ द्वौ मेलौ । (a) गांधारैकस्तीव्रतर- (2) कर्णाट (b) ध्रुवतैककोमलः । (3) मृगाग
(3)	द्विविकृतौ द्वौ मेलौ । (a) कोमलर्यमध्रुवतौ (4) तोडी, (b) तीव्रगांधारानीषादौ (5) कंदार
(4)	त्रिविकृताग्रयो मेलौ }

(a) गांधारमध्यमनिपादानां तीव्रतरत्वे ।

(6) इमनः

(b) गांधार धैवतनिपादानां तीव्रतरत्वे ।

(7) मेघ

(c) गांधारमध्यमनिपादानां तीव्रतरत्वे ।

(8) हृदयरमा

(5) चतुर्विकृतास्रयो मेलः ।

(a) तत्र ऋषभधैवतयोः कौमलत्वे

गांधारनिपादयो स्तीव्रतरत्वे । (9) गौरी

(b) गांधारस्यातितीव्रतमत्वे, मध्य-

मधैवतयोस्तीव्रतरत्वे, निपाद-

(10) सारंग

(c) गांधार धैवतमध्यमानां तीव्र-

तरत्वे, निपादस्यकाकलित्वे । (11) पूर्वा

(6) पंचविकृत एक मेलः ।

गमौ तीव्रतरौ यत्र रिधौ कौमलसंज्ञकौ ।

निपादः काकली; पूर्णा धनाश्रीस्तत्र कीर्तिता ॥

(12) धनाश्री ।

दीपक.....Omitted

The author then classifies his janya ragas, under the groups according to their vikritas. In describing the lakshana (distinguishing feature) of each raga, he adds a short string of notes, something like the aroha-avaroha-swarup of the raga which is really very interesting. I have already said that in my Abhinava-raga-manjari, I have imitated this method of raga definition. The manjari deals with the modern Hindusthani ragas and naturally follows the modern raga rules. The janya ragas dealt with in the Prakasha, are the same as those given in the Hridaya Koutuka.

THE SANGEETA PARIJATA

The next treatise we discuss is the Sangita Parijata of Ahobala. It is one of the most remarkable and popular works dealing with the northern or Hindustani system of music. It is a printed book now and a copy of it can be had anywhere at a very small cost. It is the opinion of some of our scholars that Ahobala was originally a southern pandit,

चतस्रः श्रुतयो यस्मिन्नाधिकाः स्युर्यदा स्वरः ॥

अतिर्ताव्रतमाख्यां च प्राप्नोतीति जगृधुधाः ।

स्वरः पश्चान्निवृत्तः श्चेत्कोमलादिभिरीरितः ॥

एकश्रुतिपरित्यागान् स्वरः कोमलसंज्ञकः ।

* श्रुतिद्वयपरित्यागात्पूर्वशब्देन भण्यते ॥

Translation. When a note rises one sruti, it becomes tivra; when it rises two Srutis, it becomes tivra-tara; when it goes up three Srutis, it is called tivra-tama, and when it goes up four Srutis, it is called Ati-tivra-tama. When a note goes back (is lowered by one sruti) it becomes komala. When it is lowered two srutis, it becomes 'purva'.

Observation. This was also the process, described in the three treatises we discussed. Lochana and Hrdaya say nothing about the 'purva' note.

Some of the ancient Sanskrit writers, give fanciful distinctions between the Sruti and the swara. But the distinction between them pointed out by Pandit Ahobala is by far the most reasonable. Ahobala says :—

श्रुतयः स्युः स्वराभिन्नाः श्रावणत्वेन हेतुना ।

अहिकुण्डलिवत्तत्र भेदोक्तिः शास्त्रसंमता ॥

सर्वाश्च श्रुतयस्तत्तद्रागेषु स्वरतां गताः ।

रागाहेतुत्व एतासां श्रुति संज्ञैव संमता ॥

Translation. There is no essential difference between the Sruti and the Swara. Both are sounds capable of being heard. According to the Shastras, the distinction between them is something like that which exists between the snake and its coil, or between gold and the ornaments made out of it. All Srutis are capable of being used as swaras in the various Ragas. Sounds actually used in the Raga become swaras for that Raga. Those not so used remain srutis only.

Observation. He means to say that the swaras of one raga will again become srutis only when the Raga is changed, and a different set of Srutis is selected as Swaras for the new raga. The selection is always to be made from the twenty-two srutis into which the scale is divided. The following chart will show the places and the names of the different Shuddha and Vikrita swaras of the Sangita Parijata.

श्रुति नाम	शुद्ध स्वर स्थान	कोमल विवृत स्वरस्थान	तीव्रविवृतस्वाम्यान
१ तीव्रा			तीव्र निषाद
२ कुमुदती			तीव्रतर निषाद
३ मदा			तीव्रतम निषाद
४ छन्दोवती	षड्ज		
५ दयावती		पूर्व क्रयम	
६ रजनी		कोमल क्रयम	
७ रजिका	क्रयम	पूर्व गांधार	
८ रीदा		कोमल गांधार	तीव्र क्रयम
९ क्रीधी	गांधार		तीव्रतर क्रयम
१० वजिका			तीव्र गांधार
११ प्रमाणिता			तीव्रतर गांधार
१२ प्रीति			तीव्रतम गांधार
१३ मार्जनी	मध्यम		अतितीव्रतम गांधार
१४ क्षिती			तीव्र मध्यम
१५ रता			तीव्रतर मध्यम
१६ मदीपिनी			तीव्रतम मध्यम
१७ आलापिनी	पंचम		
१८ मदती		पूर्व धैवत	
१९ रोहिणी		कोमल धैवत	
२० रम्या	धैवत	पूर्व निषाद	
२१ उमा		कोमल निषाद	तीव्र धैवत
२२ क्षोभिणी	निषाद		तीव्रतर धैवत
१ तीव्रा			
	७ शुद्ध स्वराः	८ कोमल विवृता	१४ तीव्र विवृता. २६ स्वराः

It may be pointed out here that although Ahobala Pandit used twenty-nine swara names in his music system, in the descriptions of his ragas, he never used more than twelve swaras. A reference to the chart will show that many of his vikritas are only different names for the same sounds. He does not make any secret of it. He tells his readers what notes he would not use in his ragas. Thus.

पूर्वकोमलतन्निश्च तथा तीव्रतरेण च ।
अतितीव्रतमेन च सर्वे रागा उदीरिताः ॥
विच पूर्व तथा तीव्र तीव्रतर च गस्वराम् ।

तीव्रतमं तथा गं च मं च तीव्रं स्वरं तथा ॥
मं च तीव्रतमं धं च पूर्वाख्यं तीव्रसंज्ञितम् ।
तीव्रतरं निषादं च तीव्रतमं च निस्वरम् ॥
इत्येतांश्च दश त्यक्त्वा रागलक्षणमीरितम् ।

Translation.—In giving the 'laksanas' (definitions) of the Ragas, I have omitted the use of the following ten swaras :

(१) पूर्वं री (२) तीव्र री (३) तीव्रतर ग (४) तीव्रतम ग (५) तीव्र म (६) तीव्रतम म
(७) पूर्वं ध (८) तीव्र ध (९) तीव्रतर नि (१०) तीव्रतम नि ।

About the remaining twelve vikritas, he further points out.

ऋषभः शुद्ध एवासौ पूर्वं गांधार उच्यते ।
गांधारं शुद्ध एवासौ रिस्तीव्रतर इष्यते ॥
अतितीव्रतमो गः स्थान्मध्यमः शुद्ध एवहि ।
धैवतः शुद्ध एवासौ निषादः पूर्वसंज्ञकः ॥
निषादः शुद्ध एवासौ धस्तीव्रतर इष्यते ॥

Translation.—Shuddha 'ri' is the same as Purva gandhara Shuddha gandhara is no other than tivra-tara 'ri'; ati-tivra-tama 'ga' is shuddha maddhyama itself. Shuddha dhavata is purva nishada. Shuddha nishada and tivra-tara-dhavata are one and the same.

Observation.—He means to say that these ten swara names disclose only five Swaras. Thus we have only seven vikritas left out of the twenty-two. Out of these seven again, Komal 'ga' and Komal 'ni' will have to go out. They correspond with tivra 'ri' and tivra 'dha' respectively which sounds are not to be used in any of the ragas at all. This leaves only five real vikritas. Ahobala thus uses twelve notes only in his raga descriptions.

The method of placing the shuddha and vikrita notes on the sounding wire of the Vina, or in other words the method of expressing the positions of the shuddha and Vikrita Swaras in terms of the lengths of the speaking wire of the vina is exactly the same as that used by Hridaya in his Hridaya Prakasha. We can therefore, safely say that the shuddha and vikrita swaras of Ahobala, are identically the same as those of Hridaya with this exception that Hridaya uses tivra-tara 'ga', tivra-tara 'ni' instead of Ahobala's tivra 'ga' and tivra 'ni'. The verses in which Ahobala describes the placing of his shuddha and vikrita notes are as under:—

ध्यन्यवच्छिन्नवीणायां मध्ये तारकसःस्थितः ।
उभयोः षड्जयोर्मध्ये मध्यमं स्वरमाचरेत् ॥
त्रिभागात्मकवीणायां पंचमः स्यात्तदग्रिमे ।

मपयोः पूर्वभागे च स्थापनीयांस्य रिश्चग, ॥
 षड्जपचमयोर्मध्यं गांधारस्य स्थितिर्मवेत् ।
 मपयोर्मध्यदेशे तु धैवत स्वरात्चरेत् ॥
 तथाशुद्धयमत्याग द्विवादस्य स्थितिर्मवेत् ॥

इति शुद्धस्वराः ।

Then follow verses describing the Vikrita Swaras We need not go into those here All this is found in the Hridaya Prakasha, which we have already considered The shuddha and Vikrita Swaras of the Sangita Parijata may be expressed in comparative vibrational values thus

'sa' 240, 'ri' 270, 'ga' 288, 'ma' 320, pa 360, 'dha' 405
 'ni' 432, 'ga' 480, Komal 'ni' 254 2|17, tivra 'ga' 301 17|43, Tivra
 'ma' 337 1/2, komal 'dha' 381 3|7, tivra 'ni' (301 17|43 X 3|2)

Ahobala does not classify his ragas under any particular Thatas, but his reference to some Thata names here and there is enough to prove that in his time, the method of classifying Ragas under Thatas was common He describes about 122 Ragas in the Parijata In the raga description he mentions in each case the note used in the raga, the aroha and avaroha the Graha and Nyasa and also the Murchana The Murchana in the Parijata is nothing more than the first 'tana' of the 'swara-karana' given under each Raga We shall speak of the Murchana when we examine Srinivasa Pandita's work Raga Tatwa Vibodha Sri Nivasa was a faithful follower of Ahobala

The following Shlokas will give the reader a clear idea as to how Ahobala defines his Ragas in the Sangit Parijata,

शुद्धमेलोद्भवः पूर्णो धैवतादिकमुत्तमः ।
 आग्रेद्दे गनिवर्त्यः स्याद्राग.मैधवनामकः ॥
 आग्नेडितस्वरैर्वृत्तः स्फुरितेन च शोभितः ॥
 इति मैधवः

घमरिममपपधधा । गनिधधपमपमागग
 रिमा । घमरिममगरिगरिपमगरी । निनिध
 मपमगरी । पपमगगिगगगगि ॥

इति स्वरकरणम् ॥

आग्रेद्दे स्थिदीनारयात्पूर्णाशुद्धरवैर्युक्ता ।
 गांधारस्वरपूर्वा स्याद्दुनार्थमिर्मध्यमन्तिष्ठा ॥
 इति धनार्थाः

गमपनिध । रिनिधपम । गमपमगगि ॥

five it is called 'ouduva'. The 'mela' has thus three varieties, or forms. Vikrita swaras also enter the construction of the Mela.

शुद्धसंपूर्णमेलस्य भेद एक उदाहृतः ।
तेत्रैकैकस्वरत्यागात् षाडवः षड्विधो मतः ॥
पंचाधिकदशत्वं हि स्वरद्वयवियोगतः ।

Translation.—Shuddha sampurna mela has only one form. With one note omitted the 'mela' assumes six forms. With two notes omitted, it has fifteen varieties or forms.

Observation.—By dropping ni, dha, pa, ma, ga, re, one at a time, we get six 'shadava' varieties, and by dropping ni, dha; ni, pa; ni, ma; ni, ga; ni, re; dha, pa; dha, ma; dha, ga; dha, ri; pa, ma; etc., two at a time, we get fifteen 'ouduva' varieties.

A Raga is derived from the 'Mela' but has 'aroha' and 'avaroha'. Melas become Ragas themselves, as soon as you give them 'aroha' and 'avaroha'. By applying the principle of 'odavashadava-sampurna' to these arohas and Avarohas we can obtain 484 ragas from each Sampurna Mela. This is in fact the principle on which the Raga system of the Karnatic music is based.

We shall now briefly consider the function of the 'Murchhana' which seems to have played an important part in the production of the Raga. Ancient writers define Murchhana as follows :—

क्रमात्स्वराणां सप्तानामारोहश्चावरोहणम् ।
मूर्छनेत्युच्यते ग्रामद्वये ताः सप्त सप्त च ॥
रत्नाकरे ॥

In the time of Ahobala and Sri Nivasa, however, the definition seems to have undergone a slight modification. These authors define 'Murchhana' thus :—

आरोहश्चावरोहश्च स्वराणां जायते यदा ।
तां मूर्छनां तदा लोक आहुर्ग्रामाध्यां बुधाः ॥
सप्तसंख्यायुतास्ताः स्युस्तासां नामानि वच्यहम् ।
तत्र तूत्तरमंद्रास्यात् षड्जपूर्वकसंभवा ॥
द्वितीया रजनी प्रोक्ता निषादस्वरपूर्विका ।
धैवतादिस्वरोद्भूता तृतीया चोत्तरायता ॥

× × × ×

आरोहश्चावरोहश्च तथैव विकृतेष्वपि ।

मध्यपञ्चममाम्य तदूर्ध्वस्वरमात्रजन् ।
 पूर्वकैकस्वर लक्ष्माममारोहाद्विग्रहताम् ॥
 शुद्धासु यानि नामानि तान्येव प्रिहृतेष्वपि ।
 तथारोहणपूर्वस्य भेदा ज्ञेया मर्नादिभिः ॥

The original 'Murchhana' names were retained for those murchhanas which took all the seven notes. There was only one 'grama' in use in the time of these writers. Ahobala distinctly says —

अथ ग्रामास्यः प्रोक्ता स्वरमदोहरूपिण ।
 पञ्चममध्यमगाधारमहाभिस्त समन्विता ॥
 मूर्धनाधाम्भूताग्ने पञ्चमामक्षिपूतम ।
 गगा ममद्वयालयः ६० ६० पारिजाने ॥
 गाधारमध्यममामात्रप्रयोजनकी मती ।
 गाधारमध्यम ग्रामो यदि भ्रात्रा प्रकल्पितौ ।
 तर्हि तच्छ्रुणु प्रोक्तमर्धागीतरमावत ॥

In the music systems of Ahobala and Sn Nivasa the Mela or Thata was merely a series of notes capable of producing "Ragas".

मेलः स्वरममूढः स्याद्रागव्यजनशक्तिमान् ।

Mela assumed three different forms namely "odava" "shodava" and "sampurna," because it had to produce three definite kinds of ragas. The definition of the Mela says nothing of the Aroha and the Avaroha. A raga necessarily required the aroha and the avaroha. Hence the presence of the murchhana was absolutely necessary for the production of the raga. In fact it stood midway between the mela and the raga. The mela remaining the same, it was quite possible to obtain different Ragas by a mere change of the 'murchhana'. Sn Nivasa says —

पाठेषु च पूर्णेषु मेलेषु कश्चेत् च ।
 आरोहे चारोहे च स्वल्पव्यतिरेकः ।
 मूर्धनाभिदमपदा मन्कदिन्यवधत् ।
 न्यकारिषताः कुत्रिभवनदेनवतिनिदुवः ।
 तागा अत्यन्तिका श्रेया टफुटकनकेविदः ।

These slokas mention various ways of producing Ragas in a Mela of given Swaras. The practical importance of the definition in the actual singing of a Raga will be more clearly understood if we examine one or two raga definitions of Snivasa. In doing so it, it will be useful to know how a raga was sung in the time of the author. The author says —

आदाबुदगृह्यते येन स तानोदग्राहसंज्ञकः ।
 आद्यंतयोश्चानियमस्ताने यत्र प्रजायते ॥
 स्थायी तानः स विज्ञेयो लक्ष्यलक्षणकोविदैः ।
 संचारी तु स विज्ञेयः स्थाय्यागोहविमिश्रितः ॥
 यत्र रागस्य विश्रांतिः समाप्तिद्योतको हि सः ॥

Every Raga had four parts, namely 'udgraha' 'sthayi' 'sanchari', and 'muktayi'. 'Udgraha' was the first part with which the raga 'alapa' was commenced. We shall now examine one or two raga definitions:—

शुद्धमेलोद्भवः पूर्णो धैवतादिकमूर्छनः ।
 आरोहे गनिवर्ज्यः स्याद्रागःसैधवनामकः ॥

Translation.—The raga "Saindhava" is produced from the shud-dha thata. Its murchhana is Dhaivata and it drops the notes gandhara and nishada in the Aroha.

Observation.—What is the function of the Murchhana here, we ask? The answer will be found in the swara-karana given under the definition of the raga. It runs as follows:—

मपम गरिस निधधस । इत्युदग्राहः ।
 धसरि इ० इ०

(This is really the 'murchhana' of dhaivata)

धसरिममगरिपपमगरिरिनीधपमगरिरिगरी
 सनिध धस । इति स्थायी ।

Then comes the third portion of the 'alapa' called 'sanchari', and last comes the 'muktayi'. This shows that in singing a raga practically the murchhana was nothing more than the first member of the Raga alapa. We shall take another example.

आरोहे रिधहीना स्यात्पूर्णा शुद्धस्वरैर्युता ।
 गांधारस्वरपूर्वा स्याद्धनाश्रीर्मध्यमान्तका ॥

Translation.—The Raga "Dhanasri" is produced from the shud-dha swara thata. It drops 'ri' and 'dha' in the 'aroha' its murchhana is "gandharadika". The 'nyasa' or ending note is maddhyama.

Illustration ग म प नि स । रि स नि ध प स । ग म प म ग रि स । ग म प नि प
 नि स रि स नि ध प स । ग म प म प म ग म ग रि स । ग म ग म प नि प नि स ग स म ।

To sum up then, the Mela first laid down the right swaras with the right 'varjya-avarjya' rule for the raga intended to be sung. The

'Murchhana' added the necessary aroha and avaroha, and thus produced the actual raga. The 'alapa' invariably started with the 'murchhana' determining the name of the Raga.

Later on it appears, the distinction between the mela and the Murchhana gradually disappeared and there was no restriction observed as to the 'udgraha' or the start. Murchhana then merely meant perhaps the Aroha and Avaroha of the raga and it always started from the shadja. In the Southern music system, even now, murchhana merely means the aroha and avaroha and nothing more. Its starting point is 'always the same as that of the षड्ज Mela, which therefore coincides with it. In the northern or Hindusthani system of the present day, the term murchhana has lost all its ancient significance. The murchhana coinciding with the mela became indistinguishable from it. The mela directly produces the raga by the process of aroha and avaroha, strangely enough some of our modern Mahomedan professional artists are known to use the term in the sense of a kind of 'gamaka' too. It will not be necessary to go into the raga-adhyaya of the Raga Tatva Vibodh, because there the author borrows the whole of his material from the Sangita Parijata. It is noteworthy that in the time of all these three or four authors that we discussed all music was based on the well-known twelve notes only. Sri Nivas emphatically disallows the use of the remaining ten srutis in the composition of the melas. He says:—

श्रुतयो द्वादशैवात्र स्वस्थानतयोदिताः ।
तथांतवारिता. सर्वा अस्वरस्थानतयादिशेत् ॥
न श्रुतिभ्यस्वरोत्पद्यस्तात्प्राप्तमेलजात् ।
युक्तोद्गाद्युजो रागात्कल्पयंतु मनास्विनः ॥

There were in his time it appears some Pandits, who talked of admitting twenty-four srutis into the scale, and with reference to them he says.—

चतुर्भिरती मरी प्रोर्ता गनी द्वाभ्यांन्यवस्थितौ ।
चतुर्भिः पमथा युक्ता एव श्रुतिविनिर्णयः ॥
अन्याश्च विद्वान् कुर्यात् श्रुतिक्षेत्रविभागतः ।
प्रत्यक्षमानमिदार्थे शास्त्रबोधपटुर्भवेत् ॥
एव चोभयपक्षज्ञानमेलमपुद्गवाः ।
अनता अपि रागाः स्युर्गमकांश्चादमेदतः ॥

He has no quarrel with these theories, but in his own system he never allowed more than twelve srutis in the composition of his melas as Swaras. He probably allowed the other srutis to come in occasionally as graces or ornamental Swaras in special cases.

आदाबुद्गृह्यते येन स तानोद्ग्राहसंज्ञकः
 आद्यंतयोश्चानियमस्ताने यत्र प्रजायते ।
 स्थायी तानः स विज्ञेयो लक्ष्यलक्षणकोवि
 संचारी तु स विज्ञेयः स्थाय्यागोहविमिश्रितः ॥
 यत्र रागस्य विश्रांतिः समाप्तिद्योतको हि सः ॥

Every Raga had four parts, namely 'udgraha' 'sthayi' 'sanchari', and 'muktayi'. 'Udgraha' was the first part with which the raga 'alapa' was commenced. We shall now examine one or two raga definitions :—

शुद्धमेलोद्भवः पूर्णो धैवतादिकमूर्च्छनः ।
 आरोहे गनिवर्त्यः स्याद्रागःसैधवनामकः ॥

Translation.—The raga "Saindhava" is produced from the shud-dha thata. Its murchhana is Dhaivata and it drops the notes gandhara and nishada in the Aroha.

Observation.—What is the function of the Murchhana here, we ask? The answer will be found in the swara-karana given under the definition of the raga. It runs as follows :—

सपम गरिस निधधस । इत्युद्ग्राहः ।
 धसरि इ० इ०

(This is really the 'murchhana' of dhaivata)

धसरिममगरिपिप्पमगरिनिधपमगरिरिगरि
 सनिध धस । इति स्थायी ।

Then comes the third portion of the 'alapa' called 'sanchari', and last comes the 'muktayi'. This shows that in singing a raga practically the murchhana was nothing more than the first member of the Raga alapa. We shall take another example.

आरोहे रिधहीना स्यात्पूर्णा शुद्धस्वरैर्युता ।
 गांधारस्वरपूर्णा स्याद्गनाश्रीर्मध्यमान्तका ॥

Translation.—The Raga "Dhanasri" is produced from the shud-dha swara thata. It drops 'ri' and 'dha' in the 'aroha' its murchhana is "gandharadika". The 'nyasa' or ending note is maddhyama.

Illustration ग म प नि स । रि स नि ध प म । ग म प म ग रि स । ग म प नि प
 नि स रि स नि ध प म । ग म प म प म ग म ग रि स । ग म ग म प नि प नि स ग स म ।

To sum up then, the Mela first laid down the right swaras with the right 'varjya-avarjya' rule for the raga intended to be sung. The

'Murchhana' added the necessary aroha and avaroha, and thus produced the actual raga. The 'alapa' invariably started with the 'murchhana' determining the name of the Raga.

Later on it appears, the distinction between the mela and the Murchhana gradually disappeared and there was no restriction observed as to the 'udgraha' or the start. Murchhana then merely meant perhaps the Aroha and Avaroha of the raga and it always started from the shadja. In the Southern music system, even now, murchhana merely means the aroha and avaroha and nothing more. Its starting point is always the same as that of the पञ्च Mela, which therefore coincides with it. In the northern or Hindusthani system of the present day, the term murchhana has lost all its ancient significance. The murchhana coinciding with the mela became indistinguishable from it. The mela directly produces the raga by the process of aroha and avaroha, strangely enough some of our modern Mahomedan professional artists are known to use the term in the sense of a kind of 'gamaka' too. It will not be necessary to go into the raga-adhyaya of the Raga Tatva Vibodh, because there the author borrows the whole of his material from the Sangita Parijata. It is noteworthy that in the time of all these three or four authors that we discussed all music was based on the well-known twelve notes only. Sri Nivas emphatically disallows the use of the remaining ten srutis in the composition of the melas. He says—

श्रुतयो द्वादशैवात्र स्वरस्थानतयोदिता ।
तथोक्तवारिता. सर्वा अस्वरस्थानतयादिशन् ॥
न श्रुतिस्थस्वरोत्पन्नप्रस्तारप्राप्तमेलजान् ।
युक्तोद्गाहयुजो रागान्कल्पयतु मनास्वन ॥

There were in his time it appears some Pandits, who talked of admitting twenty-four srutis into the scale, and with reference to them he says:—

चतुर्भिस्ती सर्वा प्रोक्ता गना द्वाभ्यामव्यवस्थितौ ।
चतुर्भिः पञ्चधा युक्ता एव श्रुतिविनिर्णयः ॥
अन्याश्च विहितान् कुर्यात् श्रुतिक्षेत्रविभागतः ।
प्रत्यक्षमानभिद्वाये शास्त्रबोधपटुर्भवेत् ॥
एव चोभयपक्षज्ञानमेलमप्युद्भवाः ।
अनता अपि रागाः स्युर्गमकोद्ग्राहमेदतः ॥

He has no quarrel with these theories, but in the ~~the~~ he never allowed more than twelve srutis in the ~~the~~ melas as Swaras. He probably allowed the ~~the~~ occasionally as graces or ornamental Swaras in ~~the~~

SADRAGA — CHANDRODAYA

We shall now take up another group of Sanskrit treatises on Music. This group contains four works and the names of them are (1) Sadraga-Chandrodaya, (2) Raga Mala, (3) Raga Manjari and (4) Nartana-Nirnaya. We shall not discuss the last here, because the swara and raga chapters of that treatise, are the same as in the Raga Mala which we shall consider. The rest of the Nartana-Nirnaya deals with the art of dancing and falls beyond the scope of this paper. The author of the four treatises is Pundarika Vithala. He originally came from that part of India which is known as the Karnatik. It appears he came to the north and first settled in Khandesh. He describes his country and parentage in the concluding verse of the Sadraga Chandrodaya as follows :—

कर्णाटे शैवगंगाभिधनगनिकटे साप्तचूर्नाव्हयो यो ।
 ग्रामस्तत्राग्रजन्यप्रवरसु निकराञ्जामदग्न्योऽस्तिवंशः ॥
 तत्र श्रीविठ्ठलायोऽभवदमितयशास्तद्गुणाख्या तु तस्यै-
 तत्सूनो रागचंद्रोदय इति च भजन् कैरवाणां मुदेऽस्तु ॥

When the Pandit actually wrote his Sadraga-Chandrodaya he was in the service of Faruqui rulers of Khandesh. This appears from the opening verses of the work.

वंशः फारकिभूपतेः सुसरलो भूभारधारक्षमः ।
 श्रीमत् सदगुणिदानशूरविमलक्ष्मापालशाखानिधुत् ।
 विख्यातो भुवि यत्र काव्यरसिकाः सत्कीर्तिवह्नीश्रिताः ।
 चित्रं संचरतीति विश्वमखिलं के वर्णयन्तीतितत् ॥
 तज्जः श्रीबुरहानखान चतुरः कामानुकारी वरः ।
 संगीतादिकलाप्रपूर्णाविमलः साहित्यतेजोमयः ।
 दारिद्र्यांधतमश्च यश्च गुणिनां हंताह्युदारैः करैः ।
 भूसौ फारकिभूपतीश तिलकश्चंद्रश्चिरं राजते ॥
 श्रीमद्दक्षिणादिङ्मुखस्य तिलके श्रीखानिदेशे शुभे ।
 नित्यंभोगवतीव भोगिवसती रम्या सुपर्वादिभिः ।
 अस्ति स्वस्तिकरी नरेंद्रनगरी त्वानेंदवह्नीति या ।
 तत्र श्रीबुरहाणखान नृपतिः संगीतमाकर्णयत् ॥

From these verses it appears that Pundarik Vithala was in the service of King Burhan Khan of Khandesh. Burhan Khan was the son of Taj Khan, the son of Muhammad Khan. Mr. Stanley Lane-Poole, in his work "The Muhammadan Dynasties" at pp. 315 says as follows :—

"Akbar took Burhanpur, the capital of Khandesh and received the homage of its king in 1562 A.D.; but Khandesh was not fully in-

corporated in the Moghul empire until 1599 A D when Ashurgarh fell in a six months' siege "

This enables us to fix the date of Pundarik Pundarika does not leave us in doubt as to his date at all In his Raga Manjan he says,

श्रीमत्कृष्णवशदीपमहाराजाधिराजेश्वरः ।
 तेजःपुञ्जमहाप्रतापनिकेतो मातुः क्षिता राजने ॥
 तस्यामीदृगवतदासतनयो वीराधिवीरेश्वरः ।
 क्षीर्णामडलमंडनं विजयने भुमडलासंडलः ॥
 तस्य द्वौ तनयो प्रभूतविनयो सुरो महाधार्मिकौ ।
 जातौ पतिरघोमजौत्वकरक्षोणोपतेः स्वौ भुजौ ॥
 मिहौ माधवमानपूर्वपदकां संभामदक्षागुर्मा ।
 तेजत्यागमदृष्टदस्तकवितौ श्रीमत्रेभूमेश्वरौ ॥
 अकरानुपधर्मी शक्तधातिमीमां ।
 धार्मिगगलमभ्ये जगनो मध्यमेकः ।
 सकलनृपतिताराचदगुरौ इमी द्वौ ।
 जगति जयनशीलौ माधवमानसिद्धौ ॥

From this it appears that Pundarik was, when he wrote his Raga Manjan, in the service of the two brother princes Man Singh and Madhava Singh who were the feudatories of the Emperor Akbar Pundarik was the contemporary of Akbar (1556-1605) It is possible when Khandesh was annexed about the year 1593, Pundarik lost his appointment and took service at the capital of Madhava Singh

Here a question will arise Was Pundarik a southern or a northern musician? There is no doubt he came originally from a part of the country where the prevailing music system was the Karnatik system It is also true that in all the four books he wrote on Music, the shuddha scale on which he based his system was the Southern Mukhari or Kanakangi scale But a careful study of his books will show that the music which he actually wrote upon was undoubtedly the northern music. In the Sadraga Chandrodhye, we do find the author dealing with Ragas, common to both the systems, but in the Raga Mala and the Raga Manjari, he clearly expounds the music of Upper India We may safely, therefore, count Pundarika among our Northern authorities. His works are most clearly written. His poetry is charming The shuddha scale he adopts in his books may be written thus रा री से (called shuddha ग) म प ध ध (called shuddha नि) म ।

This is the shuddha scale of the southern music even at the present day.

We shall now go into the subject matter of Pundarik Vithal's first book Sadraga Chandrodaya. The author begins by stating his srutis and swaras as follows :

द्वाविंशतिस्तीक्ष्णतराः क्रमेण ।
नादं तु तावच्छ्रुतिर्ता नयति ॥
कंठप्रदेशेऽप्यथ मूर्धदेशे ।
द्वाविंशतिः स्युः श्रुतयस्तथैव ॥
स्वराः श्रुतिभ्यः प्रभवन्ति ते तु ।
षड्जादयः सप्त यथाक्रमेण ॥
वेदाग्निपक्षाधिपयोधिवन्धि ।
पक्षांतिमश्रुत्यधिसंश्रिताः स्युः ॥
षड्जाभिधानस्तवृषभस्ततः स्यात् ।
गांधारको मध्यमपंचमौ च ॥
ततः परं धैवतको निषादः ।
इति स्वराः सप्त मता मुनींद्रैः ॥

The Pandit in these verses accepts the ancient view that there are twenty-two sounds, rising one above the other, available in music and known as srutis. Mandra maddhaya and tara are the three seats of sound. Each of these has twenty two srutis. The distribution of the twenty-two srutis among the seven swaras is the same as that in the case of the ancient writers. The names of the swaras are :

षड्ज, ऋषभ, गांधार, मध्यम, पंचम धैवत, निषाद

Their places among the srutis are not disputed because he accepts the usual rule that :—

चतुःश्रुतुःश्रुतुश्चैव षड्जमध्यमपंचमाः ।
द्वे द्वे निषादगांधारौ त्रिस्त्री ऋषभधैवतौ ॥

The shuddha swara stands as before on the last sruti. We know that all these facts were admitted by Lochana, Hridaya, Ahobala, and Srinivasa too. But it must be remembered that the system adopted by Pundarik has never to be confounded with that of the other four Pandits. The shuddha scale of Pundarik being the Southern, his system will have to be studied independently. The swara names and some of the technical terms will differ from those of the northern system. Thus:

शुद्धाः स्वरा य तु भवन्ति सप्त ।
तज्जान् त्रिकारान् प्रवदामि सप्त ॥

स्तोपान्तिकथु त्यविमथितः स्यात् ।
 षड्जाभिधानो लघुषड्जनामा ॥
 एव मयो स्तो लघुसन्दर्भो ।
 साधारणो गः प्रथमश्रुतिरथः ॥
 तस्य द्वितीयश्रुतिर्गोऽन्तरः स्यात् ।
 षड्जाग्रहस्य प्रथमश्रुतिरथः ॥
 तथा द्वितीयश्रुतिवर्तेमानो ।
 निःकेशिकी काकलिनामथेयः ॥
 स्वस्थानकरथेषु च तेषु नेष्टाः ।
 स्वेषु भेदा विहता मुनीदिः ॥

Translation — There are first of all the seven shudha swaras I shall explain next the seven vikrita swaras. When shadja stands on its penultimate or the third sruti, it is called 'laghu-shadja'. Similarly 'ma' and 'pa' standing on their penultimate srutis would be called laghu-ma' and 'laghu-pa'. When 'ga' stands on the first sruti of 'ma', it is called 'sadharana-ga' and when it stands on the second sruti of 'ma', it is called 'antar-ga'; when nishada stands on the first sruti of 'sa' it is "kaishiki-ni", and when it stands on the second sruti of 'sa', it is called "kakali-ni". When the swaras stand on their proper places or srutis, they are supposed to be shuddha swaras only.

From these verses it will clearly appear that in the music system expounded in the Sadraga Chandrodaya, there will be seven shuddha swaras and seven vikrita swaras. The names of the seven vikrita swaras are as disclosed in the verses, are

(१) लघु षड्ज (२) लघु मध्यम (३) लघु पचम (४) साधारण गंधार (५) अन्तर गंधार
 (६) केशिकिनि (७) काकलीनि.

Their places among the srutis, will enable us to see that they will correspond with our present Hindusthani swaras bearing the following names —

नीचतम नि, तीव्रतम ग, तीव्रतम म, कोमल ग, तीव्र ग, कोमल नि, तीव्र नि.

Our modern komal 'ga' and komal 'ni', as we saw, were the shuddha 'ga' and shuddha 'ni' of Lochana, Hridaya, Ahobala, and Sanivasa, and our shuddha 'ga' and shuddha 'ni', (which we call tivra 'ga' and tivra 'ni') were the tivratara 'ga' 'ni' of those writers.

I have already said that the shuddha scale of the Sadraga Chandrodaya is the same as the shuddha scale of the southern system. We may conveniently compare it with our modern Hindustani shuddha scales and also with the shuddha scale of Lochana, and Ahobala as follows :—

SHUDDHA SWARAS

Pundarika	Hindustani	Lochana	European
(१) शुद्ध षड्ज	शुद्ध षड्ज	शुद्ध षड्ज	C
(२) शुद्ध ऋषभ	कोमल ऋषभ	कोमल ऋषभ	D ⁶
(३) शुद्ध गांधार	तीव्र ऋषभ	शुद्ध ऋषभ	D
(४) शुद्ध मध्यम	शुद्ध मध्यम	शुद्ध मध्यम	F
(५) शुद्ध पंचम	शुद्ध पंचम	शुद्ध पंचम	G
(६) शुद्ध धैवत	कोमल धैवत	कोमल धैवत	A ⁶
(७) शुद्ध निषाद	तीव्र धैवत	शुद्ध धैवत	A
VIKRITA SWARAS			
(१) लघु षड्ज	तीव्रतम निषाद	तीव्रतम निषाद	
(२) लघु मध्यम	तीव्रतम गांधार	तीव्रतम गांधार	
(३) लघु पंचम	तीव्रतम मध्यम	तीव्रतम मध्यम	F
(४) साधारण गांधार	कोमल गांधार	शुद्ध गांधार	E ⁶
(५) अंतर गांधार	तीव्र गांधार	तीव्रतर गांधार	E
(६) कैशिक निषाद	कोमल निषाद	शुद्ध निषाद	B ⁶
(७) काकली निषाद	तीव्र निषाद	तीव्रतर निषाद	B

N. B.—The positions of these swaras will explain themselves better when we examine their places on the vina frets.

The Vina of Pundarika was almost the same as our modern Vina, the wires and frets on both being placed and tuned alike. In the following verses, Pundarika describes the way he tuned the wires of his vina and placed his frets under them :—

लक्ष्यप्रवीणेन विनिर्मितायां ।
सुवीणिकायामुपरि प्रदेयाः ॥
तंत्र्यश्चतस्रोऽथ स एव पार्श्वे ।
ऽधो दक्षिणे तिस्र इमा निवेश्याः ॥
पुरोदितानामुपरिस्थितानां ।
वामप्रदेशाश्रितपूर्वतंत्र्याम् ॥
षड्जं विदध्यादणुमंद्रसंज्ञं ।
द्वितीयतंत्र्यामणुमंद्रपं च ॥
तृतीयतंत्र्यामपि मंद्रषड्जं ।
चतुर्थतंत्र्यामथ मंद्रमाख्यम् ॥
त्रितंत्रिकाणामधराश्रितानां ।

माया तु मध्यस्थितपङ्कजेन ॥
 तंती समानधु निरोधितव्या ।
 द्वितीयिका मद्रकपेन तद्वत् ॥
 तार्तीयिका मद्रकपङ्कजेन ।
 तिस्रोऽक्षरैः स्युः श्रुतिनामधेयाः ॥

This is exactly how our modern musicians tune the wires of their vina. Some of our players put anumandra 'ga' on the first wire in the place of the ancient anumandra 'sa'. The three side wires were then called srutis. We now call them "chikaris". Their tuning is immaterial for our purpose here.

सारीनिवेशनम् । (The placing the frets)
 आद्यानुमद्राक्षयपङ्कजतन्व्या ।
 शुद्धो यथा स्यादृषमस्तथाया ॥
 सारी निवेशयेत् तथा द्वितीया ।
 तन्व्या तथा शुद्धगमिद्विद्वेदोः ॥
 सारी तृतीयापि तथैव तन्व्या ।
 धीयेत् साधारणगस्य त्रिष्वै ॥
 सारी चतुर्थी लघुमध्यमस्य ।
 त्रिष्वै तथा तत्रिकया तथैव ॥
 तन्व्या तथी पञ्चमसारिका च ।
 निर्धीयते शुद्धममाधनाय ॥
 सारी निवेश्या च तथैव षष्ठी ।
 तन्व्या तथैव लघुपाण्डुराय ॥

The purport of these verses can be best followed with the help of the following vina chart

	मद्र	शुद्ध	म	मंद्र	शुद्ध	सा	अनुमन्द्र	प	अनुमन्द्र	सा	तथी	प्रथमा	
(१) सारी	"	लघु	प	"	शुद्ध	कवम	"	शुद्ध	धैवत	"	मद्र	शुद्ध	कवम
(२) "	"	शुद्ध	प	"	शुद्ध	गांधार	"	शुद्ध	निषाद	"	शुद्ध	गांधार	
(३) "	"	शुद्ध	घ	"	साधारण	ग	"	कंसिकनि	"	लघु	म	लघु	मध्यम
(४) "	"	शुद्ध	नि	"	लघु	म	"	लघु	सा	"	शुद्ध	मध्यम	
(५) "	"	कं०	नि	"	शुद्ध	म							
(६) "	"	लघु	सा										

Here a question will naturally be asked — Where are the frets for antara 'ga' and kakali 'ni' which two notes are also recognised by Pundanka among his vikritas? In fact without them, there would be only five vikritas and not seven. The author anticipates the question and answers it thus —

SHUDDHA SWARAS

Pundarika	Hindustani	Lochana	European
(१) शुद्ध षड्ज	शुद्ध षड्ज	शुद्ध षड्ज	C
(२) शुद्ध ऋषभ	कोमल ऋषभ	कोमल ऋषभ	D ⁶
(३) शुद्ध गांधार	तीव्र ऋषभ	शुद्ध ऋषभ	D
(४) शुद्ध मध्यम	शुद्ध मध्यम	शुद्ध मध्यम	F
(५) शुद्ध पंचम	शुद्ध पंचम	शुद्ध पंचम	G
(६) शुद्ध धैवत	कोमल धैवत	कोमल धैवत	A ⁶
(७) शुद्ध निषाद	तीव्र धैवत	शुद्ध धैवत	A
VIKRITA SWARAS			
(१) लघु षड्ज	तीव्रतम निषाद	तीव्रतम निषाद	
(२) लघु मध्यम	तीव्रतम गांधार	तीव्रतम गांधार	
(३) लघु पंचम	तीव्रतम मध्यम	तीव्रतम मध्यम	F
(४) साधारण गांधार	कोमल गांधार	शुद्ध गांधार	E ⁶
(५) अंतर गांधार	तीव्र गांधार	तीव्रतर गांधार	E
(६) कैशिक निषाद	कोमल निषाद	शुद्ध निषाद	B ⁶
(७) काकली निषाद	तीव्र निषाद	तीव्रतर निषाद	B

N. B.—The positions of these swaras will explain themselves better when we examine their places on the vina frets.

The Vina of Pundarika was almost the same as our modern Vina, the wires and frets on both being placed and tuned alike. In the following verses, Pundarika describes the way he tuned the wires of his vina and placed his frets under them :—

लक्ष्यप्रवीणेन विनिर्मितायां ।
सुवीणिकायामुपरि प्रदेयाः ॥
तंयश्चतस्रोऽथ स एव पार्श्वे ।
ऽधो दक्षिणे तिस्र इमा निवेश्याः ॥
पुरोदितानामुपरिस्थितानां ।
वामप्रदेशाश्रितपूर्वतंयाम् ॥
षड्जं विदध्यादणुमंद्रसंज्ञं ।
द्वितीयतंयामणुमंद्रपं च ॥
तृतीयतंयामपि मंद्रषड्जं ।
चतुर्थतंयामथ मंद्रमाख्यम् ॥
त्रितंत्रिकाणामधराश्रितानां ।

माया तु मध्यस्थितपङ्कजैः ॥
 तत्रो समानशु निरोपितव्या ।
 द्वितीयिका मद्रकपेन तद्वत् ॥
 तानीयिका मद्रकपङ्कजैः ॥
 तिद्योद्यमूः स्युः श्रुतिनामधेयाः ॥

This is exactly how our modern musicians tune the wires of their vīna. Some of our players put anumandra 'ga' on the first wire in the place of the ancient anumandra 'sa'. The three side wires were then called srutis. We now call them "chikanis". Their tuning is immaterial for our purpose here.

सारीनिवेशनम् । (The placing the frets)

आघातुमद्राह्यपङ्कजतन्व्या ।
 शुद्धो यथा स्यादृपमस्तथाया ॥
 सारी निवेशयेत् तथा द्वितीया ।
 तन्व्या तथा शुद्धगमिद्विद्वेतोः ॥
 सारी तृतीयापि तथैव तन्व्या ।
 घोषेत साधारणगस्य सिध्यै ॥
 सारी चतुर्थी लघुमध्यमस्य ।
 सिध्यै तथा तंत्रिकया तथैव ॥
 तन्व्या तयो पचमसारिका च ।
 निर्धायते शुद्धममाधनाय ॥
 सारी निवेशया च तथैव षष्ठी ।
 तन्व्या तथैव लघुपाव्हाय ॥

The purport of these verses can be best followed with the help of the following vīna chart

मंद्रमतर्षो चतुर्थी	मद्र सा तर्षी तृतीया अशुमंद्रं प तंषी द्वितीया अशुमद्र सा तर्षी प्रथमा			
(१) सारी	मद्र शुद्ध म	मंद्र शुद्ध सा	अशुमंद्र प	अशुमद्र सा मेरु
(२) "	" लघु प	" शुद्ध ऋषम	" शुद्ध धैवत	" मद्र शुद्ध ऋषम
(३) "	" शुद्ध प	" शुद्ध गांधार	" शुद्ध निषाद	" शुद्ध गांधार
(४) "	" शुद्ध ध	" साधारण ग	" कैतिकानि	" साधारण गांधार
(५) "	" शुद्ध नि	" लघु म	" लघु मा	" लघु मध्यम
(६) "	" कै. नि	" शुद्ध म		" शुद्ध मध्यम
(६) "	" लघु सा			" लघु पचम

Here a question will naturally be asked — Where are the frets for antara 'ga' and kakali 'ni' which two notes are also recognised by Pundanka among his vikritas? In fact without them, there would be only five vikritas and not seven. The author anticipates the question and answers it thus —

चतुर्दशोक्ता ननु पूर्वमेते ।
 स्वरास्ततो द्वादशसंख्यकानाम् ॥
 सारोनिवेशः क्रियते भवद्भिः ।
 कुतोऽन्तरे काकलिनि द्वयोर्न ॥
 अत्रोच्यते काकलिनोऽतरस्य ।
 पक्तौ प्रयुज्ये यदि सारि के द्वे ॥
 संकीर्णभावान्न तदानुकूल्यं ।
 स्याद्वादनेऽतो न कृते पृथग् द्वे ॥
 तयोः समुत्पात्तिरुदीर्यते तु ।
 चेत् प्रस्तुतस्तत्सहितोऽपि रागः ॥
 लघ्वाख्ययोः षड्जमयोश्च सार्यौ ।
 स्यातां यदैकैकशु तेर्विहीनौ ॥
 तदाच काकल्यभिधांतरौ स्तः ।
 किंत्वत्र सूक्ष्मध्वनिभेदविज्ञाः ॥
 लघ्वादिकं सं लघुमध्यमं च ।
 तत्प्रातिनिध्येन वदति लक्ष्ये ॥

He says he deliberately omits these two frets because these frets coming too close to those of 'laghu-sa' and 'laghu-ma' would make play inconvenient. If, however, there are any ragas which require those two notes, those well versed in the shastra of music would allow these two notes to be represented by the higher notes laghu-sa and laghu-ma. The difference of one sruti will not make much of a difference in the general effect of the raga.

Observation.—This also shows that Pundarika was aware of the northern practice of expressing ragas in terms only of twelve notes.

We shall now proceed to the nineteen thatas under which Pundarika classifies his ragas.

तत्राद्यमेलस्तु मुखारिकायाः ।
 ततो भवेन्मालवगौडमेलः ॥
 श्रारागमेलस्तदनंतरं स्यात् ।
 स्याच्छुद्धनट्टाव्हयकस्य मेलः ॥
 देशाक्षिकाया अपि मेलकः स्यात् ।
 कर्णाटिगौडस्य भवेत् सुमेलः ॥
 केदारकाख्यस्य भवेत् सुमेलः ।
 हिजेजमेलोऽपि हर्मारमेलः ॥
 कामोदरागाभिधस्य मेलः ।
 ततः सुतोड्याव्हयकस्य मेलः ॥
 आर्भीरिकायाः सुमतश्च मेलः ।
 मेलो भवेत् शुद्धवराटिकायाः ॥
 स्याच्छुद्ध रामत्रयभिधस्य मेलः ।
 देवक्रियायाश्च भवेत्त मेलः ॥
 सारंगमेलस्तदनंतरं स्यात् ।
 कल्याणमेलस्तु ततः परं स्यात् ॥

हिंदोलरागस्य भवेत्तु मेलः ।
 स्यान्नादरामकयभिधस्य मेलः ॥
 इतीगितास्ते नवचंद्रमस्या ।
 एव परास्तात् कलयतु प्रज्ञाः ॥

These may be written with their respective swaras as follows —

गाय नाम	सा	री	ग	म	प	ध	नि	Hindustani Equivalents
१ मूसारी	सा	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री री म प ध ध सा
२ मालव गौड़	सा	"	लघु म	"	"	शुद्ध	शुद्ध	सा री री म प ध ध सा
३ भी	सा	चतुः श्रुति	साधारण	"	"	चतुः श्रुति	लघु सा	सा री ग म प ध नि सा
४ शुद्ध नाट	सा	त्रिधु.ग	लघु म	"	"	ध्रुति त्रिधु.	केशिक	सा री ग म प ध नि सा
५ देशाक्षी	सा	"	"	"	"	नि	लघु मा	सा ग ग म प ध नि सा
६ कर्णाट गौड़	सा	"	"	"	"	शुद्ध नि	"	सा ग ग म प ध नि सा
७ केदार	सा	शुद्ध ग	"	"	"	"	त्रिधुति	सा ग ग म प ध नि सा
८ हिजेज	सा	शुद्ध	"	"	"	"	"	सा ग ग म प ध नि सा
९ हमाँ	सा	शुद्ध ग	"	"	"	शुद्ध नि	लघु सा	सा री ग म प ध नि सा
१० कामोद	सा	शुद्ध	त्रिधुति	लघु प	"	शुद्ध	केशिक	सा री ग म प ध नि सा
११ तोड़ी	सा	"	साधारण	शुद्ध	"	"	लघु मा	सा री ग म प ध नि सा
१२ आमोरी	सा	शुद्ध ग	"	"	"	"	त्रिधुति	सा री ग म प ध नि सा
१३ शुद्ध वराठी	सा	शुद्ध	शुद्ध	लघु प	"	"	केशिक	सा री ग म प ध नि सा
१४ शुद्ध रामकी	सा	"	लघु म	लघु प	"	"	लघु मा	सा री ग म प ध नि सा
१५ देवकी	सा	"	शुद्ध	लघु प	"	"	"	सा री री म प ध नि सा
१६ सारंग	सा	शुद्ध ग	लघु प	"	"	शुद्ध	शुद्ध	सा री ग म प ध नि सा
१७ कस्याण	सा	"	साधारण	लघु प	"	शुद्ध नि	लघु मा	Doubtful.
१८ हिंदोल	सा	शुद्ध	त्रिधुति	शुद्ध	"	शुद्ध	लघु सा	सा री म म प ध नि सा
१९ नाद रामकी	सा	"	साधारण	"	"	नि	लघु सा	सा री ग म प ध नि सा

*शुद्धो समो शुद्धपनी तथैव लज्जादिको वज्जकपचमो च ।
 पचश्रुतिर्मथ यदा भवेत्तु देवक्रियाया कथितः स मेलः ॥

Pundarika's notes—Hindustani Notes
 शुद्ध रि, शुद्ध ध = कोमल रि, कोमल ध
 चतुःश्रुति रि, चतुःश्रुति ध = तीव्र रि, तीव्र ध
 शुद्ध ग, शुद्ध नि = तीव्र रि, तीव्र ध
 साधारण ग = कोमल ग
 केशिक नि = कोमल नि
 लघु सा, लघु म, लघु प = तीव्र नि, तीव्र ग, तीव्र म

Hindustani Notation signs
 री ग ध नि = कोमल रि, कोमल ग, ध, नि
 म - - - = तीव्र म
 सा - - - = तार सा

जन्यजनक राग व्यवस्था—चंद्रोदये ।

मूल नाम	जन्य रागाः
१ गुमारी	१ गुमारी
२ मालवगौड	१ मालव, २ गौडकृति, ३ गुर्जरी, ४ टफ, ५ पाडी, ६ कुरंजी, ७ बहुली, ८ पूर्वी, ९ रामकी, १० द्रविड गौड, ११ गौडी, १२ बंगाल, १३ आलावरी, १४ पंचम, १५ रेवगुप्ती, १६ प्रथम मंजरी, १७ कर्णाट बंगाल, १८ शुद्ध ललित, १९ शुद्ध गौड, २० देवगांधार, २१ मारवा ।
३ श्रीराग	१ श्रीराग, २ मालवश्री, ३ धनाश्री, ४ भैरवी, ५ सेंधवी ।
४ शुद्धनाट	१ शुद्धनाट ।
५ देशाक्षी	१ देशाक्षी ।
६ कर्णाट गौड	१ कर्णाट, २ तुरुष्कतोडी, ३ शुद्धबंगाल, ४ छायानट, ५ सामंत ।
७ केदार	१ केदार, २ नारायण गौड, ३ वेलावली, ४ शंकराभरण, ५ नटनारायण, ६ मध्यमादि, ७ महार, ८ गौड, ९ सारंगनाट, १० भूपाली, ११, सावेरी, १२ सौराष्ट्री, १३ कामोजी ।
८ हिजेज	१ हिजेज ।
९ हमीरनाट	१ हमीरनाट ।
१० कामोद	१ कामोद ।
११ तोधी	१ तोधी ।
१२ आभीरी	१ आभीरी ।
१३ शुद्धवराठी	१ शुद्धवराठी, २ सामवराठी ।
१४ शुद्धरामकी	१ शुद्धरामकी, २ त्रावणी, ३ देशी, ४ ललित ।
१५ देवकी	१ देवकी ।
१६ सारंग	१ सारंग ।
१७ कल्याण	१ कल्याण ।
१८ हिंदोल	१ हिंदोल ।
१९ नादरामकी	१ नादरामकी ।

We shall not go into the definitions of these Janya Ragas here.

The Hindustani musician will find this classification very interesting. He will find many of his own ragas in the list. Some of these latter seem to have retained their original swaras to this day. The book therefore, is supposed to be of great historical importance.

RAGMALA

This is another treatise by Pundanka Vithala. It deals with the Northern system of Music proper. Here too the author builds up his Raga system on the Southern Shuddha scale

सा री री म प ध ध सा.

We know that was also the shuddha scale of the Sadraga-Chandrodaya. The names of the vikṛta swaras here are not those of the Chandrodaya. The ragas again are divided into three classes, namely 'purusha' ragas, 'stree' ragas, and 'putra' ragas. This is supposed to be the genuine northern style of Raga classification.

After mentioning the three seats of sound 'mandra' madhya and 'tara', Pundank says —

यंनेऽनुमद्रस्थान स्याद्वायुके तदचक्षयत् ।
मद्रादेवितयं स्थान व्यवहारोऽभिधीयते ॥

The sruti is distinguished from the swara in the usual way

इतिः श्रुतिस्ततो लभजातोऽनुरणनध्वनिः ।
माविदासः श्रोतुचितं स्वतो रजयति स्वर ॥

It is worth noting that in the time of Pundanka, as also in that of Hrdaya, Ahobala, and Srinivasa, there was only one 'grama' in use and that was the shadja-grama. All ancient writers were agreed that the shuddha scale commencing with shadja was the shadja-grama. The shadja-grama of Lochana was our modern Kafi thata. Pundanka's shadja-grama was the southern shuddha scale mentioned above. The author accepts the old twenty-two srutis, and their distribution among the swaras.

द्वाविंशतिः प्रातिस्थान सौपानाकारवत् क्रमार् ।

x

x

x

प्रमवन्पुष्पोद्यतराः श्रुतयः धान्यमापतः ॥

रागादिव्यवहाराय तासु सप्त स्वरा स्थिताः ।
वङ्जभ नृपमर्थैव गांधारी मध्यमस्तथा ॥

पचमो धैवतमाथ निवादधेदनुक्रमार् !
तेषां संज्ञाः सरिगमपधनीत्यपरा मताः ॥

वेदाचलाकथ्रुतिषु त्रयोदश्यां श्रुती तथा ।

सप्तदश्यां च विंश्यां च द्वाविंश्यां च श्रुती क्रमार् ॥
पङ्जादीनां स्थितिः श्रोता प्रथमा मरतादिभिः ॥

The word "sthiti" in the last line has to be carefully noted. Pundanka means by it the original or shuddha place of the swara. He uses the word in contradistinction to the word "gati", by which he means the vikṛti of the note. When a swara becomes vikṛta, it leaves its original place or 'sthiti' and moves. Thus the word "gati" happily represents the idea of change. The shuddha scale being southern, the vikṛtis of the swaras will necessarily be the higher "gati" of the

shuddha swara. Each "gati", will be measured by a sruti. For instance, gandhara rising one sruti will be called "trigatika", when it rises two srutis, it will be supposed to have gone up two "gatis" and so forth. The shuddha place of the gandhara, is as we know, two srutis above the shuddha rishabha.

असपाः पूर्वपूर्वास्ते संचरंत्युत्तरोत्तरम् ।

त्रिखिर्गतीस्ते प्रत्येकं याति गश्च चतुर्गतीः ॥

Translation.—All swaras with the exception of sa and pa, will be allowed to rise up to three "gatis" or srutis. The gandhara alone will be permitted to go up to the fourth sruti of the next note maddyama.

यद्यद्रागोपयोगः स्यात्तत्तदिच्छागतिर्भवेत् ।

गन्योर्गती द्वितीये चांतरकाकलिनौ स्मृतौ ॥

पंचम्यष्टादशी षष्ठी तथा चौकोनत्रिंशतिः ।

चतस्रः श्रुतयश्चैता रगाद्यैरप्रयोजकाः ॥

शेषा अष्टादशैव स्युः श्रुतयः स्वरबोधकाः ।

न्यूनाधिकैर्गतीका मंद्रतारस्वरा यदि ।

न रागहानिकाः सर्वे स्पष्टता मध्यसप्तके ॥

Translation.—The use of the "gatis" will naturally depend upon the nature of the raga proposed to be sung or played. The second "gatis" of gandhara and nishada have special names, namely "antar-gandhara" and "kakali-nishada". These names will be used whenever the ga and ni rise two srutis. The srutis fifth, sixth, eighteenth and nineteenth will never be used in any raga at all. Barring these four, the remaining eighteen will be allowed to be so used. The rise or fall by one sruti only in the mandra and tara octaves, could safely be neglected. It will not destroy the general effect of a raga. In the maddhya octave, however, it will be proper to use the prescribed sruti-swara.

Observation.—The srutis five, six, eighteen, and nineteen are barred because in the southern scale, the shuddha ri and shuddha dha are supposed to be the lowest sounds of those notes. Ri and dha when shuddha, are always three sruti notes. No swaras therefore, are allowed between sa and shuddha ri and pa and shuddha dha. The provision in the last verse is intended to avoid the difficulty of having a four sruti note and a three sruti note standing on the same fret of the vina in samvadi relationship. We find a similar provision in the Raga Vibodha of Somnath:

Pundarika being a southern Pandit may have read the Swara Mala Kalamidhi of Ramamatya and the Raga Vibodha of Somnath.

The following chart will show at a glance the places and the names of the shuddha vikrita swaras of the Raga Mala.

श्रुति नाम	शुद्ध स्वर स्थिति	विकृत स्वर गति	प्रस्तुत हिन्दुस्थानी स्वर नाम
१ तीषा	...	एकगतिक नि	<u>कोमल निषाद</u> (Southern कैथिक नि)
२ कुमुदती	...	द्विगतिक नि	<u>तीव्र निषाद</u> (Southern काकली नि)
३ मंदा	...	त्रिगतिक नि	<u>(तीव्रतम नि)</u>
४ कंदोवती	<u>शुद्ध षड्ज</u>	...	<u>शुद्ध षड्ज</u>
५ दयावती	...	...	Not to be used) According to Pun-
६ रजनी	...	...	Not to be used) darka अपयोजकः
७ रतिका	<u>शुद्ध ऋषभ</u>	...	<u>कोमल ऋषभ</u>
८ रौद्री	...	प्रथम एक गतिकरि	
९ क्रोधी	<u>शुद्ध गांधार</u>	द्विगतिक रि	<u>तीव्र ऋषभ</u> (Southern चतु श्रुतिक रि = पञ्चश्रुतिरि)
१० वसिका	...	एकगतिक गांधार	<u>कोमल गांधार</u> " साधारण गांधार)
११ प्रमारिणी	...	द्विगतिक "	<u>तीव्र गांधार</u> " अंतर गांधार)
१२ प्रीति	...	त्रिगतिक "	<u>(तीव्रतम ग)</u>
१३ मार्जनी	<u>शुद्ध मध्यम</u>	चतुर्गतिक "	<u>शुद्ध मध्यम</u>
१४ क्षिति	...	एकगतिक मध्यम	
१५ रत्ना	...	द्विगतिक "	<u>तीव्र म</u>
१६ सदीपिनी	...	त्रिगतिक "	<u>(तीव्रतम म)</u>
१७ आलापिनी	<u>शुद्ध पचम</u>	...	<u>शुद्ध पचम</u>
१८ मदती	Never used	...	
१९ रोहिणी	Never used	...	
२० मया	<u>शुद्ध धैवत</u>	...	<u>कोमल धैवत</u>
२१ उमा	...	एकगतिक ध	
२२ सोमिणी	<u>शुद्ध निषाद</u>	द्विगतिक ध	<u>तीव्र ध</u> (Southern चतुःश्रुः = पञ्चश्रुः ध
१ तीषा	...	एकगतिक नि	<u>कोमल नि</u> " कैथिक नि)
२ कुमुदती	...	द्विगतिक नि	<u>तीव्र नि</u> " काकली नि)
३ मंदा	...	त्रिगतिक नि	<u>(तीव्रतम नि)</u>
४ कंदोवती	<u>शुद्ध षड्ज</u>	...	

N. B.—The notes underlined are the notes of the present Hindustani Music systems.

After explaining the shuddha and vikrita swaras, the author defines the following technical terms, वादी, संवादी, अनुवादी, विवादी, ग्रह, अंश and न्यास as follows:—

चतुर्विधाः स्वरा वादी संवादी च विवाद्यपि ।
 अनुवादीति वादी तु प्रयोगे बहुलः स्वरः ।
 अंशः स्थायीति पर्यायः रागोत्पादनहेतुकः ।
 श्रुतयो द्वादशाष्टौवा ययोरंतरगोचराः ॥
 मिथः संवादिनौ तौ स्तो गत्यादेशचविभागतः ।
 शेषाणामनुवादित्वं ज्ञेयमन्वर्थतः क्रमात् ॥

We have already discussed these terms and need say nothing further about them.

गीतादिनियतमात्रः स्वरो ग्रह इतीरितः ।
 प्रयोगे बहुलोऽंशः स्यान्न्यासो गीतिसमासिकृत् ॥

Translation.—The note which begins a song is called "graha"; the one that ends it is called "nyasa", and the note which is most frequently used in the gita is called "ansha", which is synonymous with the 'vadi' or 'sthayi'. पङ्कः सर्वत्ररागे च ग्रहः। Sa is the 'graha' of every raga. The terms 'graha', ansha, and 'nyasa' had apparently lost their ancient significance in the modern "deshi" sangeeta. Pundarika says in the Chandrodaya :—

न्यासग्रहांशेषु च पूर्णतायां ।
 श्रुतौ तथा पाठव औहुवेऽपि ॥
 सर्वत्र देशीगतरागवृन्दे ।
 श्रीमद्वनूमान् नियमं न व्रजे ॥

RAGA-ADHYAYA

In the Raga-adhyaya of the Raga Mala, Pundarika, first lays down his six 'purusha' ragas, and then gives each of them five 'bharyas', and five 'putras'.

राग नाम	रागभार्याः	पुत्राः
१ शुद्धभैरव	१ धन्वासी, २ भैरवी, ३ सैधवी, ४ मारवी, ५ आसावरी	१ भैरवी, २ शुद्धलितः, ३ पंचम, ४ परज, ५ बंगाल
२ हिंडोल	१ भूपाली, २ वसंती, ३ तोडी, ४ प्रथम-मंजरी, ५ तुरुष्कतोडी	१ वसंत, २ शुद्ध बंगाल, ३ श्याम, ४ सामंत, ५ कामोद
३ देशकार	१ रामक्री, २ बहुली, ३ देशी, ४ जेतश्री, ५ गुर्जरी	१ ललित, २ विभास, ३ सारंग, ४ त्रिवण, ५ कल्याण
४ श्रीराग	१ गौडी, २ पाडी, ३ गुणकरी, ४ शुद्ध-रामक्री, ५ गुंडकी	१ टक, २ देव गांधार, ३ मालव, ४ शुद्ध गौड, ५ कर्णाटबंगाल
५ शुद्धनाट	१ मालवश्री, २ देशाक्षी, ३ देवक्री, ४ मधुमाधवी, ५ अहीरी	१ जिजावंती, २ सालंगनाट, ३ कर्नाट, ४ छायानट, ५ हमीरनाट
६ नटनारायण	१ वेलावली, २ कांचोजी, ३ सावेरी, ४ सुहवी, ५ सौराष्ट्री	१ मल्हार, २ गौड, ३ केदार, ४ शंकरा-भरण ५ बिहागडा

It will be seen that all these raga names are to be found in the modern Hindustani system. Nay, many of the ragas, will be found to have preserved as nearly as possible their old forms. The new time theory of the Hindustani musicians naturally brought in some characteristic changes and made the arrangement of the ragas still more attractive. In describing the thata of each raga in the Raga Mala Pundanka accomplishes two wonderful things. He first gives the swaras of the ragas and then gives the devatatmaka appearance or picture of the raga as also the time for its singing. For instance,

सपोजातोद्भवोऽयं प्रथमगतिगतिः सविशेषः रूपदी ।
 रक्तःश्यामक्षिशुली शिवतःश्वसनो मरुतःइतिनेव ॥
 ऋते श्रुति दधानः श्रवणयुगलतो मुदिचे सन्दभूयो ।
 ईमतेप्रथि प्रमाते विदधति वृषभे मंगलःशुद्धः ॥

Explanation—Here the first line tells us that shuddha-Bhairava drops pa' and n and is प्रथम गतिगति that is it takes the komal ga and komal ni. The rest of the sloka describes the Masodeva who is the presiding deity of the raga.

I shall not go into all the slokas describing all the ragas here but shall write down the first raga Shuddha-Bhairava with its swaras as given in the book. The Raga Mala is a printed book now which can be had for a few annas.

शुद्ध मैत्र	स, इद्व रि, एकगति ग, इद्व म, इद्व प, इद्व व एकगति नि	Explanatory Note
१ धनाधी	स, एकगति रि, एकगति ग, " " एकगतिव एकगतिनि	विपुलति = १
२ मैत्री	स, " " " " " "	नदगति = २
३ वैश्वी	स, " " " " " "	सविगति = ३ कनकगति = ३
४ मारी	स, इद्व री, विगति म, " " इद्व व विगति नि	नदगति = ४
५ कान्तवी	स " " श्रवणगति " " एकगति नि	
<hr/>		
शुद्धमैत्रः		
१ मैत्र	स, इ, री, विगति म, इ, म, इ, प, इ, व, एकगति नि	
२ इद्वगति	स, " श्रवणगति कान्तो : takes all notes of the श्रवणगति	
३ वैश्वी	स, " " " " " "	
४ मारी	स, इ, री, विगति म, इ, म, इ, प, इ, व, विगति नि	इति श्रवणगतिः
५ कान्तवी	स, " " विगति म, " " " विगति नि	

RAGA MANJARI

The third treatise of Pundarika which we consider is the Raga Manjari. In this treatise also the writer sticks to his shuddha scale. The names of shuddha and vikrita swaras, and the method of describing these are the same as those of the Raga Mala. We thus find in the treatise the following verses of the Raga Mala repeated :

वेदाचलांकश्रुतिपुत्रयोदश्यां श्रुतौ ततः ।
 सप्तदश्यां च विश्यां च द्वाविश्यां च श्रुतौ क्रमात् ॥
 षड्जादीनां स्थितिः प्रोक्ता प्रथमा भरतादिभिः ।
 असपाः पूर्वपूर्वस्मात् संचरंत्युत्तरोत्तरमः ॥
 त्रिखिर्गतीस्ते प्रत्येकं याति गश्च चतुर्गतिः ।
 यद्यद्रागोपयोगः स्यात्तत्तदिच्छागतिर्भवेत् ॥

These verses have already been discussed, and we shall not repeat the discussion here. Pundarika adds an explanation in which he compares some of his vikrit swaras with those of the southern system. He says:—

साधारणः कैशिकी चांतरकाकलिनौ यथा ।
 साधारणः कैशिकी द्वौ क्रमाद्गतिगनिक्रमः ॥

Translation.—The notes 'sadharana', 'kaishika', 'antara' and 'kakali', are only the first and the second gatis of gandhar and nishada. What he means is that sadharana and kaishika are the prathama gatis of gandhar and nishad respectively, and the antara and kakali are the second gatis of the same two notes, Sadharana ga corresponding with the prathama gati of ga and kaishika ni being the prathama gati of ni. Antar ga and kakali ni are the second gatis of ga and ni respectively.

ऊर्ध्वखलस्तु गांधारो मध्यमोपरिसंस्थितः ।
 मस्य त्रिगतिभेदाश्च मनुः पक्षांतिको नृपः ॥

Translation.—When the note gandhar rises to its last gati it coincides with the shuddha maddyama. The shuddha maddyama rises through three gatis or shrutis and bears the three names मनु मध्यम, पक्षांतिक मध्यम, and नृप मध्यम, respectively.

These gatis would practically be the sounds of the fourteenth fifteenth and sixteenth srutis.

अथ कैशिकिनौ आद्यौ ऊर्ध्वखलौ द्वितीयकौ ।
 अत्युच्छं खलनामानौ तृतीयगतिकौ रिथौ ॥

Translation.—When ri and dha rise only one sruti each, they become 'kaishika' ri and 'kaishika dha' respectively. When they rise

two srutis, they become ऊर्ध्वस्रुत रि, ऊर्ध्वस्रुत घ. when they rise three srutis, they will be called अन्युर्ध्वस्रुत रि घ respectively

A glance at the Sruti Sward chart of the Raga Mala will show clearly the positions of the swaras of the Raga Manjari also. The definitions of the terms वादी, सवादी, etc., are in no way different to those given in the Raga Mala. All ragas are founded on the shadja-grama alone.

षड्जग्रामाधितान् रगान् सर्वे गायन्ति गायकाः ।

तस्मान्मृत्युतमः षड्जग्राम एव न चापरी ॥

On the question of the murchhanas, नष्टोद्दिष्ट and वर्ण Pundarika simply quotes the verses of Sharangdeva Pandit the author of the Sangeeta Ratnakara. It is to be remarked that none of the writers of the last three or four centuries, say anything useful about the jatis of Sharangdeva and Bharata, which evidently had gone out of use in their time. All music was confined to one grama, namely the shadja-grama, with its own shuddha and vikrita swaras all complete. Thatas were constructed out of these swaras, and these thatas produced their own "janya-ragas". All ragas were based on a system of twelve shuddha and vikrita swaras as a general rule. There were two leading shuddha scales in the country. The northern scale corresponded with our modern kafi scale, and the southern shuddha scale was the modern Kanakangi of the Karnatik system.

Query —When did the Bilawal scale come to be adopted as the shuddha scale of the Hindusthani music system? To this question there is no answer in any of the old Sanskrit treatises.

In the Raga-adhyaya Pundarika begins by laying down twenty thatas for the classification of his Janya-ragas. These thatas are

पुष्पारी सोमरागश्च टोडी गौडी वराटिका ।

केदारः शुद्धघनाटश्च देशाज्ञा देशिकारकः ॥

मारंगारिकन्यालकामोदाश्च दिजेजिकः ।

नादरामकिहिदोली कर्णाटश्च हर्मागः ॥

मालववैशिकीञ्जभ भीरागश्चेलनुकमा ॥

The following chart will give the twenty thatas with their shuddha and vikrita notes. The Hindustani equivalents will make the positions of the notes clear to the modern students.

गाट नाम	सा	री	ग	म	प	ध	नि	हिंदुस्थानी स्वर नाम
१-पुरासी	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री री म प ध ध सां
२-सोमराग	"	"	"	"	"	"	एकगति	सा री री म प ध नि सां
३-तोषी	"	"	एकगति	"	"	"	"	सा री ग म प ध नि सां
४-गौडी	"	"	तृतीय गति	"	"	"	तृतीय गति	सा री ग म प ध नि सां
५-यराडी	"	"	शुद्ध	तृतीय गति	"	"	"	सा री री म प ध नि सां
६-केदार	"	द्वितीय गति	तृतीय गति	शुद्ध	"	द्वितीय गति	"	सा री ग म प ध नि सां
७-सुद्धनाट	"	तृतीय गति	"	"	"	तृतीय गति	"	सा ग ग म प नि नि सां
८-देशाधी	"	"	"	"	"	शुद्ध	"	सा ग ग म प ध नि सां
९-देशिकार	"	शुद्ध	"	तृतीय गति	"	"	"	सा री ग म प ध नि सां
१०-सारंग	"	द्वितीय गति	तृतीय गति	"	"	तृतीय गति	"	सा री म म प नि नि सां
११-आहेरी	"	"	एकगति	शुद्ध	"	शुद्ध	"	सा री ग म प ध नि सां
१२-कल्याण	"	"	तृतीय गति	तृतीय गति	"	"	"	सा री ग म प ध नि सां
१३-कामोद	"	शुद्ध	एकगति	"	"	"	एकगति	सा री ग म प ध नि सां
१४-द्विजेज	"	"	"	शुद्ध	"	"	"	सा री ग म प ध नि सां Do. (In the Raga mala गुणविधुगति नि
१५-नादरामक्री	"	"	"	"	"	"	"	
१६-हिंदोल	"	द्वितीय गति	"	"	"	"	"	सा री ग म प ध नि सां
१७-कर्णाट	"	"	तृतीय गति	"	"	तृतीय गति	तृतीय गति	सा री ग म प नि नि सां
१८-हंसीर	"	"	"	"	"	शुद्ध	"	सा री ग म प ध नि सां
१९-मालव कै०	"	एकगति	एकगति	"	"	एकगति	एकगति	सा री ग म प ध नि सां
२०-श्रीराग	"	"	तृतीय गति	"	"	"	"	सा री ग म प ध नि सां

मेल नाम	जन्य रागाः
१ मुखारी	१ मुखारी
२ सोमराग	१ सोमराग
३ गौडी	१ गौडी २ कर्णाटमगाल ३ गुर्जरी ४ बहुली ५ आमावरी ६ रामवल्ली, ७ मारु, ८ टक ९ गुणकरी १० शुद्धललित ११ पचम १२ पटमंजरी १३ मालवगौड
४ टोडी	१ टोडी २ शुद्धमैत्र
५ वराटी	१ ययामवराटी २ शुद्धवराटी
६ केदार	१ केदार २ गौड ३ मङ्गार ४ नट नारायण ५ बंलावली ६ भूपाली ७ कांबोजी ८ मधुमाधवी ९ शंकरामरण १० सावेरी ११ सुहवी १२ नागायणी १३ केदारनाट
७ शुद्धनाट	१ शुद्धनाट
८ देशाक्षी	१ देशाक्षी
९ देशकार	१ देशकार २ चावणी ३ देशी ४ ललित ५ दीपक ६ विभाम
१० सारंग	१ सारंग
११ आह्वरी	१ आह्वरी
१२ कल्याण	१ कल्याण
१३ कामोद	१ कामोद
१४ हिजेज	१ हिजेज २ अपरमैरव
१५ नादरामकी	१ नादरामकी
१६ हिंदोल	१ हिंदोल २ वमत
१७ कर्नाट	१ कर्णाट २ सामत ३ सौराष्ट्री ४ अयानट ५ शुद्धमगाल ६ तुक्कतोडी
१८ हमीर	१ हमीर
१९ मालव कै.	१ मालवकैशिक २ मालवक्षी ३ धन्यामी ४ सैधवा ५ देवगांधार
२० भी	१ भीराग

This list will no doubt be of great interest to the student of the Indian system of music

Towards the end of the book, Pundarika takes note of a few Persian ragas which he perhaps found introduced into the Hindustani system by the Mohamedan musicians.

अन्येऽपि पार्सिकेया रागाः परदनामकाः ।
 संपूर्णाः सर्वगमकाः काकरूपंतरिता सदाः ॥
 रक्ष्या देवगांधार कानरच निशावरः ।
 सारंगे माहुरे नाम जंगूलोऽथ बंगालके ॥
 देश्यामाहंगके नाम त्रास मल्हाररागके ।
 फेदोरेऽपि च सूद्धाथ धनास्या च इरायिका ॥
 जिजावर्या च हासेनी मालवे मुसलीककः
 कल्याणे यमनं गायेत् सर्पदोऽथ विलावले ॥
 देशिकारे चाम्परेजः आसावर्या हिजेजकः ।
 देवगिर्या मुशकार्य एवमन्येऽपि योजयेत् ॥

Pundarika has no doubt done a great service to the music scholar by giving these Persian melodies with their Indian equivalents. Possibly, the locative case termination of the Indian rāga name is intended to show that the Persian melody is not exactly the same as the Indian but that the two are founded on the same scale.

RASA-KAUMUDI

The author describes his place of residence and patron as follows :

स्वातो दिव्यकुलेऽभवद्गुणनिधिर्विश्रामो मगलः ।
श्रीमद्विष्णुपदारविन्दयुगले मत्तस्तदीयारमजः ॥
काव्यं काव्यकलाकलापकुशलः श्रीकण्ठनामा कविः ।
कुर्वेऽहं रमकौमुदीति निपुण- सगीतमाहितयोः ॥
द्वारावलाः सर्मापे नवनगरपुरे समापतिः पूर्वभागे ।
जामधीःशत्रुशत्रुः सकलजनमनोरञ्जकः पुण्यराशिः ॥
श्रीकण्ठस्तत्समायां कविरमलमतिर्विषते विप्रवर्यः ।
तेन प्रौढप्रमेयश्रुतिकरसुमगं रम्यते काव्यमेतत् ॥

from this it would appear that the author's name was Sri Kantha, and the book was written while he was in the service of the Jam Saheb of Nawa Nagar, a town near the well-known sacred city of Dwara

The General Arrangement of the Work.

The book is first divided into two khandas or parts. Each of these again contains five adhyayas or chapters. The first khandā with which we are concerned is called the Sangeet khandā, and the second deals with Sahitya or rhetoric. The contents of the first chapter of the first khandā are described in the following slokas

सगीतं प्रथमं तस्मात् पूर्वखंडे निगद्यते ।
साहित्यसुचरे खंडे ग्रन्थस्यास्य क्रमो भवेत् ॥
अध्यायेर्दशभिर्विभूषिततनुः सङ्घट्टयेनोज्ज्वला ।
स्वच्छन्द रसकौमुदी विजयते विद्वन्मनोरजिनी ॥
अध्यायैः किल पञ्चभिर्विचरित तत्रापखंडं परम् ।
सङ्घट्टयेन्नेव नव्यरचना साहित्यमर्दापकम् ॥
अध्याये प्रथमे तत्र चक्राणि नादमभ्रः ।
स्थानानि श्रुतयः शुद्धाः स्वराः सप्त विकारदाः ॥

वाचादिभेदाधत्वागे मार्गो तद्वृत्तमूर्च्छनाः ।
 शुद्धकूटमिधास्तानाः प्रस्तारसङ्घसंख्यया ॥
 नष्टोद्दिष्टं महाबाध वर्णोऽलंकारसंग्रहः ।
 वर्ण्यते फलशर्धेते गीतशास्त्रप्रमाणतः ॥

This is the usual पदार्थसंग्रह of the Swaradhyaya of all ancient Sanskrit writers.

The author then deals with the different subjects mentioned in the last slokas in their order. We need not go into these details because there he borrows everything from older authors but puts the thing in his own way. The description of the sruti for instance is nothing more than a paraphrase of the Naradi Shiksha definition. The placing of the swaras again on the srutis is the same as that of the ancient writers. Thus :

स्वोपात्यश्रुतिसंस्थास्ते षड्जमग्यमपंचमाः ।
 भरतादिभिराचार्यैश्च्युतपूर्वमिधा मताः ॥
 साधारणमिधा गच्छेद्गो माघश्रुतिगो यदि ।
 अंतराख्या ततो याति द्वितीयश्रुतिसंस्थितः ॥
 षड्जस्याप श्रुतिगतो निषादःकेशिकी मतः ।
 वर्तमानो द्वितीयाया काफला स निगद्यते ॥
 स्वरास्ते मिलिताः सर्वे चतुर्दश भवन्ति ते ॥
 नो दृश्यन्ते यथा मार्गो मीनानां जलचारिणां ।
 यथा व्योम्नि विहंगानां तथा स्वरगता श्रुतिः ॥

The only wonder is that the author does not find any difficulty in reconciling the definition of the sruti with the description of the swaras. Sri Kantha evidently recognises seven shuddha and seven vikrita swaras which he describes in the above slokas. His swaras may be compared with the modern Hindusthani swaras as follows :

Shri Kantha's swaras		Hindusthani swaras	
१ शुद्ध सा	१ शुद्ध सा.
२ शुद्ध री	२ कोमल री.
३ शुद्ध ग	३ तीव्र री.
४ साधारण ग	४ कोमल ग.
५ अंतर ग	५ तीव्र ग.
६ उपात्य or पतम	६ तीव्रतम ग.
७ षड्ज म	७ शुद्ध म.

८ उचात्यप or पतप	...	...	८ तीव्र म.
९ शुद्ध प	...	...	९ शुद्ध प.
१० शुद्ध ध	...	...	१० कोमल ध.
११ शुद्ध नि	...	...	११ तीव्र ध.
१२ कैशिक नि	...	...	१२ कोमल नि.
१३ काकली नि	...	...	१३ तीव्र नि.
१४ उचात्य सा-पतमा	...	...	१४ तीव्रतम नि.

The ancient gramas are disposed off thus

षड्जमप्यमयोर्मध्ये षड्जस्य मुख्यता मवेत् ।
 आपत्वादविलीयित्वापथार्थवचनान्मुनेः ॥
 षड्जमप्यमजातानां मूर्च्छनानां परस्परम् ।
 किञ्चिद्विशेषत्वादिकृत्वमुक्तवान् दतिलः स्फुटम् ॥
 तस्मात्त मेनिरे ग्रामं मप्यम गुरवो मम ॥

Whatever his reason we see that he recognises only one grama namely the shadja grama. On the subject of murchhana, tana, alankara and prastara, he has hardly anything new to tell us. There is no evidence to show that he understood clearly the functions of the ancient gramas and murchhanas. Then comes the Raga Adhyaya. All music was based on twelve notes, as in the case of the other writers

अथ रागविवेकाख्ये द्वितीये वर्णने क्रमात् ।
 रागस्तुतिस्तु वीणायाः प्रशसा तदनतरम् ॥
 स्वराणां स्थापनं चैव मेदो वादनसंभवः ।
 विवेकश्चैव रागाणां स्थानानि गमकादयः ॥

In the Raga Adhyaya, he describes the Vina in full detail. The wires were tuned as follows :

ऊर्ध्वतंत्रीषु या वामे तस्यां तमनुमद्रकम् ।
 पचमं चानुमद्राख्य द्वितीयायां निवेशयेत् ।
 मद्रश्जं तृतीयायां चतुर्थ्यां मद्रमप्यमम् ॥

This arrangement exactly tallies with that of Rama-Amatya and Somnath as will be seen later on. But Pundarika, tuned his wires in the same way. The placing of the frets is described in the following verses (Vide Pundarika's Vina Chart).

सार्गनिवेशनं युक्तया क्रमतः प्रतिपद्यते ।

अनुमंद्रगतंन्यायां शुद्धो रिःस्याद्यथा तथा ॥

निवेश्या प्रथमा सारी, तथा तन्त्र्या द्वितीयिका ।

शुद्धगाधारमिध्यर्थं, तथा तन्त्र्या तृतीयिका ॥

साधारणाख्यगाधारमिध्यये क्रमशस्ततः ।

स्याद्यन्त्र्यैव तुर्यापि श्रुतमध्यमहंतवे ॥

शुद्धमध्यममिध्यर्थं सारिका पंचमां तथा ।

तन्त्र्या तथा पुनः षष्ठा पतपंचमसिध्यये ॥

शेषामिध प्रितन्त्र्याभिरुक्तसारीषु ये स्वराः ।

वर्ण्यन्ते ते क्रमेणैव श्रुणा मे यथादिताः ॥

पंचमेनानुमंद्रेण या तन्त्र्या समुपाधिता ।

तथा द्वितीयया तन्त्र्या जायते शुद्धधैवतः ॥

ततः शुद्धनिषादारुयां निषादः कैशिकी पुनः ।

तत्पुस्तान् पतः पङ्कजः शुद्धपङ्कजस्ततः परम् ॥

तत्पञ्चाक्षरमः शुद्धः पङ्कजे गदिताः स्वराः ।

जाती द्वितीयया तन्त्र्या विशुद्धौ यौ सगी स्वरौ ॥

स्थाप्यौ नैव प्रयोगे तौ यतस्तन्त्र्या तृतीयया ।

जायते तौ पुनर्मंद्रौ शुद्धौ धीणाविदोदितौ ॥

एतेऽनुमंद्रजाः प्रोक्ताः कथ्यन्ते मंद्रजाः क्रमात् ।

तन्त्र्या तृतीयया मंद्रस्तस्य सारीषु तास्त्रपि ॥

तथैव स्युः क्रमादिते स्वरा जनमनोहसः ।

तत्र तापतया तन्त्र्या विशुद्धमध्यमो भवेत् ॥

पतपंचमकः पञ्चाक्षरप्रयोगौ पुनः स्वरौ ।

संजायन्ते यतस्तन्त्र्या चतुर्णामिति निर्णयः ॥

चतुर्ण्यपि पुनस्तन्त्र्या मंद्रमध्यमयुक्तया ।

पङ्कज तास्त्रपि सारीषु भवेयुः क्रमशः स्वराः ॥

पतपः प्रथमः शुद्धपंचमस्तदनंतरम् ।

शुद्धोधः शुद्धनिः पञ्चाक्षरनिषादःकैशिकी ततः ॥

पङ्कजः पतादिरित्येते प्रोक्ता मन्द्रस्वरा मया ।

पुरोदितासु सारीषु तन्त्र्यामिश्र चतसृभिः ॥

अनुमंद्रास्तथा मंद्राः प्रोदिष्टास्ते स्वयं भुवः ।

स्त्रीयकल्पनया प्रोक्ताः प्रामाण्यं तेषु विद्यते ॥

गुरुणा मे यथोद्दिष्टा वीणायां सुप्रपंचिताः ।
 अत एवान्यथा कर्तुं भुवि कं भवति क्षमः ॥
 सबादिनीं स्वरीं योज्यी सर्वत्रापि परस्परम् ।
 मध्ये तारेप्रतितांस्त्रिपि योजनीया यथाक्रमम् ॥
 अंतरे कथिना नैव सारी काकलिनि स्वरे ।
 सांकर्यं जायते यस्मात्मानुकृत्य भवेत्ततः ॥
 अंतरस्य स्वरस्यापि सूक्ष्मः काकलिनो ध्वनिः ।
 विचार्यो विह्वल्येण पतादिषड्जमण्ययोः ॥
 पतादि समयोः सामावकैकध्रुतिवर्जितौ ।
 अतर.काकलीं स्यातां तयोःप्रतिनिधी च तौ ॥

These verses clearly show that Sri Kantha had read the southern authorities Swara Melā Kalanidhi and Raga Vibodha.

The प्रतिनिधि theory by which "antar" and "kakali" notes were represented by च्युत or पत ma and च्युत or पत sa, was known to Sri Kantha, and he mentions it in his work. In the southern music system of the present day, the notes antar and kakali represent च्युत ma and च्युत sa.

The shuddha thāta of Sri Kantha is Mukhari which coincides with the southern shuddha scale. The author says :

यत्र शुद्धस्वराः सप्त भवेद्युधितरजकाः ।
 स स्यान्मुखारिका मेलः सजातीयो भवत्यतः ॥

He finds the shuddha scale, चित्तरजक but the Mukhari raga from it, he did not find so easy apparently.

सन्यासांशमहा पूर्णं मुखागी गीयते सदा ।
 कतिचिद्भ्रमकैर्दुक्ता कष्टसाध्या सुषुदिभिः ॥

The importance of remembering the देवतारूप रूप or picture of the raga, is mentioned as under.

ध्यानं विना रागममूहयेत ।
 गायन्ति रागेऽनिपुणा जना ये ॥
 सगीतशास्त्रोक्तकलानि रागाः ।
 तेभ्यः प्रयच्छन्ति कदापि नैव ॥

Chart showing the nine thatas of Shrikantha with their Swaras:—

थाट नाम	स्वराः	हिंदुस्थानि स्वराः
१ मालव गौड	सा री ग म प ध नी सा, रीशब्द, पतम, शुद्धम, शुद्धप, शुद्धध, पतसा	सा री ग म प ध नि सा
२ थी	सा, चतुश्रुतिरी, साधारणग, शुद्धम, शुद्धप, चतुःश्रुतिध, कैशिकानि	सा री ग म प ध नि सा
३ शुद्ध नाट	सा, त्रिश्रुतिग, पतम, शुद्धम, शुद्धप, त्रिश्रुतिनि, पतसा	सा ग ग म प नि नि सा
४ कर्णाट गौड	सा, शुद्धग, पतम, शुद्धम, शुद्धप, शुद्धनि, कैशिकानि	सा री ग म प ध नि सा
५ केदार	सा, शुद्धग, पतम, शुद्धम, शुद्धप, शुद्धनि, पतसा	सा री ग म प ध नि सा
६ महार	सा, शुद्धग, पतम, शुद्धम, शुद्धप, त्रिश्रुतिनि पतसा	सा री ग म प नि नि सा
७ देशाक्षी	सा, त्रिश्रुतिग, पतम, शुद्धम, शुद्धप, शुद्धनि, पतसा	सा ग ग म प ध नि सा
८ कल्याण	सा, शुद्धग, साधारणग, पतप, शुद्धप, शुद्धनि, पतसा	सा री ग म प ध नि सा
९ सारंग	सा, शुद्धग, { शुद्धम, शुद्धप, कैशिकानि, पतसा पतप.	सा री म म प नि नि सा विशुद्धौषडजगांधारौ तथा मध्यमपंचमौ पताघौच समौ (समौ?) यत्र नियादः कैशिकी पुनः

मेल	जन्य जनक राग व्यवस्था
१ मालव गौड	१ मालव गौड २ सौराष्ट्र ३ गुजरी ४ मल्हारी ५ बहली ६ पाडी ७ गौडपंचम ८ भैरव ९ कर्णाट वंगाल (१०) ललित (११) गौडी. This is the भैरव थाट of Hindustani Music.
२ थी	१ थी २ मालवथी ३ घनाक्षी ४ भैरवी ५ देवगांधार. This is the Nor- thern Kaphi Thata.
३ शुद्ध नाट	१ शुद्ध नाट.
४ कर्णाट गौड	१ कर्णाट गौड. This Thata will correspond with the Nor- thern Khamaj.
५ केदार	१ बिलावली २ नटनारायण ३ शंकराभरण. This is the Hindustani Bilawal Thata.
६ महार	१ गौड मल्हार २ कामोद.
७ देशाक्षी	१ देशाक्षी.
८ कल्याण	१ कामोद २ हमार.
९ सारंग	१ सारंग.

Explanatory Notes

शुद्ध री & शुद्ध ध	Northern	कोमल री & कोमल ध
शुद्ध ग & शुद्ध नि	,,	तीव्र री & तीव्र ध
साधारण ग & कैशिक नि	,,	कोमल ग & कोमल नि
पतसा, पतम & पतप		तीव्रतम नि, तीव्रतम ग & तीव्रतम म
विधुति ग & विधुती नि		कोमल ग & कोमल नि

After dealing with the Raga the author proceeds to some matters of general interest.

रागास्ते त्रिविधाः प्रोक्ताः शुद्धञ्जायालगास्ततः ।
 सकीर्णाश्च पृथक् तेषां लक्षणं प्रनिपद्यते ॥
 अन्ये रागैर्नयुक्तास्ते रागाः शुद्धाः प्रकीर्तिताः
 जायालगा मताः प्राज्ञैः पररक्तियुताश्च ये ॥
 द्वयो रक्तियुता ये तु सकीर्णास्ते निरूपिताः ।

The author does not say which Ragas come under each of these classes and why.

The Qualifications of male and female Singers are mentioned as follows:—

नानारागकलाकलापकुशला विधाधरेणोज्वलाः ।
 गानिन्योऽखिलगीतवापनिपुणास्ताले हि दक्षा लये ।
 रम्याः कोकिलकंठमञ्जुलतरन्वानाः प्रगल्भा रसे ।
 साक्षात् कामजयधियः सदसिताः शोभां परां हन्वते ।
 चक्षुत्पानिपरिस्फुटम्भिलसःकेयूरमामान्विताः ।
 बीणावादनचातुरीचयधमकारैः समामोहिनी ।
 श्रीसंदागरुकेसरोम्बलसंस्त्यन्तमास्वत्तनुः ।
 कौशेयावरंजितातिमधुरा गाने रता गायिनी ॥
 विश्वानालापदक्षो गमकलयकलाकाकुबिज्ञोऽतिधरोऽ ।
 नन्योत्की दोषरिक्तः सकलजनमनोरञ्जकः सावधानः ।
 शुद्धञ्जायालगङ्गः भ्रमरहिततनुः कोकिलप्रस्यकंठः ।
 ताडामिहो महङ्गः सुभुवि निगदिते गायकानां वरेण्यः ।

The different classes of Singers are described in the following Shlokas:—

एतं यो शिक्षते गीतं विश्वमं प्राञ्जलं तथा ।
 शुद्धे वा सलगे सम्यक् शिक्षकारः स उच्यते ॥
 सुधाम्यं गीतमाकर्ष्यं यो भवेत्पुलकान्वितः ।
 सानंदोऽभूमिराकीर्णो रसिको गायकः रमृतः ॥

नारसं सरसं कुर्वन् निर्मावं भावसंयुतं ।
 सान्वा श्रोतुरभिप्रायं यो गायेन् सतु भावुकः ॥
 मनोहरति गीतेन विदित्वा श्रोतुराक्षयम् ।
 रंगं गीते विधत्ते यो रंजकः सोऽभिधीयते ॥
 यथा शास्त्रप्रयोगेण मार्गं दर्शयिष्ये च ।
 यो गायति प्रियाक्षेमान् कथ्यतेऽसौ क्रियापरः ॥
 स्वरो वर्णश्च तालश्च स्पष्टं वाटयति स्वयं ।
 सुन्दरश्चनिसंयुक्तः सुघटं तं प्रचक्षते ॥
 गीतादिषु द्विधा लसिं कुर्यात् सौख्यविधायिनीं ।
 आलापगायकः सोऽयं निर्दिष्टो गीतवेदिभिः ॥
 आलप्तेरपि यद्गीतं भवेदतिगनोहरं ।
 उक्तो गायकमेदं सौऽयं रूपगायकः ॥
 नानाविधं विमत्तं च ध्वनो यस्य भवेद्गतम् ।
 निबंधः सतु विज्ञेयो गीततत्त्वाविचक्षणैः ॥
 रागे रागांतरच्छायां मिथ्येद्योपवर्जितः ।
 प्रवीणत्वेन सगायन् बुधैर्मिथ उदाहृतः ॥
 गायकदोषाः ।
 रसानुरूपरागाणामक्षत्वमविदग्धता ।
 प्राप्योक्तिरपशब्दश्च प्रबंधज्ञानहीनता ॥
 विविधकाकुमेदाः ।
 श्रुतिमानाधिकतया रागे स्वरस्य कुत्रचित् ।
 छाया या दृश्यते तां तु स्वरच्छायां जगुर्बुधाः ॥
 या रागस्य निजच्छाया रागच्छायां तु तां विदुः ।
 रागे रागांतरच्छायां सैव स्यादन्यरागजा ॥
 रागस्योत्पत्तिभूक्षेत्रं शरीरं जगदुर्बुधाः ।
 तस्यैवानुकृतित्वाच्च क्षेत्रच्छायेति सा मता ॥
 बीणावंशादियंत्रोत्था वंशच्छाया स्मृता बुधैः ।
 देशच्छायोत्थिता रागे देशच्छायोच्यते बुधैः ॥

Shrikantha then describes the old स्वरस्थान चतुष्टय of the ancient writers and adds:—

सर्वगीतप्रबंधानामादावालासिरिप्यते ।
 आलसिः सा द्विधा प्रोक्ता विषमा सरला तथा ॥
 साक्षरा नाक्षरा सापि चतुर्धा भिद्यते ततः ।
 सतालतालभेदेन चतुर्धाप्यष्टधा ततः ॥

It is quite possible that Shrikantha like Pundarika Vithala came from the Southern Presidency and then settled in Kathiawar:—

The Works of Bhava Bhatta Pandit

We shall now proceed to consider the three works of Pandit Bhavabhatta, namely Anupa Sangita Vilas, Anupa Ratnakara, and Anupankusha. Bhavabhatta was in the service of the Rathod Rajput King Anupa Singh, the son of Karan Singh of Bikaner. Anupa Singh was a contemporary of the Emperor Aurangzeb. Bhavabhatta's father, Janardan Bhatta was in the service of the Emperor Shah Jehan, the great Mogul-Emperor of Delhi. It is quite possible that during the reign of Aurangzeb, who was not over fond of music, the Court musicians of Shah Jehan, got scattered and Janardan Bhatta or his son Bhava Bhatta took service at Bikaner. Bhava Bhatta in his Anupa Vilasa, mentions his family and residence as follows —

वृताजलीपुटो भूत्वा नमस्कृत्य द्विजोत्तमान् ।
 सबहुमानमाहूय प्रस्थापितः स्वदाक्षिणे ॥
 ततः पप्रच्छ त राजा नामगोत्रकुलानि च ।
 क्षण विमृश्य तन्मूर्ध्नि मूने मावः सविस्तरम् ॥
 कृष्णात्रगोत्रसमूहं कुलमाभीरदेशजम् ।
 पुरघवलमित्याहुः प्रपिता तानमदृकः ॥
 पिता जनार्दनः साक्षाज्जनार्दन इवापरः ।
 मातुः स्वप्नमवा नाम मावेऽमुक्त स्वपूर्वजेः ॥
 विकारो मानसो मावः पदवी महसंज्ञिका ।
 महः पूज्ये स्मृतः कोशे श्रीमदमरकोशके ॥
 तेनेद मावमष्टेति कीर्तितं शास्त्रममवम् ।
 तीर्थत्रिकं तु संगीतं सगीती तस्य उप्यते ॥
 पनश्यामेन चातुष्टुप्चक्रवर्तीति कीर्तितम् ।
 श्रीमत्साहिजहाभूपतिलकोद्भूतमातुना ॥
 श्रीमन्साहिजहाभूपदत्त रायपदे ततः ।
 श्रीमावमहसंगीतरायानुष्टुप्चक्रवर्ती ॥
 एवं नापेद जाते श्रीमदनुपविमो मम ।

It would thus appear that the poet was born in Dhavalpur in the Abhir district, (Malwa). He was a Brahmin by caste and his gotra was Krishnatra. His mother's name was Swapnabhava and his father's name was Janardan Bhatta. Janardan Bhatta was given by the Emperor Shah Jehan, the title of Sangeeta Raj. According to research scholars, Anupa Singh ruled in Bikaner from 1674 A. D. to 1709 A. D. Bhava Bhatta's own title was "Anushtupa-Chakravarti-Sangeeta-Raj." The whole material of the Swaraadhyaya of Anupa Vilas has been borrowed from the Sangeeta Ratnakara of Sharang Deva. The author does not give us the impression that he clearly followed the theories of

the Ratnakara. He quotes from several other treatises both anterior and subsequent to the Ratnakar. It is said by some of our modern scholars that Pandit Bhava is more of a compiler than an original author. To some extent, I think they are right. In the Anupa Vilas, the author, after describing "Nada" and "Sangeeta" in the usual way, copies the whole of the पिंडोत्पत्तिप्रकरण from the Ratnakara, under the name शरीरभावप्रकाश. Next he deals with the theory of the productions of 'Nada'. Then comes the description of the 22 srutis and the swaras based on them. He brings in a lot of unnecessary detail from the commentary of Kallinath too, on the sruti-svara, Prakarana. Srutis are divided into two classes "gatraja", and "yantraja".

कैश्चिदन्यानि नामानि श्रुतीनां कथितानि तु ।

तन्मते गात्रजाश्चोर्ध्वं यंत्रजाश्चापरा मताः ॥

The usual तीव्रा, कुमुद्वती, मंदा, छंदोवती । and others are the 'गात्रज' Shrutis; the Shrutis are,

निष्कला	रसगीतिका (ऋस्वगीतिका)	नादांता
शूदा	रंजिका	सौम्या
सकला	पूर्णा	भाषागिका
मधुरा	अलंकारिणी	वार्तिका
ललिता	वैणिका	व्यापका
एकाक्षरा	वालिता	प्रसन्ना
शृंगजाति	त्रिस्थाना	सुभगा
		नंदना

The distinction between the sruti and the swara is attempted to be explained by quotations from Parijata, Ratnakar, Sringara-har, and Raga Kutuhala. It is not necessary to go into these quotations here. Each of the seven swaras is then described with its picture, presiding deity, "dwipa," in a wealth of detail, of hardly any practical use. The definitions of 'grama', 'murchhana', 'jati', 'varna', 'shuddha tana', 'kuta tana', and 'alankara', are all taken from the Sangeeta Ratnakara and the Parijata. Sharangdeva Pandit in the description of his vikrit swaras has used the term 'chyuta' and with reference to it, Bhava Bhatta says :—

ग्रामस्वरो मेरुसंस्थो ध्रुवत्वात्स्यात् कथं च्युतः ।

च्युतस्यापि कथं तस्याच्युतत्वं परिकीर्तितम् ॥

उच्यते भावमद्वेन ग्रामस्वरश्रुतिर्नाहि ।

पड्जग्रामे मध्यमस्य पड्जस्यापि च मध्यमे ॥

भिन्नग्रामे च्युतिरस्ति स्वग्रामे न कदाचन ।

This only shows that Bhava Bhatta was unable to follow the music system expounded by Sharangdeva. There is reason to believe that the suddha thata of Bhava Bhatta was the same as that of Pundarika. It is no doubt extremely difficult to find out what was really the author's own system. I admit, he adds in some places the expression स्वमते to the quotation. But the question what was his own system of music still remains.

On the question of the vikrita swaras, Bhava Bhatta says.—

द्वादशविहृतान् पूर्वे वदति तत्रतु पृथक् पृथक् ध्वनितः ।
सप्तैव स्युर्मित्रा नपंच यदिमे समन्वयः ॥ रागविशेषे ।
चत्वारिंशत्ते प्रोक्ता श्याधिका मात्रसमताः ॥

All these forty-two vikritas, are based on the twenty-two srutis which form the basis of the system. We have already seen that Ahobala had twenty-nine swara names. Bhava Bhatta goes a step further, and adopts forty-two swara names. Strangely enough, he omits to say anything about these vikritas in his raga descriptions.

In the Raga Adhyaya, the Pandit begins by mentioning the 234 ragas of the Sangeeta Ratnakara by name and then turns to those of the Sangeeta Parijata. The "upanga ragas" of Bilawal, Kedar, Gauri, Punya, and so forth deserve notice. On the different varieties of Kanada, he gives us two excellent Hindi, "sawais", which are —

जो दरबारी सां सुद्ध कहावे मलारमिलायके नायकि जानो ।
बागेसरी घनासिरिके मिले मेघमिले तै अहाना जानो ।
होत सहानो मिले फरदस्त के पुरिया जेतसिरीसुरखानो ।
मंगल अष्टक सोहि कहावत भावकहे छटमेदनजानो ॥
पुद्रिकगारोहुसेनिओबाकीमिलेविध मेदवखानत हैजू ।
सोरटि और सबावतिसो मिले द्वादशमेदयोमानत हैजू ।
कर्नाटगौर ओ कर्नाटमेद द्वैयो पुनिमेद वखानत हैजू ।
मूरचना महअंसओ न्यासवि मेल मिलायविजानत हैजू ।

These two verses throw a good deal of light on the Hindusthani varieties of the Kanada Raga.

In the Anupa Vilas, the Pandit deals with about 70 ragas. In defining each raga, he quotes the opinion of the following treatises:—

(१) संगीतरत्नाकर (२) संगीत पारिजात (३) संगीत दर्पण (४) सङ्कीर्णरामाध्याय
(५) नृत्यनिर्णय (६) हृदयप्रकाश (७) रागमंजरी (८) रागतत्त्वविशेष (९) सद्भागचंद्रोदय
(१०) रागविशेष.

He leaves his readers to find out the Thatas and the Swaras of the Ragas for themselves.

We have already discussed some of the authorities of Bhava-
bhatta. The Ragas described by Bhavabhata in the Anupa Vilas are:—

अढाना	तुरुष्कतोडी	भूपाली	विमास
अजन	तोडी	भैरव	विहंगड
आसावरी	यावणी	भैरव भेद	वैलावली
कल्याण	दीपक	भैरवी	शंकरारभरण
कामोद	देवगाधार	मंगलकौशिक	श्यामनाट
कामोर्जा	देशकार	मंजुघोषा	शुद्ध नाट
कोकशास	नट	मल्लारी	श्री
वेदार	नटनारायण	मालवश्री	सामंत
कुकुभ	नीलीवरी	मालव कौशिक	सारंग
गुर्जरी	नारायण गौड	मालवी	सिहरव
गौडसारंग	पटमजरी	गुजारी	सुरालय
गौरी	परज	मेघनन्द	सुघराई
घंटारव	पहाडी	रक्तहंस	सुह्रवा
धक्रधर	बंगाल	ललिता	सैधवी
ढायानट	बहुली	वरावी	सौराष्ट्री
जयावन्त्री	बंगाली	वर्षनाटः	हंभीर
जैतभी	भिमवड्ज	वसंत	

With the exception of the Ratnakara and Sangeeta Darpana all the authorities quoted by the author have been discussed in this paper and it will therefore not be very difficult to determine the Thatas and the forms of their Ragas.

Anupa Sangita Ratnakara

In the swara adhyaya of this work again, Bhava Bhatta gives us nothing original on the question of sruti, swara, grama, murchhana, tana, varna, and alankara. He copies almost everything from the Sangeeta Ratnakara. "Alapi", "dhrupada" and "quada" are defined as under.

वर्णालंकारसंपन्ना गमकस्थायचित्रिता ।

आलसिरुच्यते तज्ज्ञैर्वहुवैचित्र्यसंयुता ॥

अथ ध्रुवपद लक्षणम् ।

गीर्वाणमप्यदेशीयभाषासाहित्यराजितम् ।

द्विचतुर्वाक्यसंपन्नं नरनारीकथाश्रयम् ॥

शृङ्गारस्य भावाद्य रागालापपदात्मकम् ।
 पादात्तात् प्राप्तयुक्त पादात्तयुगलं च वा ॥
 प्रतिपाद यत्र नदमेव पादचतुष्टयम् ।
 उग्राहभ्रुवका भोगान्तरं भ्रुवपदं स्मृतम् ॥
 अथ क्वाड लक्षणम् ।
 काश्चित्तालानुपक्रम्य प्रयोगबहुलद्रुतात् ।
 संकीर्णानेकगतिभिः प्रवृत्तं सुमनोहरम् ॥
 कुआन्नाल्यां च तद्रेणैः तालरूप विचक्षणः ।
 अन्यैकैकद्वित्रिचतुस्तालानां मेलन मिथः ॥
 क्रियालयविभागेन कुआडः परिकीर्तितः ॥

These definitions may be found somewhat interesting and un-
 structive. In the Raga Adhyaya the varieties of some of the popular
 ragas are enumerated as follows.—

अधनाटप्रभेदानामुद्देशः क्रियतेऽधुना ।
 शुद्धनाटोऽथ सालंगनाटश्चाद्यादिनाटकः ॥
 केदारार्दिकनाटश्च तथा कल्याणनाटकः ।
 तथामीरकनाटश्च वराठीनाटकस्तथा ॥
 ततः सारंगनाटश्च ततः कामोदनाटकः ।
 वर्णनाटश्च विम्भासनाटो हंमीरनाटकः ॥
 कदंबनाटकः पूर्यानाटः कर्णाटनाटकः ।
 पूर्याकर्णाटकोऽप्यत्रनाटभेदाः प्रकीर्तिताः ॥ इतिनाटाः ।
 शुद्धकर्णाटरागश्च कर्णाटो नायकी ततः ।
 बागीश्वर्यादि कर्णाटः कर्णाटोऽष्टाणपूर्वकः ॥
 ततःसाहानाकर्णाटः पूरियादिस्ततःपरम् ।
 ततो सुन्द्रिककर्णाटो गाराकर्णाटकस्ततः ॥
 हुमेनीपूर्वकर्णाटः काफ़ीकर्णाटकस्ततः ।
 सोरठीपूर्वकर्णाटः स्रवावत्यादिकस्ततः ॥
 ततः कर्णाटगौडः स्यात् । कर्णाटस्ते चतुर्दश ॥

Then follow the varieties of Kalyana, कल्याण, बिलावली, तोडी, गौरी,
 गौड, वराठी, आमावरी, केदार, विहगजा, सारंग, मैरव, कामोद, गुर्जरी, सैधवी मळार. It will be
 useful for the music scholars to make an attempt to collect and
 preserve in a central place old songs of these varieties from
 the living artists in the country.

All this will show that Hindusthani music was going through wonderful changes and that there were great artists in those Mahomedan times. I only wish Bhava Bhatta had taken the trouble to carefully define or describe all these "upanga ragas". His omission has left us, no doubt, in a very unfortunate position. It appears he was a great admirer of Pundarika. In the Raga-Adhyaya of Ratnakara, he has practically adopted the raga classification of the Raga Manjari of that writer. He says :—

टोडीगौरीवराटीनां केदारशुद्धनाटयोः ।
मालवाकैशिकाख्यस्य श्रीरागस्य ततः परम् ॥
हमीरहेमकल्याणौ देशाक्षी देशिकारकः ।
सारंगस्य च कर्णाटः स कामोदो हिजेजकः ॥
नादरामकिर्हिदोलौ मुखारी सोमरागकः ।
एतेषां मेलसंजातरागाणां च यथायथम् ॥
लक्षणं वक्ष्यते किंतु लोकवृत्तानुसारतः ॥

Then these thatas with their proper swaras and their janya ragas are faithfully copied from the Manjari. Be it stated here that Bhava Bhatta does not conceal the fact that he has copied these all from the Manjari. He then gives the definitions of some of our popular ragas, and while giving them, he cites as authorities the opinion of other granthas. All the three works of Bhava Bhatta are printed and published now, and so we shall not go into the details of his ragas. We have fully discussed almost all his authorities and so the swara and other details of these ragas will be easily followed by the reader. Bhava Bhatta has added hundreds of old dhrupadas under the different ragas. But as they are not set to any notation, I have not thought it fit to include any of them here. Many of these no doubt can be fitted to music by some of our eminent artists.

Anupa-Ankusha

This is comparatively a small work. In the sruti-swara prakarana the author says:—

सरिगमाः पधौ नीति सरिगमाः पधौ नि च ।
सरिगमाः पधौ नीति स्थानत्रयमिदं जगुः ॥
प्रथमं सप्तकं मंद्रं द्वितीयं मध्यमं स्मृतम् ।
तृतीयं तारसंज्ञं स्यादेवं स्थानत्रयं मतम् ॥
मंद्रादर्धं तु मध्यं स्यान्मध्यार्धं तारसप्तकम् ।
उत्तरोत्तरसंकोचस्त्वाकाशे भवतिस्फुटम् ॥

सममागमकल्पोऽत्र न साधु मन्यते शुभेः ।
 तस्माद्भागास्तुविपमाः कल्पिता मरतादिभिः ॥
 षट्षष्टिगाः श्रुतयोऽप्यत्र स्युस्थानत्रयममागमे ।
 द्वाविंशतिप्रमेदेन संख्या द्वाविंशतिर्मता ॥

The sruti is defined thus—

स्वरूपमात्रध्वनाद्भादोऽनुगणनं विना ।
 श्रुतिरित्युच्यते भेदास्तस्या द्वाविंशतिर्मताः ॥

The ancient writers are fond of defining the sruti as a sound devoid of "anuranan". When a shruti has the "anuranan" added to it, it becomes a swara. I do not think they had any clear notion of this fine distinction. This leads to the question what is "anuranan". Some of our modern scholars, read the modern "harmonics" into that ancient term. I do not think, of course their view is right. The ancients so far as could be judged from their writings had no knowledge of our modern harmonics, "Anuranan" according to them was nothing more than a prolonged or sustained note. Pandit Kallinatha I think, in one place calls it "pratidhwani". In the vadyadhyaya while describing the different "guna's or qualities of वद प्रकरण in the पूरकार Sharangdeva says —

द्विग्धत्ता घनता रतिव्यक्तिः प्रचुरता ध्वनेः ।
 लालित्य कोमलत्व च नादानुरणन तथा ॥
 निस्थानत्वं भावकत्व साधुर्यं सत्त्वघनता ।
 द्वादशेति गुणाः प्रोक्ताः पूरकारे सुगिद्यार्जिणा ॥

Kallinath explains the "anuranan" referred to here in his commentary on the Ratnakara, at page 251. A 'nada' accompanied by its "anuranan", he calls स्रजनानाद. And says —

स्रजनस्तु तैलघारावत् अश्लिद्धो धीरसमतः । रत्नाकरे ।

This evidently is not what we understand by the modern Harmonics.

In the Raga Adhyaya of the Sangeeta Anupankusha, Bhava Bhatta adopts the classification of the ragas given in the Sangeeta Darpana and without taking the least trouble to solve these ragas according to the definition given in that book, cites under each raga, the opinions of Sangeeta Panjara, Hridaya Prakasha and Raga Manjari. This is no doubt unpardonable and even misleading. But we do not know what the motive of the author really was in resorting to this procedure and so can give no further explanation. To illustrate —

श्रीमञ्जनादेनं नत्वा संगीतार्थफलप्रदं ।
तन्मते भावमद्वेन रागालपनमंजरी ॥
भैरवः कौशिकश्चैव हिंदोलो दीपकस्तथा ।
श्रीरागो मेघ रागश्च षड्वेते पुरुषाः स्मृताः ॥
मध्यमादिभैरवाच्च वंगाली च वराटिका ।
सैधवी पंचमी प्रोक्ता भैरवस्य वरांगनाः ॥
टोडी खंवावती गोडी गुणक्री ककुमा तथा ।
मालकौशिकरागस्य योपितः पंच कीर्तिताः ॥

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अथ भैरवः ।

पारिजाते—भैरवे तु रिपौ नस्तो धादिमे न्यासमध्यमे ।
तथोक्तौ तु गनी तीत्रौ कोमलो धैवतः स्मृतः ॥
हृदयप्रकाशे—संपूर्णो भैरवः प्रोक्तो गांधारादिक मूर्च्छनः
मंजर्याम्—रिहीनो भैरवः सत्रिः प्रातर्गेयो मुनीश्वरैः ॥

अथ मध्यमादिः ।

पारिजाते—मध्यमादौ धगौ नस्तो मूर्च्छना मध्यमादिका
तत्र त्वंशस्वराः प्रोक्ता रिमनयो मुनीश्वरैः ॥
सत्रिः प्रातरसौ गेया रिधास्त मध्यमादिका ॥
हृदयप्रकाशे—मध्यमादिर्गहीनत्वात् षड्वा मध्यमादिका ॥

This procedure is most ridiculous. It certainly is not such as would enhance the reputation of a scholar, who adds to his name the title of "Anushtupa-Chakravarti-Sangeeta-Rai".

Many of these definitions will be contradictory and leave the reader at sea.



SWARA-MELA-KALANIDHI

Having finished the leading ancient authorities on the Northern system of Music, we shall now turn our attention to those of the Southern system. So far as I can judge, there are only five of them which deserve special attention and these are —

स्वरमेल कलानिधि, रागविबोध, संगीतसारासूत्र, चतुर्दशप्रकाश and रागलक्षणम्

It is rightly claimed by the southern musicians that their music has kept a faithful touch with their ancient works. I do not think they claim that they sing the music of Sharangdeva now. But I do believe they will be in a position to show that their music has a long tradition of three or four centuries behind it. Some of their ragas, I am told, have lately got mixed up with our northern ones. But these do not affect the great system which they have inherited from their ancient writers. The first southern work which we shall take up for discussion will be the Swara-Mela-Kalanidhi. This book was written by Rama Amatya in shaka year 1472 corresponding with 1550 A.D. The date of the work as given by the author is as follows —

शाके नेत्रधराधराब्धिधरणीगण्येऽथ साधारणे ।

वर्षे भावणमासि निर्मलतरे पक्षे दशम्या तिथौ ॥

According to this the actual date comes to be Shraavan Shuddha 10th, of the year named SADHARANA. The work, therefore, is more than 350 years old. Barring the commentary of Kallinatha on the Sangeeta Ratnakara, no other complete work is at present available to show the development of music between the Ratnakara and the Swara Mela Kalanidhi, and we are therefore not in a position to say anything definite about the music of that period. There is, however, some evidence in the commentary of Kallinath to show that he was a southern musician and that his music system was not different from that of Rama Amatya, and the other subsequent writers. We shall come to that point after we finish with the Swara Mela Kalanidhi. Rama Amatya divides the book into five chapters, namely :

(१) उपोद्घात प्रकरण (२) स्वर प्रकरण (३) वाजा प्रकरण (४) मेल प्रकरण (५) रागप्रकरण.

In the swara-prakarana, the author after dividing music into the two divisions "gandharav" and "gana", defines these technical names thus :

अनादिसंप्रदायं यद्गंधर्वैः संप्रयुज्यते ।
नियतं श्रेयसो हेतुस्तद्गां धर्वं प्रचक्षते ॥
यत्तु वाग्गेयकारेण रचितं लक्षणान्वितम् ।
देशीरागादिषु प्रोक्तं तद्गानं जनरंजनम् ॥

Translation.—“Gandharva” music is the music that has come down to us from times immemorial. Its only object is the salvation of man. It is sung and played by the Gandharvas (celestial Musicians) only. The music which is composed by our learned men and which has modern rules and which is expressed in deshi ragas is called “gana”. It is intended to please men.

Observation.—The suggestion is that all the ragas which we now sing will be “deshi” music only and not “margi”. The rules of “gandharva” music were most rigid and could never be violated. Not so the rules of “gana” music.

तत्र लक्ष्मानुरोधेन गांधर्वं संप्रयुज्यते ।
यत्र लक्ष्मपरित्यागे प्रत्यवायो न विद्यते ॥
तस्माद्लक्ष्यप्रधानं तन्नतु लक्ष्मप्रधानकम् ।
परित्यागेऽत्र लक्ष्यस्य रजनं नैव जायते ॥
तस्माद्लक्ष्यानुसंधेन गानं लोके प्रवर्तते ॥

The author has evidently taken this distinction between Gandharva and gana from the Ratnakara. Sharangdeva in the Vadyadhyaya of his Ratnakara says :—

यद्वा लक्ष्यप्रधानानि शास्त्राण्येतानि मन्वते ।
तस्माद्लक्ष्यविरुद्धं यत्तच्छास्त्रं नेयमन्यथा ॥

The author then proceeds to the twenty two srutis and the seven shuddha swaras. He does not name the srutis. The distribution between the srutis and the swaras is the old one.

तत्र तुर्यश्रुतौ षड्जः सप्तम्यांमृषभो मतः ।
ततो नवम्यां गांधारस्त्रयोदश्यां तु मध्यमः ॥
पंचमः सप्तदश्यांतु धैवतो विंशतिश्रुतौ ।
द्वाविंश्यां तु निषादः स्यात् श्रुतिष्वित्थं स्वरोद्भवः ॥
एते षड्जादयः सप्तस्वराः शुद्धाः प्रकीर्तिताः ।
विकृताश्चैव सप्तैवेत्येवं सर्वे चतुर्दश ॥

Rama Amatya recognises seven shuddha and seven vikrita swaras. The importance of this work to the music scholar lies in the

fact that Rama Amatya tries to connect some of his ideas with those of Sharangdeva. About his vikritas, Rama Amatya says as follows. He anticipates a question and answers it thus.—

ननु रत्नाकरे शाङ्गदेवेन विहृताः स्वराः ।
द्वादशोक्ता इयं ते तु सप्तैव कथितास्त्वया ॥

Translation—Sharangdeva Pandit in his Ratnakara lays down twelve vikrita notes. How do you say they are only seven? Answer—

सत्यं लक्षणतो मेदो द्वादशानामप्यप्यते ।
शुद्धेभ्यस्तत्र मेदस्तु सप्तानामेव लक्षितः ॥

Translation—True, technically speaking there will be twelve vikrita swaras, but there are as a matter of fact only seven vikritas really distinct from the shuddha swaras.

Observation—He means to say that the remaining five are only different names for the shuddha swaras.

The test of a vikrita, laid down by the author is—

अध्वारश्रुतिसत्यागादध्वनिमेदः प्रकीर्तितः ॥

He then shows, how some of the vikrita swaras fail to satisfy the test, and need not be recognised as separate vikritas.

शुद्धवज्रादभ्युतस्तु सवज्जो नैव भिद्यते ।
अभ्युतो मध्यमः शुद्धान्मध्यमात्त मिदा मजेत् ॥
शुद्धर्षमाच्च विहृतो गिषमो न पृथग्भवेत् ।
विहृतो धैवतः शुद्धाद् धैवतात्प्रतिरिष्यते ॥
मध्यमश्रुत्युपादाने विहृतः पंचमस्तु यः ।
विहृताश्चैव पंचमात्त मेद चाश्रुते ध्रुवम् ॥

It will not be permissible to go here into the reasoning of Rama Pandit, because we have omitted the Sangeeta Ratnakara from our present discussion.

The following chart will clearly show the positions of the shuddha and vikrita swaras of Rama Amatya.

श्रुतिनाम	शुद्ध स्वर	विच्छिन्न स्वरनाम	हिंदुस्थानी स्वरनाम	European
१ तीव्रा	...	कैशिक निषाद	कोमल निषाद	bB
२ कुमुदती	...	काकळि निषाद	तीव्र निषाद	B
३ मंदा	...	अपुतपट्ट निषाद	तीव्रतमनिषाद (if necessary)	.
४ मंदोपती	पट्ट	...	शुद्ध पट्ट	C
५ मंदापती	...	...	...
६ मंजरी	...	...	...
७ मयिका	कथम	...	कोमल कथम	bD
८ तीव्री	...	...	...	D
९ मंजरी	गांधार	पंचश्रुति रियम	तीव्र कथम	bE
१० मयिका	...	गांधारण ग or पट्ट श्रुति रि	कोमल गांधार	E
११ मंजरी	...	अंतर गांधार	तीव्र गांधार	E
१२ मयिका	...	अपुतमध्यम गांधार	तीव्रतम गांधार (if necessary)	
१३ मंजरी	मध्यम	...	शुद्ध मध्यम	F
१४ मयिका	...	...	...
१५ मंजरी	...	...	...
१६ मंदोपिनी	...	अपुतपंचम मध्यम	तीव्र मध्यम	F#
१७ मंजरी	पंचम	...	शुद्ध पंचम	G
१८ मंजरी	...	...	...
१९ मंजरी	...	...	...
२० मयिका	धैवत	...	कोमल धैवत	bA
२१ उमा	...	...	...
२२ मंजरी	निषाद	पंचश्रुति धैवत	तीव्र धैवत	A
१ तीव्रा	...	कैशिक निषाद	कोमल निषाद	bB
२ कुमुदती	...	काकळि निषाद	तीव्र निषाद	B
इ. इ.				

With the help of this chart, the following descriptions of the vikrita swaras could be easily followed

सप्तानां विवृतानां तु सौंदर्यं लक्ष्यं चक्षुः ।
 षुतपङ्क्त्युत्तमोऽथ षुतः स्यात् पञ्चमस्तथा ।
 स्यात् साधारणगाधारोऽनरगाधार एव च ।
 स्यात् कैशिकनिषादोऽध्यायः काकलिनिषादकः ॥

These are, says the author, the real seven vikrita swaras of Ratnakara. His own vikritas, corresponding with these would be the following.—

षुतपङ्क्त्युत्तमो लक्ष्ये निषादत्वेन कीर्तितः ।
 षुतपङ्क्त्युत्तमोऽभिधानं तस्य विधीयते ॥
 षुतस्य मध्यमस्यापि गाधारव्यवहारतः ।
 षुतमध्यमगाधारमज्ञास्म क्रियते मया ॥
 षुतपञ्चममाचष्टे लोका मध्यममज्ञया ।
 अस्मामिः कथ्यते सोऽथ षुतपञ्चममध्यमः ॥

Rama retains the remaining four Vikrit names साधारण गाधार, अंतर गाधार, वैशिक नि & काकली निषाद.

Following the modern practice, he gives some parallel names for some of his vikritas,

लक्ष्येऽथ कुत्रचिच्छुद्धगाधारस्थानमाधयन् ।
 ऋषम.कीर्तयतेऽस्मामिः पञ्चशुत्तुपमाह्वयः ॥
 स साधारणगाधारस्थानस्थो विषमो यदि ।
 लक्ष्यानुगतः प्रोक्तस्ततः पञ्चशुत्तिरेव सः ॥

The same reasoning is to apply to the note dhaiyata. Thus four new names come in. Namely :— (१) पञ्चशुत्ति ऋषम, (२) पञ्चशुत्ति ऋषम, (३) पञ्चशुत्ति ऋषम & (४) पञ्चशुत्ति ऋषम. It will, however, be seen that these new swara names do not really increase the number of the vikritas, because they are only other names for the old swaras. The fourteen swaras of Rama Amatya, therefore, are :—

श्रुतिनाम	शुद्ध स्वर	विकृत स्वरनाम	हिंदुस्थानी स्वरनाम	European
१ तीव्रा	...	कैशिक निषाद	कोमल निषाद	bB
२ कुमुद्वती	...	काकलि निषाद	तीव्र निषाद	B
३ मंदा	...	च्युतपड्ज निषाद	तीव्रतमनिषाद (if necessary)	
४ छंदोवती	पड्ज	...	शुद्ध पड्ज	C
५ दयावती	...	...
६ रंजनी	...	...
७ रक्तिका	ऋषभ	...	कोमल ऋषभ	bD
८ रौद्री	...	...
९ क्रोधी	गांधार	पंचश्रुति रिषभ	तीव्र ऋषभ	D
१० वज्रिका	...	साधारण ग OR षट्-श्रुति रि	कोमल गांधार	bE
११ प्रसारिणी	...	अंतर गांधार	तीव्र गांधार	E
१२ प्रीति	...	च्युतमध्यम गांधार	तीव्रतम गांधार (if necessary)	
१३ मार्जनी	मध्यम	...	शुद्ध मध्यम	F
१४ क्षिति	...	...
१५ रत्ता	...	...
१६ संदीपिनी	...	च्युतपंचम मध्यम	तीव्र मध्यम	F#
१७ आलापिनी	पंचम	...	शुद्ध पंचम	G
१८ मदंती	...	...
१९ रोहिणी	...	...
२० रम्या	धैवत	...	कोमल धैवत	bA
२१ उम्रा	...	...
२२ क्षोभिणी	निषाद	पंचश्रुति धैवत	तीव्र धैवत	A
१ तीव्रा	...	कैशिक निषाद	कोमल निषाद	bB
२ कुमुद्वती	...	षट्श्रुति धैवत काकली निषाद	तीव्र निषाद	B
इ. इ.				

With the help of this chart, the following descriptions of the vikṛita swaras could be easily followed.

सप्तानां विहृतानां तु सौख्यं लक्ष्यं चक्षुषे ।
 श्रुतपञ्चमस्यो मन्त्रोऽप्युतःश्यात् पञ्चमस्तथा ।
 श्यात् साधारणगाधारोऽन्तरगाधार एव च ।
 श्यात् वैशिकनिषादीऽप्यन्यः काकलिनिषादकः ॥

These are, says the author, the real seven vikṛita swaras of Ratnakara. His own vikṛitas, corresponding with these would be the following :—

श्रुतपञ्चमस्यो लक्ष्ये निषादत्वेन कीर्तितः ।
 श्रुतपञ्चमनिषादाभिधानं तस्य विधीयते ॥
 श्रुतस्य मध्यमस्यापि गाधारम्यत्रहारतः ।
 श्रुतमध्यमगाधारसहाऽश्म क्रियते मया ॥
 श्रुतपञ्चममाचष्टे लोका मध्यममहाया ।
 अस्माभि कथ्यते मोक्ष्य श्रुतपञ्चममध्यमः ॥

Rama retains the remaining four Vikṛit names साधारण गाधार, अन्तर गाधार, वैशिक नि & काकली निषाद.

Following the modern practice, he gives some parallel names for some of his vikṛitas,

लक्ष्येऽथ कुत्रचिदुद्गाधारस्थानमाश्रयन् ।
 ऋषम.कीर्तयतेऽस्माभिः पञ्चश्रुत्युत्पमाह्वयः ॥
 स साधारणगाधारस्थानरथो विषमो यदि ।
 लक्ष्यानुगतः प्रीतिस्तत्रः पञ्चश्रुतिरेव सः ॥

The same reasoning is to apply to the note dhavata. Thus four new names come in. Namely — (१) पञ्चश्रुति ऋषम (२) पञ्चश्रुति ऋषम, (३) पञ्चश्रुति धैवन & (४) पञ्चश्रुति धैवन.

It will, however, be seen that these new swara names do not really increase the number of the vikṛitas, because they are only other names for the old swaras. The fourteen swaras of Rama Amātya, therefore, are :—

स्वरमेल कलानिधि स्वर	हिंदुस्थानी स्वर	European
(१) शुद्ध पङ्ज	शुद्ध पङ्ज	C
(२) शुद्ध ऋषभ	कोमल ऋषभ	bD
(३) शुद्ध गांधार or पंचश्रुति ऋषभ	तीव्र ऋषभ	D
(४) साधारण गांधार or षट्श्रुति ऋषभ	कोमल गांधार	bE
(५) अंतर गांधार	तीव्र गांधार	E
(६) च्युत मध्यम गांधार	Not necessary	
(७) शुद्ध मध्यम	शुद्ध मध्यम	F
(८) च्युत पंचम मध्यम	तीव्र मध्यम	F#
(९) शुद्ध पंचम	शुद्ध पंचम	G
(१०) शुद्ध धैवत	कोमल धैवत	bA
(११) शुद्ध निषाद or पंचश्रुति धैवत	तीव्र धैवत	A
(१२) कैशिक निषाद or षट्श्रुति निषाद	कोमल निषाद	bB
(१३) काकली निषाद	तीव्र निषाद	B
(१४) च्युत पङ्ज निषाद	Not necessary	

I have already suggested that the music system which Kallinath, the commentator on the Sangeeta Ratnakara followed was very nearly the same which Rama Amatyā and his successors followed later on. In proof of this statement, I would cite the commentary of Kallinath on the Shri Raga of Sharangdeva. There Kallinath says :—

इदानीमधुनाप्रसिद्धरागागादीनां लक्ष्ये प्रतीतानां लक्षणविरोधानां परिहारार्थमुद्यमः क्रियते । तत्र विरोधोद्भावनाप्रकारस्तावत् । ग्रामद्वयाज्जात्यादिपरंपरयोत्पन्नानामेतेषां रागाणां मध्यस्थानस्थपङ्ज मध्यमस्थानयोरेव तत्तन्मूर्च्छनारंभपक्षाश्रयेण शास्त्रविहिते संभवत्यपि, मध्यमग्रामोत्पन्नानां मध्यमादितोडो प्रभृतीनां च मध्यममध्यमारंभं विहाय मध्यपङ्जस्थाने एव आरंभो लक्ष्यलक्षणविरुद्धः । तथा ग्रहस्वराय-
चोत्तरस्वराणामभावः । त्रिचतुःश्रुतिकत्वेन ग्रामद्वयभेदकस्य पंचमस्यालोप्यत्वेन प्रयुज्यमानस्यापि सर्वं रागेष्वेकरूपता । क्रियांगरामक्रियायां मध्यमस्य पंचमश्रुतिद्वयाक्रमणं, नट्टदेवकीप्रभृतिषु ऋषभ धैवतयोरन्तरकाकल्यादिमश्रुतिद्वयाक्रमणेन त्रिश्रुतित्वे शास्त्रविहितेऽपि पङ्जमध्यमयोरशास्त्रविहित त्रिश्रुतित्वकरणेन कैशिकयोरवैशसम् । तत्रापि ऋषभधैवतयोर्गांधारनिषादादिमश्रुत्याक्रमणेन प्रत्येकं चतःश्रुतित्वं वा शास्त्रविहितम् । आंधाल्या लक्षणे पंचमस्य ग्रंहांशत्वेत्तया तथैव प्रस्तारे लिखितेऽपि

लक्ष्ये मध्यमग्रहोत्वेन प्रयोगः ॥ कर्णादगौडस्य लक्षणे षड्जग्रहोत्वेनोक्तं लक्ष्ये निषाद ग्रहोत्वे ।
ग्रामरागेषु हिंदोलस्य लक्षणेऽयत्तत्वेनोक्तं रिपत्यागेन प्रयोगः । षाड्वाद्देवेष्वपि रागेषु ऋचिर्होप्य
स्वर प्रयोगः । कापिजन्यजनकयोर्मेलन मेद, रसादि विनियोगनियमः ।

The rest of the commentary is unnecessary for our purpose. The portion cited here shows that only one grama was practically recognised in the time of Kallinath. All the murchhanas were started from the madhya shadja. The difference of the two panchamas in the two gramas was ignored. In the definition of Shri raga, although shuddha ga and shuddha ni moved one sruti higher, the next following notes ma and ni remained stationery and thereby violated the shastra rule which says that in such a case they must become chyuta. In the case the ri and dha remain चतुःश्रुतिक but move one sruti up. All this indicates to a careful student the fact that Kallinath followed a system not unlike the one followed by Rama Amatya and Somnath. (Quaere — Was the music of the Sangeeta Ratnakara actually practised in Kallinath's time? Did he fully understand it? He wrote his commentary nearly two hundred years later. We all know that Kallinath was in the service of Raja Deva, Raja of Vijayanagar, about 1412-1425 A.D. and wrote his commentary at the request of his patron.)

In the second chapter or prakarana, Rama Amatya describes his vina with his shuddha and vikrita swaras. The following chart will clearly show how the four wires of the vina were tuned and how the frets were placed under them.—

शु म	शु. सा	शुद्ध प	शुद्ध सा	मेद or Bridge
श्रुतपंचम म	शु. री	शु. ध	शु. री	प्रथम सारी
शु. प	शु. ग	शु. नि	शु. ग	द्वितीय सारी
शु. ध	साधारण ग	केशिक नि	साधारण ग	तृतीय सारी
शु. नि	श्रुतमध्यम ग	श्रुतषड्ज नि	श्रुतमध्यम ग	चतुर्थ सारी
केशिक नि	शुद्ध म	शु सा	शु म	पंचम सारी
श्रुतषड्ज नि	श्रुतपंचम म	शु. री	श्रुतपंचम म	षष्ठी सारी
मंद्र म तंत्री	मंद्र सा तंत्री	अ. मद्र प तंत्री	अनु मंद्र सा तंत्री	
(४)	(१)	(२)	(१)	

The tuning of the wires is described in the following —

आघायां स्थापयेत् पञ्जमनुमंद्राभिधानकम् ।
 अनुमंद्रः पंचमस्तु द्वितीयायां निवेशयेत् ॥
 तृतीयायां तंत्रिकायां मंद्रपञ्जं प्रयोजयेत् ।
 कस्पयेश स्वरं तंत्र्यां चतुर्थ्यां मंद्रमध्यमम् ॥

The Swaras produced by the six frets are described thus:—

आपानुमंद्रपञ्जाख्यतंत्र्यांशुद्धर्यमो यथा ।
 स्यात्तथा सारिका स्थाप्या प्रथमाय द्वितीयायां ॥
 तंत्र्यां शुद्धगाधारसिन्धु स्थाप्याच सारिका ।
 तृतीया सारिका स्थाप्या पूर्वतंत्र्यां यथा स्फुटम् ॥
 स्यात् साधारणगाधारः स्थाप्या सारी चतुर्थिका ।
 श्युतमध्यमगाधारः पूर्वतंत्र्यां यथा भवेत् ॥
 मुरुमध्यमसिन्धुर्धं पंचमी सारिका ततः ।
 निवेश्या पूर्वतंत्र्यां यथा स्याप्याथ सारिका ॥
 यथा व्यक्तरतया तंत्र्यां श्युतपंचममध्यमः ॥ इ. इ. इ.

The notes produced by the different wires on the six frets are clearly seen in the diagram, and so it is not necessary to cite the remaining verses here. Nor is any translation of the above cited verses necessary.

In the mola prakarana, Pandit Rama Amatya lays down altogether twenty thatas for the classification of his janya-ragas. The twenty thatas with their shuddha and vikrita swaras are as follows:—

तत्तद्भागप्रधानत्वान्मेलान् वक्ष्ये क्रमादिमान् ।
 सर्वेषु रागमेलेषु घुहारिमेल आदिमः ॥
 ततोमालवगौळस्य मेलः श्रीरागमेलकः ।
 सारंगनाटमेलश्च मेलो हिंदोलकस्य च ॥
 शुद्धरामक्रियामेलो देशाक्षामेलकोऽपरः ।
 मेलः कण्ठगौळस्य शुद्धनाव्याध मेलकः ॥
 आहरीमेलकश्चैव नादगामक्रियापरः ।
 मेलः शुद्धवराळ्याध रीतिगौळस्य मेलकः ॥
 वसंतमैरवीसंज्ञो मेलकस्तु प्रकीर्तितः ।
 केदारगौळमेलश्च हेज्जुर्जामेलकस्ततः ॥
 मेलः सामवराळ्याध रेवगुप्तेश्च मेलकः ।
 सामंतनाममेलश्च कामोजामेलकस्ततः ॥

मेलनाम	मेलगत स्वराः							हिंदुरथानी स्वराः
१ मुखारी	सा शुद्ध	री शुद्ध	ग शुद्ध	म शुद्ध	प शुद्ध	ध शुद्ध	नि शुद्ध	सा री री म प ध ध सा
२ मालवगौळ	"	"	च्युत मध्यम	"	"	"	च्युत-पड्जनि	सा री ग म प ध नि सा
३ श्री	"	पंच-ध्रुति	साधा-रण	"	"	पच ध्रुति	केशिक	सा री ग म प ध नि सा
४ मारगनाट	"	"	च्यु. म गा.	"	"	"	च्युत-षड्ज	सा री ग म प ध नि सा
५ हिंदोल	"	"	साधा-रण	"	"	शुद्धध	केशिक	सा री ग म प ध नि सा
६ शुद्धरामक्रिया	"	शुद्धरी	च्युतम.	च्युत-मध्यम	"	"	च्युत-पड्जनि	सा री ग म प ध नि सा
७ देशाक्षी	"	षट् ध्रुति	"	"	"	पंच ध्रुति	"	सा ग ग म प ध नि सा
८ कनडगौळ	"	"	"	"	"	"	केशिक	सा ग ग म प ध नि सा
९ शुद्धनाट	"	"	"	"	"	षट् ध्रुति	च्युत-षड्ज	सा ग ग म प नि नि सा
१० आहरी	"	पंच ध्रुति	साधा-रण	"	"	शुद्धध	"	सा री ग म प ध नि सा
११ नादरामकी	"	शुद्धरी	"	"	"	"	"	सा री ग म प ध नि सा
१२ शुद्धवराळी	"	"	शुद्ध	च्युतप	"	"	च्युत-षड्ज	सा री री म प ध नि सा
१३ रीतिगौळ	"	"	"	शुद्ध	"	पंच ध्रुति	केशिक	सा री री म प ध नि सा
१४ वसतभैरवी	"	"	च्युत-म. ग	"	"	शुद्ध	"	सा री ग म प ध नि सा
१५ केदारगौळ	"	पंच ध्रुति	"	"	"	पच ध्रुति	च्युत-षड्ज	सा री ग म प ध नि सा
१६ हिज्जली	"	शुद्ध	अतर	"	"	शुद्ध	काकली	सा री ग म प ध नि सा
१७ सामवराळी	"	"	शुद्ध	"	"	"	"	सा री री म प ध नि सा
१८ रेवगुप्ती	"	"	अतर	"	"	"	शुद्ध	सा री ग म प ध ध सा
१९ सामत	"	षट् ध्रुति	"	"	"	षट् ध्रुति	काकली	सा ग ग म प नि नि सा
२० कामांजी	"	पच ध्रुति	"	"	"	पच ध्रुति	"	सा री ग म प ध नि सा

मेलनाम	जन्य रागाः
१ मुखारी	१ मुखारी
२ मालवगौड	१ मालव गौड, २ ललिता, ३ वौली, ४ सारौष्ट्र, ५ गुर्जरी, ६ मेचवौली, ७ फलमंजरी, ८ गुंडक्री, ९ सिंधुरामक्री, १० ज्ञयागौळ, ११ कुरंजी, १२ कंनड बंगाल, १३ मंगल कैशिक, १४ मलहरी.
३ श्री...	१ श्रीराग, २ भैरवी, ३ गौळी, ४ धन्यासी, ५ शुद्ध भैरवी, ६ वेलावली, ७ मालवश्री, ८ शंकराभरण, ९ आंधाली, १० देवगांधार, ११ मध्यमादि.
४ सारंगनाट	१ सारंगनाट, २ सावेरी, ३ सालंग भैरवी, ४ नटनारायणी, ५ शुद्धवसंत, ६ पूर्वगौड, ७ कुंतलवराळी, ८ भिन्नषड्ज, ९ नारायणी.
५ हिंदोल	१ हिंदोल, २ मार्गहिंदोल, ३ भूपाल.
६ शुद्धरामक्री	१ शुद्धरामक्री, २ वौली, ३ आर्द्रदेशी, ४ दीपक.
७ देशाक्षी	१ देशाक्षी.
८ कंनडगौळ	१ कंनडगौळ, २ घंटाख, ३ शुद्धबंगाल, ४ ज्ञयानट, ५ तुरुष्कतोडी, ६ नागध्वनि, ७ देवक्रिया.
९ शुद्धनाट	१ शुद्धनाट
१० अहीरी	१ अहीरी
११ नादरामक्री	१ नादरामक्री
१२ शुद्धवराळी	१ शुद्धवराळी
१३ गौळ	१ गौळ
१४ वसंत भैरवी	१ वसंत भैरवी
१५ केदारगौळ	१ केदारगौळ, २ नारायणगौळ
१६ हेजुञ्जी	१ हेजुञ्जी
१७ सामवराळी	१ सामवराळी
१८ रेवगुप्ती	१ रेवगुप्ती
१९ सामंत	१ सामंत
२० कांभोजी	१ कांभोजी

The author then mentions an interesting difference of opinion as to the number of रागजनक Thatas. He says:

लक्षिता विंशतिर्मेला गात्रे स्युर्निमिता अमी ।
 पक्षद्वयं तु वीणायां वक्ष्यते लक्ष्यसमतम् ॥
 प्राहादंतरकाकल्याः स्वरूपे पृथक् पृथक् ।
 पक्षोऽयं प्रथमस्तत्र मेलाः स्युर्विंशतिर्भुवम् ॥
 अंतरस्य च काकल्याःस्थाने प्रतिनिधिः क्रमात् ।
 श्युतमध्यमगाधारश्च्युतषड्जनिषादकः ॥
 अयं द्वितीयः पक्षोऽत्र मेला पचदशस्मृताः ।
 अत्र प्रतिनिधेः पक्षे मुखारीमेल पूर्वकाः ॥
 केदारगौळमेलान्ता मेलाः पचदश स्मृताः ॥
 एतदेवामिमध्याय कथितं शार्ङ्गसूरिणा ।
 अल्पप्रयोगः सर्वत्र काकली चांतरस्वरः ॥

Translation—Thus I have described the twenty Thatas of the Vocal musicians. Now I shall state the two opinions of the Vainikas. Those who belong to the first पक्ष (party) say that the notes अंतर & काकली should be recognized as independent Swaras & the number of Thatas should accordingly be accepted as twenty. Those who belong to the second पक्ष say that the notes श्युत मध्यम गाधार & श्युत षड्जनिषाद should be recognized as good representatives or substitutes for the notes अंतर & काकली, and the number of Thatas should be fifteen only. According to these last the list of Thatas given in the book should stop at केदारगौळ, which is the fifteenth Thata. They go further & argue that even Sharangadeva, the author of the Sangeet Ratnakara, meant the same thing when he said that the notes अंतर & काकली should always be used sparingly.

Observation—It must in fairness be stated that Sharangadeva pandit though he does give that advice, does not expressly say that श्युत म & श्युत सा should be used as substitutes for the अंतर & काकली notes. In his own Raga definitions he says nothing about the श्युत Swaras but freely uses अंतर & काकली. Rama Amatya says nothing in explanation of that in his Swaramelakalanidhi.

RAGA-VIBODHA

The author of this Sanskrit work is Pandit Somnath of the Andhra country. The date of the work as given by the author is the shaka year 1531, corresponding with 1610 A.D. It is considered to be a work of great interest in the Southern presidency. There are several features of the work however, which will make its study no less interesting to the Northern Musician. A careful perusal of the book will lead the reader to conclude that the author at some period of his life had come into contact with the music and musicians of northern India. A mere glance at the table indicating the shuddha and vikrita swaras of Somnatha, will be enough to show it. The names and descriptions of the ragas again will further support the view. In the Raga Vibodha, the reader will find some distinctly Persian Raga names, such as Husseini, Navroj, Zeeluf, Erakh, and so forth, referred to.

The important points in connection with this work for consideration will be :—

- (1) How many out of the 22 srutis did Somnath use as swaras in his ragas.
- (2) How did he place his shuddha and vikrita swaras on the srutis.
- (3) How many thatas did he use for the classification of his ragas.
- (4) What was his classification of the janya ragas.
- (5) Will any of his raga definitions be useful for the Northern musician.

I may state at the very outset that Somnath like all his predecessors whether southern or northern recognised the wellknown twenty two srutis, which again were the same as those of the older writers. The orthodox rule for the location of swaras on the srutis, was also accepted by him. He says :—

षड्जर्षभगांधारा मध्यमपंचमकथैवत निषादाः ।
इत्यभिधास्त्वमीषां स रि ग म प ध नी ति संज्ञान्याः ॥
तेषांश्रुतयः क्रमतो वेदा रामा दशौ तथांबुधयः ।
निगमा दहनाः पक्षा एवं द्वाविंशतिः सर्वाः ॥

These verses speak for themselves, and we need not discuss them any further. The placing of the shuddha swaras is described thus :

तृतीया सप्तम्यां तासु नवम्यां ध्रुवी त्रयोदश्याम् ।
सप्तदशी विंशतीर्वाविंशत्यु च ते स्फुटाः क्रमतः ॥

Evidently, 4, 7, 9, 13, 17, 20, 22, were also the "adhara-srutis" of the shuddha swaras of Somnath. The method adopted by Somnath for placing the twenty two srutis on the key board of the vina, differed from that of Sharangdeva pandit. The latter put twenty-two separate wires each representing a sruti, on his vina. Somnath put twenty two frets under the wires of his vina and made them produce the intended twenty two srutis. The principle of determining the sruti was the same in both cases. The whole length of the wire produced the fundamental note 'mandra-shadja', and the frets below the wire produced the remaining srutis when the wire was pressed against them.

मद्रतमध्वनिराषा त्रयं क्रमोच्चस्वनं किञ्चित् ।
न्यस्याः सूत्रमाः सार्योऽथ द्वाविंशतिरध्वरमतभ्याः ॥
तंती यथेयमुच्चोच्चतरावा किमपि तासु स्यात् ।
सप्तनेष्टोऽन्यरवः ध्रुतयः इति रवा इहाप्यतभ्यां सः ॥
कथमस्मृतिप्रसायम् ६. ६. ६.

“ मनासुच्चध्वनिः, ” “ मन्ये विसदृश ध्वन्यतरं न स्यात्तथा. ”

These points of Bharata and Sharangdeva were strictly followed by Somnath also. We cannot say for certain whether or not he understood their real significance. Perhaps he did not. The verses may be translated thus :—The first wire should be tuned to the lowest possible pitch, and it will be the first sruti. The next three should be so tuned that each will be a little higher than the next preceding one. (Thus there would be four wires on the key board) Next place twenty two small frets under the fourth wire in such a way that each will produce a sound a little higher than that of the preceding one, care being taken to see that between any two consecutive sruti sounds, no dissimilar "dhwani", or sound is permitted to appear. (The author means to say that the ratio between any two consecutive sruti sounds should be the same all through) The fourth wire will produce the sound of shadja. Among the frets, the third will produce rishabha, the fifth will produce gandhara and so forth. Compare the statement of Sharangdeva :—

आषा मद्रतमध्वाना द्वितीयाच्चध्वनिर्मनात् ।
मैतरेयं स्यात्तुनयोर्मन्येध्वन्यताध्रुतेः ॥

The reader can easily see from this that these ancient writers considered their srutis to be based upon a standard sruti ratio. In other words, they understood the srutis, to rise in pitch in geometrical progression.

Pandit Somnath then proceeds to locate his vikrita swaras thus :

इति सप्तोक्ताः शुद्धा विकृतान् सप्तैव वच्मि सहनाम्ना ।
साधारणोत्तरश्च श्रुति श्रुती चेत्य गो मस्य ॥

Translation.—Having described the seven shuddha swaras in this way, I shall now mention the seven vikrita swaras in this way by their names. When shuddha gandhara takes the first sruti of 'ma' it becomes sadharana 'ga', and when it takes the second sruti of 'ma', it becomes antara 'ga'.

निःकैशिकी च काकल्यथ सस्यैकां भजंश्च तां ते द्वे ।
निगमा मृदुपर समपाः समपतृतीयश्रुतिस्थित्या ॥

Translation.—When nishada takes the first sruti of shadja it becomes kaishika 'ni', and when it stands on the second sruti of shadja, it becomes kakali 'ni'. When the swaras 'ni', 'ga' and 'ma' rise to the third sruti of the next 'sa', 'ma', and 'pa', they become "mrdu sa", "mrud ma" and "mrdu pa" respectively.

Observation.—The term "mrdu", it will be seen, corresponds with the term "chyuta" of Sharangdeva and Rama Amatya. Pundarika Vittala used the word "laghu" instead.

Somnath then discusses the twelve vikritas of Sharangdeva and tries to prove that in spite of the use of twelve separate swara names for the vikrita, Sharangdeva really used only seven vikrita swaras, which were the same as those he himself used. There were some more vikrita names in use in his time, and the author referring to them says :

रिषयोः परश्रुतिगतेश्चतस्र इह पंच षट् तथाश्रुतयः ।
देशीरागेषु अभिर्वाक्ष्यंते च षट् तथा गमयोः ॥

Translation.—In the modern or deshi music we sometimes come across 'ri' and 'dha' swaras with four five or six srutis. And these are known as चतुःश्रुतिक, पंचश्रुतिक, षट्श्रुतिक ऋषभ & धैवत.

These notes are the result of 'ri' and 'dha' rising through the srutis of the next following notes गांधार & निषाद.

Observation.—चतुःश्रुतिक रि, पंचश्रुतिक रि & षट्श्रुतिक रि would naturally enter the intervals of gandhara and maddhyama. The reader will here ask "Are these new vikritas added to the seven already referred to by the author?" The answer is

इति तेषु संभवन्ति त्रयोऽन्या एभ्यो विलक्षणा विकृताः ।
पंचश्रुतिःशुचेर्गांधारात् साधारणतश्च षट्श्रुतिकः ॥
रिर्न पृथक् तादृग्धो नेः कैशिकिनश्च षट्श्रुतिर्गो मात् ।
किंतूक्त रिगधमानां व्यवहृतये पृथगिताः संज्ञाः ॥

Translation—No doubt three more vikṛta swaras will result from this arrangement, but it will be observed that pancha sruti 'ri' and shat-sruti-ri are in no way different to shuddha 'ga' and sadharana 'ga' already noticed. The same observation will be made in the case of पंचश्रुतिक ष & षट्श्रुतिक ष which are no other than the sounds of shuddha 'ni' and kashuka 'ni'. Although this is so, it is convenient to retain these new swara names in practice. Somnath then compares these last named vikṛtas with those of the other music schools which use the vikṛta terminations 'tivra', tivratara', and tivratama'. He says

तीव्रश्रुतुःश्रुतिखे पञ्चश्रुतिकत्व एव तीव्रतरः ।
षट्श्रुतिकत्वे तीव्रतम इति पर ता यथायोग्यम् ॥

Translation—Tivra 'ri' is चतुःश्रुतिक रि, tivratara 'ri' is पञ्चश्रुति रि and tivratama 'ri' is the same as षट्श्रुतिक रि. The same reasoning applies to the case of dhaivata; but the author adds पर ता यथायोग्यम् that is, these vikṛtas cannot be used indiscriminately.

Observation—The commentary on these lines is rather interesting; परं ता यथायोग्यम् । गत्य मस्य च षट्श्रुतिखे तीव्रतम इति एकेव सङ्गा, । ० there will be no चतुःश्रुति ग & पञ्चश्रुति ग or म चतुःश्रुति ग is the same as अतर ग & पञ्चश्रुति ग is मृदु म.

These are independent names. These notes take no other सङ्गा or names in practice. Then again चतुःश्रुति म is the shuddha 'ma' itself and पञ्चश्रुति म is never heard of in practice. षट्श्रुति म is no doubt allowed but it will be called tivratara ma and not tivratama 'ma, which name would have been more proper. The reader may compare this reasoning with that of Lochana and Ahobala with advantage. The author defends these new सङ्गा by citing a text from Ratnakara:—न च पूर्वोक्तं निगमानां समपतृतीयश्रुतिरप्यत्र विद्यमानां चतुःश्रुतिमत्त्वं पुरातनानुक्तत्वात् शास्त्रान्तरं विद्वद्मः. According to Sharangdeva himself,—यद्वालङ्क्यप्रधानानि शास्त्राप्येतानि । अर्थात् शास्त्राणामन्यथात्रमपि लक्ष्यस्थापनाय योक्तम्. Somnath means to say that although the ancient authorities did not allow 'ni' 'ga' and 'ma' to rise upto the third srutis of their respective succeeding notes, the actual fact was that these vikṛtas were found in practice. That being so, their use must be justified by the उपलक्षणन्याय process. That is by saying that the old "mrdu" places had only taken new names.

The author then further supports his argument by showing what other writers under similar situations did

षट्श्रुतिकं म पञ्चश्रुतिकी च चतुःश्रुती विधातव्यम् ।
रागविवेकायान्यथास्थाने कहेनायमितिपि ॥

Pandit Somnath then proceeds to locate his vikrita swaras thus :

इति सप्तोक्ताः शुद्धा विकृतान् सप्तैव वच्मि सहनाम्ना ।
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निगमा मृदुपर समयाः समपतृतीयश्रुतिस्थित्या ॥

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These notes are the result of 'ri' and 'dha' rising through the srutis of the next following notes गांधार & निषाद.

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इति तेषु संभवन्ति त्रयोऽन्या एभ्यो विलक्षणा विकृताः ।
पंचश्रुतिःशुचेर्गांधारात् साधारणतश्च षट्श्रुतिकः ॥
रिर्न पृथक् तादृग्धो नेः कैशिकिनश्च षट्श्रुतिर्गो मात् ।
किंतूक्त रिगधमानां व्यवहृतये पृथगिताः संज्ञाः ॥

Translation—No doubt three more vikrita swaras will result from this arrangement, but it will be observed that pancha sruti 'ri' and shat-sruti-ri are in no way different to shuddha 'ga' and sadharana 'ga' already noticed. The same observation will be made in the case of पञ्चश्रुतिक घ & षट्श्रुतिक घ which are no other than the sounds of shuddha 'ni' and kashika 'ni'. Although this is so, it is convenient to retain these new swara names in practice. Somnath then compares these last named vikritas with those of the other music schools which use the vikrita terminations 'tivra', 'tivratara', and 'tivratama'. He says

तीव्रचतुःश्रुतित्वे पञ्चश्रुतिकत्वे एव तीव्रतरः ।
षट्श्रुतिकत्वे तीव्रतम इति परं ता यथायोग्यम् ॥

Translation—Tivra 'ri' is चतुःश्रुतिक रि, tivratara 'ri' is पञ्चश्रुति रि and tivratama 'ri' is the same as षट्श्रुतिक रि. The same reasoning applies to the case of dhaivata; but the author adds परं ता यथायोग्यम् that is, these vikritas cannot be used indiscriminately.

Observation—The commentary on these lines is rather interesting; परं ता यथायोग्यम् । गस्य मस्य च षट्श्रुतित्वे तीव्रतम इति एकैव सङ्गा; i.e. there will be no चतुःश्रुति ग & पञ्चश्रुति ग or म चतुःश्रुति ग is the same as अंतर ग & पञ्चश्रुति ग is मृदु म.

These are independent names. These notes take no other संज्ञा or names in practice. Then again चतुःश्रुति म is the shuddha 'ma' itself and पञ्चश्रुति म is never heard of in practice. षट्श्रुति म is no doubt allowed but it will be called tivratara ma and not tivratama 'ma', which name would have been more proper. The reader may compare this reasoning with that of Lochana and Ahobala with advantage. The author defends these new सङ्गा by citing a text from Ratnakara:—न च पूर्वोक्तं निगमानां समपतृतीयश्रुतिरपत्त्वं रिधगमानां चतुःश्रुतिमत्त्वं च पुरातनातुक्तत्वात् शास्त्रांतरं विद्वद्भिः. According to Sharangdeva himself;—यद्दालक्ष्यप्रधानानि शास्त्राण्येतानि । अर्थात् शास्त्राणामन्यथापि लक्ष्यस्थापनाय श्रेष्ठम्. Somnath means to say that although the ancient authorities did not allow 'ni' 'ga' and 'ma' to rise upto the third srutis of their respective succeeding notes, the actual fact was that these vikritas were found in practice. That being so, their use must be justified by the उपलक्षणन्याय process. That is by saying that the old "mrdu" places had only taken new names.

The author then further supports his argument by showing what other writers under similar situations did.

षट्श्रुतिकं म पञ्चश्रुतिकी च चतुःश्रुती रिधावगदत् ।
रागविशेषाभ्यामन्यासुथाने कश्चिनापमुरिति ॥

Translation.—The vikritas षट्श्रुतिम, चतुःश्रुतिरि, पंचश्रुतिरि, चतुःश्रुतधि, पंचश्रुतधि have also been mentioned by Pandit Kallinath in his commentary on the Ratnakara.

Observation.—The whole point of the discussion is this:— Music is a progressive science and art. It progresses with the taste and needs of the community. In deshi music, we cannot always pretend to stick to the old orthodox theories and rules. New technical expressions and new rules are bound to come in course of time, and we must be prepared to make room for them. The author points out that even Hanuman was of the same opinion:—

ग्रामश्रुतिस्वरादेरनियम उक्तो हनुमता येन ।
 देसी रामे येषां श्रुतिस्वरेत्यादि पदेन ।
 ग्रामो षट्जगमप्यसौ ।
 श्रुतयः षट्जादिषु नियताधतुरादयः ।
 स्वरा शुद्धविकृतलक्षणाः ।
 आदि शब्देन पाठवैवाच्यसंपूर्णत्वानि ग्रहांशादि जातयः ।

In all these matters, changes are bound to happen and we shall have to treat them with respect.

Having discussed the first two questions out of the five raised by us, we shall now proceed to give definite answers to them. Pandit Somnath uses fifteen vikrita swara-names, in all and these are :

१ तीव्र री	६ मृदु ग	११ तीव्रतर ध
२ तीव्रतर री	७ तीव्रतम ग	१२ तीव्रतम ध
३ तीव्रतम री	८ तीव्रतम म	१३ कैशिक नि
४ साधारण ग	९ मृदु प	१४ काकली नि
५ अंतर ग	१० तीव्र ध	१५ मृदु सा

Five of these will have to be rejected because they coincide with three vikrita and two shuddha swaras already counted. In other words they overlap these latter. Thus:— तीव्रतर रि, तीव्रतम रि, तीव्रतम ग, तीव्रतर ध, तीव्रतम ध are identical with शुद्ध ग, साधारण ग, शुद्ध ग, शुद्ध नि, कैशिक नि respectively. Real vikritas according to the Pandit are those notes which have independent sounds. The remaining ten being unobjectionable, it may be said that the system of Raga Vibodha is based on seventeen swaras, (seven shuddhas and ten vikritas) only. The following chart will clearly show how Somnath placed his swaras on the srutis.

	शुद्धस्वरा	विरतस्वराः	False Vikrits	Hindustani Swaras
१ तीव्रा	...	कैशिक नि	तीव्रतम ध	कोमल नि ११
२ कुमुदती	...	काकली नि	...	तीव्र नि १२
३ मंदा	...	मृदु सा	...	... (तीव्रतम नि)
४ उदावती	सा	...	...	सा (१)
५ दयावती	...	...	...	...
६ रंजनी	...	...	...	...
७ रक्तिका	री	...	...	कोमल री (२)
८ रीद्री	...	तीव्र री or चतुःश्रुति	...	...
९ क्रोध्या	ग	...	तीव्रतर री	तीव्र री (३)
१० वज्रिणा	...	साधारण ग	तीव्रतम री	कोमल ग ४)
११ प्रमारिणी	...	अंतर ग	...	तीव्र ग (५)
१२ प्रीति	...	मृदु म	...	... (तीव्रतम ग)
१३ सार्जनी	म	...	तीव्रतम ग	म (६)
१४ क्षिति	...	...	...	...
१५ रना	...	तीव्रतम म	...	तीव्र म (७)
१६ मर्दापिनी	...	मृदु प	...	... (तीव्रतम म)
१७ आलापिनी	प	...	...	प (८)
१८ मर्दती	...	...	...	...
१९ रोहिणी	...	...	...	...
२० रम्या	ध	...	...	कोमल ध (९)
२१ उमा	...	तीव्र ध=चतुःश्रुति	...	...
२२ शोभिणी	नि	...	तीव्रतर ध	तीव्र ध (१०)
	७	१०		

मेल नाम	सा	री	ग	म	प	ध	नि	Hindustani Equivalents
१ मृसारी	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री ग म प ध नि सा
२ रेव श्रुति	"	"	अंतर	"	"	"	"	सा री ग म प ध ध सा
३ सामवादी	"	"	शुद्ध	"	"	"	काकली	गा री री म प ध नि गा
४ तोड़ी	"	"	साधा- रण	"	"	"	कैशिक	सा री ग म प ध नि सा
५ नादरामकी	"	"	"	"	"	"	मृदुगा	सा री ग म प ध नि गा

मेल नाम	सा	री	ग	म	प	ध	नि	Hindustani Equivalents
६ भैरव	”	”	अंतर	”	”	”	कैशिक	सा री ग म प ध नि सां
७ वसंत	”	”	”	”	”	”	काकली	सा री ग म प ध नि सां
८ वसंत भैरवी	”	”	मृदुम	”	”	”	कैशिक	सा री ग म प ध नि सां
९ मालवगौड	”	”	”	”	”	”	मृदुसा	सा री ग म प ध नि सां
१० रीतिगौड	”	”	शुद्ध साधा-	”	”	तीव्रतर	कैशिक	सा री री म प ध नि सां
११ आभीरनाट	”	तीव्रतर	रण	”	”	शुद्ध	मृदुसा	सा री ग म प ध नि सां
१२ हमीर	”	”	मृदुम	”	”	”	”	सा री ग म प ध नि सां
१३ शुद्धरामक्री	”	शुद्ध	”	तीव्रतम	”	”	”	सा री ग म प ध नि सां
१४ शुद्धवराटी	”	”	साधा- रण	”	”	”	”	सा री ग म प ध नि सां
१५ श्री	”	तीव्र	”	”	”	तीव्र	कैशिक	सा री ग म प ध नि सां
१६ कल्याण	”	तीव्रतर	”	मृदुप	”	शुद्ध	मृदुसा	सा री ग म प ध नि सां
१७ कांबोदी	”	”	अंतर	शुद्ध	”	तीव्रतर	काकली	सा री ग म प ध नि सां
१८ मछारी	”	”	मृदुम	”	”	”	मृदुसा	सा री ग म प ध नि सां
१९ सामंत	”	तीव्रतम	अंतर	”	”	तीव्रतम	काकली	सा ग ग म प नि नि सां
२० कर्णाटगौड	”	”	मृदुम	”	”	तीव्र	कैशिक	सा ग ग म प ध नि सां
२१ देशाक्षी	”	”	”	”	”	तीव्रतर	मृदुसा	सा ग ग म प ध नि सां
२२ शुद्धनाट	”	”	”	”	”	तीव्रतम	”	सा ग ग म प नि नि सां
२३ सारंग	”	तीव्रतर	तीव्रतम	मृदुप	”	”	मृदुसा	सा री म म प नि नि सां

Explanatory Note

शुद्ध रि, ध = कोमल रि, कोमल ध
 शुद्ध ग, नि = तीव्र रि, तीव्र ध
 तीव्रतर री, तीव्रतर ध } तीव्र री, तीव्र ध

तीव्रतम रि, ध = कोमल ग, कोमल नि
 मृदु म, मृ. प, मृ. सा = accepted as तीव्र ग, तीव्र म, तीव्र नि
 केशिक नि = कोमल नि
 काकली नि = तीव्र नि
 साधारण ग = कोमल ग
 अतर ग = तीव्र ग
 For details refer to the chart of swaras.

मेल नाम	जन्य राग नाम
१ मुखारी	१ मुखारी.
२ रेवगुप्ति	१ रेवगुप्ति.
३ सामवराळी	१ सामवराळी, २ वसंतवराळी.
४ तोडी	१ तोडी.
५ नादरामकी	१ नादरामकी.
६ भैरव	१ भैरव, २ पौरवी.
७ वसंत	१ वसंत, २ टक, ३ द्विजेज, ४ द्विदोळ.
८ वसंत भैरवी	१ वसंत भैरवी, २ मारवा
९ मालवगौड	१ मालवगौड, २ चैतीगौडी, ३ पूर्वी, ४ पाडी, ५ देवगांधार, ६ गौडकिया, ७ कुंजी, ८ बहुली, ९ रामकी, १० पावक, ११ आमावरी, १२ पचम, १३ बंगाल, १४ शुद्धललित, १५ गुर्जरी, १६ परज, १७ शुद्धगौड.
१० रीनिगौड	१ रीनिगौड.
११ आभीर	१ आभीर.
१२ इमीर	१ इमीर, २ त्रिहृगड, ३ केदार.
१३ शुद्धवराटी	१ शुद्धवराटी.
१४ शुद्धरामकी	१ देशकार, २ ललित, ३ जेतभी, ४ विवेणी, ५ देशी.
१५ भीराग	१ भी, २ मालवभी, ३ घणामी, ४ भैरवी, ५ धवला, ६ संघवी.
१६ कल्याण	१ कल्याण.
१७ कांबोदी	१ कांबोदी, २ देवकी.
१८ मझागि	१ मझारी, २ नटमझार, ३ पूर्वगौड, ४ भूपाळी, ५ गौड, ६ शंकरामरण, ७ नटनारायण, ८ नारायणी, ९ केदार, १० सालकनाट, ११ बेलावटी, १२ मण्यमादि, १३ सानेरी, १४ सांगाष्टी.
१९ सामंत	१ सामंत.
२० कर्णाट	१ कर्णाट, २ अशुणा, ३ नागधनि, ४ शुद्धबंगाल, ५ वर्णनाट, ६ तुक्कटोडी or ईरास.
२१ देशाक्षी	१ देशाक्षी.
२२ शुद्धनाट	१ शुद्धनाट.
२३ सारंग	१ सारंग.

It is not necessary to discuss the definitions of these derivative Ragas here. Many of these Ragas will be found to have retained the major portions of their old forms to this day and thus the Raga Vibodha will be of great importance, from the historical point of view, to the Northern musician. Many of Somnath's Ragas are known to the Northern musician. The fifth question therefore may be safely answered in the affirmative.

CHATUR DANDI PRAKASIKA

We shall now take up for discussion the Chaturdandi Prakasika written by Pandit Vyankata Makhi. The work was written about the shaka year 1560, that is to say about thirty years after Somnath's Raga Vibodha. Vyankata Makhi is admittedly a Southern writer. Chatur dandi prakasika is still respected as a great authority in the southern presidency. Pandit Subrama Dixit of Etayyapuram, who died only five or six years ago was the last exponent of the Chaturdandi system. Vyankata Makhi claims to have finally decided the twelve note-system in the South. It is also his claim that he was the first to lay down the seventy-two mela-kartas or melody-types for Raga classification. You are aware that in the Swara Mela Kalamidhi and in the Raga Vibodha, the vikrita swaras recognised were more than five. It is true that Rama Amatya knew of the school which was ready to accept "mrdu" or "chyuta" ma and "mrdu" or "chyuta" sa as representing the antara ga and kakali ni, but the "mrdu" notes were not definitely discarded.

Vyankata Makhi definitely does it as follows:—

चतुश्चतुश्चतुश्चैव षड्जमध्यमपंचमाः ।
द्वे द्वे निपादगांधारौ त्रिद्वी रिपमधैवतौ ॥

This is the usual rule which we have discussed more than once.

विकृतास्तु स्वराः पंचेत्यस्माभिरवधार्यते ।
रत्नाकरे तु निःशंको विकृतान् द्वादशस्वरान् ॥

अत्रतीन् केचन पुनः सप्ताहुर्विद्वत्स्वरान् ।
 सर्वमेतन्ममालोक्य लक्ष्यमार्गानुसारतः ॥
 स्वराः पंचैव विद्वता इति मिद्वदिति मया ।
 तत्र पच स्वरान् सम्यग् विविच्य व्याहरामहे ॥
 साधारणश्च गांधारो गांधारश्चांतरामिधः ।
 द्वौ ती च मध्यमक्षेत्रमभूर्तो विद्वतो स्वरा ॥
 वरालीमध्यमर्धकः पचमक्षेत्रमभवः ।
 पञ्जक्षेत्रसमुद्भूतो कैशिकीकाकलीस्वरा ॥
 एवमेते स्वरा-पच विद्वता इति निर्णयः ।
 आहत्य शुद्धविद्वताः स्वरा द्वादश कीर्तिताः ॥

The five vikṛta swaras acknowledged by Vyankat Makhi therefore, are

(१) साधारण गांधार (२) अंतर गांधार (३) वराली म (४) कैशिक नि (५) काकली नि

Of these five notes, वराली म is a new name and requires explanation
The Pandit says —

चतस्रः श्रुतयः प्रोक्ताः पंचमे गीतवेदिभिः ।
 अदायाद्यां द्वितीयां च तृतीयामपि तच्छ्रुतिम् ।
 वरालीमध्यमः प्रोक्तः श्रुतित्रयसमन्वितः ॥

Thus shows that the वराली म of Vyankata Makhi was the मृदु प of Somnatha. It stood on the third sruti of the panchama. The tivratama 'ma' of the Raga Vibodha was one sruti lower. There were some other swara names in general use at Vyankat Makhi's time, and these may also be noted.

तथाहि शुद्धक्रमशुद्धधैवतयोः पुनः ।
 त्रिभिश्चतुत्येकमात्रेण सर्वदाप्येकरूपता ॥

Translation — Shuddha 'ri' and shuddha 'dha' are never allowed to change the character of three sruti notes, and hence never assume other names. They always remain shuddha 'ri' and shuddha 'dha'.

यदा तु शुद्धगांधारो गांधारत्वं प्रपद्यते ।
 तदा द्विश्रुतिको ज्ञेयो मुम्भारीगणके यथा ॥

Translation — When the shuddha gandhara retains its name "gandhara" unchanged it is always a "dwi-shrutic" or shuddha gandhara, as in the case of the Mukhari ragam

यदा स एव जायेत ऋषभस्तु तदा पुनः ।

पंचश्रुतिरिति ज्ञेयः श्रीरागोऽत्र निदर्शनम् ॥

Translation.—When the gandhara is described in terms of the 'ri' as in Sri Raga, its two srutis are added to those of the preceding rishabha, with the result that the gandhara is then called पंचश्रुतिऋषभ (3 plus 2 srutis rishabha).

एवं शुद्धनिषादस्य निषादत्वं यदा भवेत् ।

तदाहिद्विश्रुतित्वं स्यात् मुखार्यत्र निदर्शनम् ॥

स एव यदि जायेत धैवतस्तु तदा पुनः ।

पंचश्रुतिरिति ज्ञेयः शंकराभरणे यथा ॥

The same reasoning applies to the shuddha nishada, when it remains shuddha nishada, it is of two srutis, and when it becomes a dhaiyata, it is पंचश्रुति धैवत as in the Shankarabharana raga.

Observation.—This change of names is made to avoid the necessity of having two notes of the same denomination in the same mela or raga.

तथैव शुद्धगांधारनिषादौ द्वौ द्विरूपिणौ ।

साधारणाख्यगांधारः शुद्धर्षभयुतो यदि ॥

तदा त्रिश्रुतिकोऽज्ञेयो भूपालोऽत्र निदर्शनम् ।

तस्यैव पंचश्रुतिना ऋषभेणान्वयो यदि ॥

तदैक श्रुतिता ज्ञेया श्रीरागोऽत्र निदर्शनम् ।

यदा ऋषभसंज्ञोऽयं तदा षट्श्रुतिको भवेत् ॥

Translation.—Then again the two notes shuddha 'ga' and shuddha 'ni' have some other characters assigned to them according to their distance or position in relation to the preceding notes. Thus take the case of the sadharana gandhara. This is the normal three sruti gandhara above shuddha rishabha. It is used in the Bhupala raga. If this sadharana gandhara is taken in connection with or used after a पंचश्रुति रि (the preceding note) then it is only an एकश्रुति ग as in the Shri Raga. But if this sadharana 'ga' is described in terms of rishabha, then the three srutis of 'ri' will be added to the three srutis of 'ga', and the resulting note will be called the षट्श्रुति ऋषभ.

Observation.—This process is very clear and needs no further explanation. It is also applicable to shuddha ni and kaishika ni. These

last mentioned notes will optionally become पंचश्रुति घ and षट्श्रुति घ respectively.

Before proceeding to the "mela" chapter of the Chaturdandi Prakasika, I would like to draw your attention to the Pandit's description of the vadi samvadi swaras. He says:—

चतुर्विध स्वरेष्वेयु वादी राजा प्रकीर्त्यते ।
 संवादीत्यनुगारित्वादस्यामात्यो विधीयते ॥
 विवादी विपरीतत्वाद् धीरुक्तो रिपूपमः ।
 स्वरूपमर्दनं तेन प्रयोगेस्याद्विवादिना ॥
 स्वरूपमर्दनामावे गीते रक्तिर्नलभ्यते ।
 शत्रूपमर्दने हिस्याद्राज्ञा लोके प्रकाशनम् ॥
 नृपामात्यानुगारित्वादिनुवादी तु मूलवन् ॥

Observation.—The pandit obviously advises the use of the proper vivadis in their proper places. He says that thus use will enhance the attractiveness of the raga. In their absence गीतेरक्तिर्नलभ्यते. This is something like the Western "dissonances" theory.

I do not think I ought to take you through the laborious process of the construction of the seventy two thatas of Vyankata Makhi. The process is well known in the Southern presidency. I have fully explained it in my own works, the Lakshya Sangeeta and the Hindusthani Sangeeta Paddhati. It may be noted that Vyankata Makhi does not use all the seventy two melas in classifying his janya ragas. He uses only nineteen of them. These are:—

आदिमः सर्वमेलानां मुञ्जारीमेल उच्यते ।
 मेलः सामवराब्ज्यास्वरागस्यातः परं मतः ॥
 ततो मूपालमेलोऽथ हेडुञ्जीमेल ईरितः ।
 बसतभैरवीमेलो गौळमेलस्ततः परम् ॥
 भैरवीमेल आदीर्या मेलः भीरागमेलकः ।
 कामोजी मेलकोऽथ स्यात् शक्रामरणस्य च ॥
 सामतमेलो देशाक्षिमेलो नाटस्यमेलकः ।
 मेलः शुद्धवराब्ज्यास्वरागस्यातः परं मतः ॥
 मेलः पंतुवराब्ज्याश्च शुद्धरामक्रियापुतः ।
 मेलः सिहरवारस्यास्मत्सुष्टरागस्यमेलकः ॥
 कस्यार्णारागमेलभेलाहृत्यैकोनविंशतिः ॥

अथ मेलस्वराः ।

१ मुखारी	सा	री शुद्ध	ग शुद्ध	म शुद्ध	प शुद्ध	ध शुद्ध	नि शुद्ध
२ सामवराळी	सा	”	साधारण	”	”	”	काकली
३ भूपाल	सा	”	”	”	”	”	कैशिक
४ हेखुञ्जी	सा	”	अंतर	”	”	”	शुद्ध
५ वसंतभैरवी	सा	”	”	”	”	”	कैशिक
६ गौळ	सा	”	”	”	”	”	काकली
७ भैरवी	सा	पंचश्रुति	साधारण	”	”	”	कैशिक
८ आहीरी	सा	”	”	”	”	”	कैशिक
९ श्री	सा	”	”	”	”	पंचश्रुति	कैशिक
१० काभोजी	सा	”	अंतर	”	”	”	कैशिक
११ शंकराभरण	सा	”	”	”	”	”	काकली
१२ सामंत	सा	”	”	”	”	षट्श्रुति	”
१३ हेशाशी	सा	षट्श्रुति	”	”	”	पंचश्रुति	”
१४ नाट	सा	”	”	”	”	षट्श्रुति	”
१५ शुद्धवराळी	सा	शुद्ध	शुद्ध ग	वराळी	”	शुद्ध	”
१६ पंतुवराळी	सा	”	साधारण	”	”	”	”
१७ शुद्धरामक्री	सा	”	अंतर	”	”	”	”
१८ सिंहरव	सा	पंचश्रुति	साधारण	”	”	पंचश्रुति	कैशिक
१९ कल्याणी	सा	”	अंतर	”	”	”	काकली

These are really interesting thatas. Nearly all the ten thatas of the Hindusthani Paddhati are to be found among them. सिंहरव मेल is a new introduction by Vyankata Makhi Pandit. He says :—

मेलः सिंहरवे रागे वैकटाध्वरिकल्पिते

This is a "new" Raga introduced by the Pandit In the Hindusthani Sangeeta, tivra 'ma' does not come in suitably in a raga which takes the 'ga' and 'ni' komala The Pandit had to invent one for the mela

Here there is an interesting problem before the scholars If Vyankata Makhi has invented the Sinharava Raga, and put it under the 58th mela, how is it that the raga appears in the Sangeet Panjat of Ahobala Pandit? Ahobala puts it under his Bharavi thata, that is our modern Asavari Thata. Was Parijat written after the Chaturdandi? It is quite true this raga does not appear in any of the other works of the southern system. There was a very old raga called "Ghantarava" in existence Even the Ratnakara mentions the "Ghantarava" It is quite possible that Ahobala took it from the Chaturdandi, and changed its thata in deference to the northern rule of avoiding tivra 'ma' in combination with the komala 'ga' and komala 'ni' Again, Chaturdandi has ननुनारितस्वध्रुवोभेदो नर्दिकरूपभाः । अरितमेदस्वयोर्यद्वत्स्वर्णटक्किटयोः । and Parijata has ध्रुवयःस्पुःस्वराभिन्नाः धारणत्वेन हेतुना । अहिकेडलयचक्रभेदोक्तिः शाब्दमता.

The idea is the same Has Ahobala taken his idea from the Chaturdandi Prakasika? Ahobala made it a northern "Sinharava", we shall say by the कामचारप्रवर्तितन्याय. It is also possible that Ahobala saw Somnath's Raga Vibodha That would explain his calling tivratara 'ma', tivratama 'ma', also. But we need not go into a prolonged discussion of those points because that will be an unjustifiable digression.

Vyankata Makhi classified his ragas under his nineteen thatas as follows:—

जनक मेलनाम	अन्य रागः
१ सुषारी	१ सुषारी
२ सामवराळी	२ सामवराळी
३ भूपाल	१ भूपाल, २ मिमपद्म
४ वसंत मैत्री	१ वसंत मैत्री
५ गौळ	१ गौळ, २ गुंडकिया, ३ सालगनाट, ४ मादावकिवा, ५ कलिया, ६ पाडी, ७ गुर्जरी, ८ बहुली, ९ मलहरी, १० सावेरी, ११ जारादीन्, १२ पूर्वगौळ, १३ कर्णाटवंगान, १४ सौतापू.
६ आहरी	१ आहरी
७ मैत्री	१ मैत्री

जनक भेलनाम	जन्य रागः
८ श्रीराग	१ भी, २ सालंगमैरवी, ३ घन्यासी, ४ मालवश्री, ५ देवगांधार, ६ आंधाली, ७ बेलावली, ८ फंनडगौळ.
९ हेजुळी	१ हेजुळी, २ रेवगुप्ति
१० कामोजी	१ कामोजी, २ केदारगौळ, ३ नारायणगौड.
११ शंकराभरण	१ शंकराभरण, २ आरसी, ३ नागध्वनि, ४ साम, ५ शुद्धवसंत, ६ नारायण-देशाक्षी, ७ नारायणी.
१२ सामंत	१ सामंत
१३ देशाक्षी	१ देशाक्षी
१४ नाट	१ नाट
१५ शुद्धवराळी	१ शुद्धवराळी
१६ पंतुवराळी	१ पंतुवराळी
१७ शुद्धरामक्रिया	१ शुद्धरामक्रिया
१८ सिहरव	१ सिहरव
१९ कल्याणी	१ कल्याण

We shall not go into the special characteristics of these janya ragas because that is beyond the province of this paper.

SANGEETA SARAMRITA

This work was written by the Maharaja Tulajirao Bhonsle of Tanjore. You all know that Tanjore was formerly ruled by a Mahratta belonging to the family of the Maharaja Shivaji. The date, therefore, of the Sangeeta Saramrita will not be difficult to determine. It is said to be 1783 A.D. or thereabouts. Sangeeta Saramrita deals with the southern system of music, and its shuddha scale, is therefore,

the Mukhari scale, or the present Kanakangi. I have already stated the Hindusthani notes corresponding to the shuddha notes of the Karnatik system. In the Swaradhyaya, Tulajirao brings in many of the details described by Pandit Sharangdeva in his Sangeeta Ratnakara, without adding, which is unfortunate, any reason or explanation for the procedure. The sruti, swara, grama, murchhana, tana, alamkara, jati, chapters are all brought in more or less in the language of Sharangdeva. After that the author abruptly begins as follows:—

प्रत्येकमद्य रागाणां मेलमादी निरूप्यते ।
 रागाः सम्यक् निरूप्यते उदाहरणपूर्वकम् ॥
 मेलमानं विना मेलजन्यं ज्ञातुं न शक्यते ।
 तस्मान्मेल प्रबोधार्थं तत्स्वरूपं प्रदर्शयते ॥

After that comes in the मेलनप्रक्रिया

बहुत्र आपस्तदुपरि चत्वारः क्रमस्तः स्वराः ।
 ऋषभारम्यानकाश्चापि गांधारास्यानकाश्चते ॥
 आपस्तत्र न गांधाराश्चतुर्थेः ऋषभो न हि ।
 ऋषभाश्चपि गांधारीं द्वितीयकृतीयकौ ॥
 प्रथमादित्रयं ह्यत्र भवेत्स्वमसंज्ञकम् ।
 द्वितीयादि त्रयं चात्र भवेद्गांधारासंज्ञितम् ॥

It will be easily seen that the author here follows the ~~process~~ ~~method~~ by Pandit Vyankata Makhi for obtaining his ~~seventy-two notes~~ ~~from~~ the 12 swaras of the scale. Tulajirao has also ~~the same~~ ~~in~~ ~~the~~ scale. That the author knew about the Chaturdashadi is ~~clearly~~ ~~seen~~ ~~from~~ the following reference by him to that work:—

धनुर्द्विप्रकाशिकाकारस्तु एवं लक्ष्यस्य बहाराणां विषयं दृष्ट्वा तस्मात्प्रसिद्धं चतुर्दशस्वरं, अत्रापि नृ
 मस्यमप्रामविमाजकपंचमस्य स्वीयतिरस्वैव बहवमादे कः ६ निरूप्यते तत्रात् ॥ १११६ ॥
 पंचमस्यमः” इति स्य बहवमुच्यते । मस्यमप्रामकदापि तत्रात् ॥ १११७ ॥
 योगादर्चनात् बहुत्रामे एव मस्यमादिप्रकृतिरुच्यते अत्रापि मस्यमप्रामकदापि तत्रात् ॥ १११८ ॥
 पंचमस्यमेन सह बहुत्रापि मस्यमप्रामकदापि तत्रात् ॥ १११९ ॥

This was also the argument of Vyankata Makhi ~~in~~ ~~his~~ ~~work~~ ~~on~~ ~~the~~ ~~subject~~ ~~of~~ ~~the~~ ~~seventy-two~~ ~~notes~~ ~~of~~ ~~the~~ ~~scale~~ expression बहव्यस्यमः. The author ~~also~~ ~~gives~~ ~~the~~ ~~following~~ ~~notes~~ ~~as~~ ~~follows~~ :—

बहुत्रापि बहुत्रापि ॥ १११६ ॥
 बहुत्रापि बहुत्रापि ॥ १११७ ॥
 बहुत्रापि बहुत्रापि ॥ १११८ ॥
 बहुत्रापि बहुत्रापि ॥ १११९ ॥

कैशिक्याख्यनिषादश्च काकल्याख्यनिषादकः ।
पंचैते विकृताः शुद्धैः स्वरैर्द्वादश कीर्तिताः ॥

Then come the optional names for some of the vikrita notes.

त्रिहाय स्वस्वसंज्ञा ये स्वरा अन्योन्यसंज्ञिकाः ।
तेषां नामांतराण्यत्र विहितानीह तद्यथा ॥
शुद्ध गांधार एवायं पंचश्रुत्युपमाह्वयः ।
साधारणाख्यगांधारः षट्श्रुत्युपमसंज्ञकः ॥
तथा शुद्धनिषादोऽपि स्यात्पंचश्रुतिधैवतः ।
स्यात् कैशिकनिषादोऽपि तथा षट्श्रुतिधैवतः ॥
लक्ष्यानुसारतस्त्वेतत् लौकिकं सुखबोधकम् ॥

On the possible number of melas, and on the selection of only the useful ones from among them, Tulajirao Maharaj says :—

मेला बहुविधास्तत्र द्विसप्ततिरितिस्फुटम् ।
निरूपयति तद्भेदान् चतुर्दशप्रकाशिका ॥
एकोनविंशतिस्तत्र तेनैव समुदाहृताः ।
इत्येवं विविधा मेलाः प्रस्तारपरिभाषया ॥
उर्न्नीतास्तेन तत्रेति त्यक्त्वा तानप्रसिद्धान् ॥

The author of the Saramrita enumerates the following thatas as useful for the classification of his ragas.

तत्र श्रीरागमेलोऽथ शुद्धनाव्याश्च मेलकः ।
ततो मालवगौळस्य वेलावल्याश्च मेलकः ॥
वराळामेलरामक्रीरागमेलौ ततः परम् ।
शंकरा भरणाख्यस्य मेलः स्यात्तदनन्तरम् ॥
कांवीजीरागमेलः स्याद्भैरव्या मेलकस्ततः ।
मुखारीमेलको वेगवाहिन्याश्चैव मेलकः ॥
सिंधुरामक्रियामेलो हेजिज्जीमेलकस्ततः ।
मेलः सामवराळ्याख्यरागस्यातः परं मतः ॥
वसंतभैरवीमेलो भिन्नषड्जस्य मेलकः ।
देशाक्षीरागमेलोऽथ छायानाटस्य मेलकः ॥
सारंगरागमेलश्च तीर्डीमेलस्ततःपरम् ।
कल्याणीरागमेलश्चेत्येकविंशतिरीरिताः ॥

मेलनामानि ।

१ भी	२१ वेगवाहिनी
२ शुद्धनाट	२२ सिंधुरामकी
३ मालवगीळ	२३ हेजिखि
४ बिलावली	२४ सामवराळी
५ बाराळी	२५ वसंतमैरवी
६ रामकी	२६ मिमषड्ज
७ अकरामरण	२७ देसाक्षी
८ कांबोजी	२८ अयानट
९ मैरवी	२९ सारंग
१० सुखारी	३० तोळी
	३१ कल्याणी

Each mela is then duly defined thus —

मेलोद्भवेणु रागेषु भीरागोऽय चिरंतनः ।
 प्रामराग इति प्रोक्तो रागांगमतिक्रमन ॥
 भीरागः परिपूर्णः समर्हासन्यामसप्ततः ।
 गेयः सायान्द्रममये ह्यय तानत्रिवर्जितः ॥
 शुद्धाः स्युः समपाः पंचधुर्ताक्रमधेवती ।
 साभारणास्यगाधारः कैलिकयास्यनिवादकः ॥

This is practically the Kaphi Thata of the Hindusthani musician. In the southern presidency Shri Raga is still sung with these notes. Our Kaphi Thata, as you have seen, corresponds with their, सरहरप्रिग Thata. I shall not trouble you with the Sanskrit descriptions of the remaining Thatas. Tulajirao Bhonsle was a faithful follower of Vyankata Makhi and the Shruti Swara chart given for the Chaturdamdi prakasika will be a good guide to the Shrutis and Swaras of the Sangeet Saramrit. The अन्यराग of Shri Thata will be of some interest to the Hindusthani musicians also

The twenty-one thatas of Tulajirao may be written with their Swaras thus:—

१ थी..... सा री ग म प ध नि सा	११ वेगवाहिनी... सा री ग म प ध नि सा
२ शुद्धनाट... सा ग ग म प नि नि सा	१२ सिंधुरामक्री... सा री ग म प ध नि सा
३ मालवगौड.... सा री ग म प ध नि सा	१३ हेजिछी..... सा री ग म प ध ध सा
४ वेलावली..... सा री ग म प ध नि सा	१४ सामवराळी... सा री री म प ध नि सा
५ वराळी..... सा री री म प ध नि सा	१५ वसंतभैरवी... सा री ग म प ध नि सा
६ शुद्धरामक्री... सा री ग म प ध नि सा	१६ भिन्नपड्ज... सा री ग म प ध नि सा
७ शंकरामरण... सा री ग म प ध नि सा	१७ देशाक्षा..... सा ग ग म प ध नि सा
८ कामोर्जा..... सा री ग म प ध नि सा	१८ सारंग.....सा री म म प नि नि सा
९ भैरवी..... सा री ग म प ध नि सा	१९ छायानट.....सा ग ग म प ध नि सा
१० पुतारी.....सा री री म प ध ध सा	२० तोडी.....सा री ग म प ध नि सा
	२१ कल्याणी.....सा री ग म प ध नि सा

Janak melas, and the janya ragas.

१ थीभेल	१ कंठगौळ, २ देवगांधार, ३ सालंगभैरवी, ४ शुद्धदेसी, ५ माधवमनोहरी, ६ मध्यमप्राम, ७ सैधवी, ८ हुसेनी, ९ थीरंजनी, १० मालवश्री, ११ देवमनोहरी, १२ जयंतसेन, १३ मणिरंग, १४ मध्यमादि, १५ शुद्धधन्यासी
२ शुद्धनाट	१ शुद्धनाट, २ उदयरविचंद्रिका (described as टफ भाषा)
३ मालवगौड	१ मालवगौड, २ सालंगनाट, ३ आर्द्रदेश, ४ छायगौळ, ५ टफ, ६ गुर्जरी, ७ गुंढक्री, ८ फलमंजरी, ९ नादरामक्री, १० सौराष्ट्री, ११ मंगलकैशिक, १२ मेचवौळी, १३ मागधी, १४ गौरीमनोहरी, १५ मारुव, १६ गौळीपंतु, १७ सावेरी, १८ पूर्वी, १९ विभास, २० गौळ, २१ ललित, २२ पाढी, २३ कंठबंगाल, २४ मल्लहरी, २५ पूर्णपंचम, २६ बहुली, २७ शुद्धसावेरी, २८ मेघरंजनी, २९ रेवशुषि, ३० मालवी.
४ वेलावली	१ वेलावली.
५ वराळी	१ वराळी (भाषाराग of भिन्नपंचम)

६ शुद्धरामक्री	१ शुद्धरामक्री (a क्रियागराग), २ दीपक
७ शंकरामरण	१ शंकरामरण, २ आरमो, ३ शुद्धवमंत, ४ सरस्वतीमनोहरी, ५ पूर्वगौळ, ६ नारायणी, ७ नारायणदेशाशी, ८ सामंत, ९ कुर्जी, १० पूर्णचंद्रिका, ११ सुमिधु, १२ हुलाहु (?), १३ गौळमझार, १४ केंदार, १५ विलहरी
८ कांबोजी	१ कांबोजी, २ नारायणगौळ, ३ केंदारगौळ, ४ बडईस, ५ नागध्वनि, ६ ज्ञानातरंगिणी, ७ ईशमनोहरी, ८ यदुकुलकांबोजी, ९ नाटकुरजी, १० कंनड, ११ नटनारायण, १२ आंधाली, १३ साम, १४ मोहन, १५ देवक्री, १६ मोहनकन्याण
९ मैरवी	१ मैरवी, २ अहीरी, ३ घंटारव, ४ इंदुघटारव, ५ रीतिगौळ, ६ आनंद-मैरवी, ७ हिंदोलवमंत, ८ आमैरी, ९ घन्यामी, १० नागनाझगी, ११ हिंदोल.
१० पुखारी	१ पुखारी (This is the same as the Raga हृदसाधारित of sharangdeva, says Tulajirao. He does not give reasons though)

Tulajirao explains the statement thus —

सर्वपुरागभेलेपु पुखारीमेल आदिकः ।
 शुद्धैःसप्तस्वैर्गुंतो पुखारीमेल ईरितः ॥
 चतुर्भेदुभुभेव षड्जमध्वमपंचमाः ।
 द्वेदेनिषादगांधारी त्रिकीरिषमधैवताः ॥
 शुद्धा इत्युक्तसंख्याकभुक्तिकाः सादृशीः ॥
 अस्मिन्नेले पुखारीषमागः ॥
 लोकप्रसिद्धनामार्थं साधुदृष्टिः ॥
 शुद्धसाधारित इति शुद्धैः ॥
 रागेकयमगांधारी ॥
 त्रिकीरिषमधैवताः ॥

This is certainly no sufficient reason for the name of the raga. What were the seven shuddha notes of the raga? This is an important question Tulajirao never answers! It is only granted that his own Shuddha Italy was not a raga. Sharangdeva, also

११ वेगवाहिनी	१ वेगवाहिनी
१२ सिंधुरामक्री	१ सिंधुरामक्री, २ पंतुवराळी
१३ हेजुखी	१ हिजेजी
१४ सामवराळी	१ सामवराळी, २ गांधारपंचम, ३ मिन्नपंचम
१५ वसंतभैरवी	१ वसंतभैरवी, (मध्यमग्रामजन्यत्वसंदेहंजनयति), २ ललितपंचम
१६ मिन्नपड्ज	१ मिन्नपड्ज, २ भूपाल
१७ देशाक्षी	१ देशाक्षी
१८ छायानट	१ छायानट
१९ सारंग	१ सारंग
२० तोडी	१ तोडी
२१ कल्याणी	१ कल्याण

(About 106 Ragas in all.)

In my opinion a happy fusion between the two great music systems of the country is most desirable. When it comes on the Hindusthani system will be considerably enriched. Hundreds of beautiful Ragas can be reintroduced here into our system by our leading living experts. The Southern System again will have an opportunity of adopting our northern graces in the Vadi, Samvadi, rules and thereby of making its music much more interesting. All this however, will be the province of Bhavi Sangeet and thus beyond the province of this paper.

RAGA LAKSHANAM

I shall now make a few remarks on the last of the works referred to in this paper. I am sorry I was unable to obtain a complete copy of this work. I could get only the Raga Adhyaya. Raga Lakshana appears to me to be a very important work. Its importance lies in the fact that it is the real authority for the current Southern system. The "mela" names and the swara names are exactly those found new in the southern presidency. We went through Swara Mela Kalanidhi,

Raga Vibodha, Chaturdandi Prakasika and Saranata but we never found the चतुःश्रुति 'ra' and 'ca' taking the place of the shuddha gandhara. We always had संवृत्ति and श्रुति? & coinciding with shuddha ga and shuddha ra. Then again we later came across the name प्रदिन for the tara 'ra'. The similarity there was again the "mukhari" and not the present "Kamini".

In the treatise under notice, you have the latest melas and swata names of the current Karnataka system. The janya raga rules again are exactly those referred to in the Telugu book Gayana Lochan by Pandit Singaracharya. As the Swatantrya is missing I am not in a position to tell you who the author is or when or where the book was written. It is now a printed book and the missing information may be obtained in course of time. The title of the book is taken by me from the heading the incomplete manuscript had when I copied it. It may turn out when the original manuscript is obtained that the title is something different. I give briefly the contents for what they are worth.

मलाविकागमित्येव मेदानी नु द्विमवतिः ।
 शुद्धमध्यमकञ्चकं प्रतिमध्यममंजुनम् ॥
 शुद्धप्रवृत्तिविवृतीविविमेलवधिः स्मृतः ।
 त्रसप्तसुखे ध्रुतिर्वाक्यमितिरागवर्षयः स्मृताः ॥

अथ शुद्धमध्यममेलकर्तृरागाणां नामान्युच्यन्ते ।

वनकांगी च रत्नांगी गानमूर्तिर्वनस्पतिः ॥
 नाम्नामानवती तानरूपी सेनावती तथा ।
 इन्द्रमयीदिविरुयाता धेनुका परिधीर्तिता ।
 नाटकप्रियमित्युक्तं कोकिलप्रियनामकम् ॥
 शोभा रूपवती चैव गायत्रिप्रियनामकम् ।
 बहुलामरण चैव मायामालवगीळिका ॥
 चक्रवाक्यमितियोलः सूर्यकांतमित्तिरितम् ।
 हाटकीवगिरिम्याता झकारध्वनिनामकः ॥
 नटमैर्गवनामामी कीरवाणी ततः परम् ।
 साहायप्रिया चैव तथा योगमनोदरी ॥
 बरुणप्रियमेलान्यं सागरजनिनामकं ।
 चारुकेरी प्रमिद्धा च मरमांगी
 हर्षिकान्तिर्देव चौरसंकरामरणं
 नगार्थदिनितो योगप्रिया रय

११ वेगवाहिनी	१ वेगवाहिनी
१२ सिंधुरामक्री	१ सिंधुरामक्री, २ पंतुवराळी
१३ हेजुळी	१ हिजेजी
१४ सामवराळी	१ सामवराळी, २ गांधारपंचम, ३ भिन्नपंचम
१५ वसंतभैरवी	१ वसंतभैरवी, (मध्यमग्रामजन्यत्वसंदेहंजनयति), २ ललितपंचम
१६ भिन्नषड्ज	१ भिन्नषड्ज, २ भूपाल
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Raga Vibodha, Chaturdand, Prakarika and Sravanika etc. We never found the वृ:शुति 'ra' and 'aha' taking the place of the shuddha gandhara. We always had वृ:शुति and शु:शुति meaning the shuddha ga and shuddha ra. Then again we never came across the name श्रुति for the 'ra' ma. The shuddha ma was called the "mukhari" and not the present "Kamohari".

In the treatise under notice, you have the latest and correct names of the current Karnataka system. The names were taken exactly those referred to in the Telugu book Gyanika written by Venkta Singaracharya. As the Swamathiyaya is missing I am not in a position to tell you who the author is or when or where the book was written. It is now a printed book and the necessary information may be obtained in course of time. The title of the book is taken by me from the beginning of the incomplete manuscript but when I copied it I may not have had the original manuscript is obtained that the title is something different. I give briefly the contents in what they are worth.

शुद्धगान्धारोऽथ शुद्धरागोऽथ शुद्धमध्यमः
 शुद्धपञ्चमोऽथ शुद्धदशमः शुद्धनवमः
 शुद्धसप्तमोऽथ शुद्धचतुर्विंशतिः शुद्धत्रयोविंशतिः
 शुद्धद्वयोविंशतिः शुद्धएकोविंशतिः शुद्धविंशतिः

अथ शुद्धगान्धारोऽथ शुद्धरागोऽथ शुद्धमध्यमः

शुद्धगान्धारोऽथ शुद्धरागोऽथ शुद्धमध्यमः
 शुद्धपञ्चमोऽथ शुद्धदशमः शुद्धनवमः
 शुद्धसप्तमोऽथ शुद्धचतुर्विंशतिः शुद्धत्रयोविंशतिः
 शुद्धद्वयोविंशतिः शुद्धएकोविंशतिः शुद्धविंशतिः
 शुद्धगान्धारोऽथ शुद्धरागोऽथ शुद्धमध्यमः
 शुद्धपञ्चमोऽथ शुद्धदशमः शुद्धनवमः
 शुद्धसप्तमोऽथ शुद्धचतुर्विंशतिः शुद्धत्रयोविंशतिः
 शुद्धद्वयोविंशतिः शुद्धएकोविंशतिः शुद्धविंशतिः
 शुद्धगान्धारोऽथ शुद्धरागोऽथ शुद्धमध्यमः
 शुद्धपञ्चमोऽथ शुद्धदशमः शुद्धनवमः
 शुद्धसप्तमोऽथ शुद्धचतुर्विंशतिः शुद्धत्रयोविंशतिः
 शुद्धद्वयोविंशतिः शुद्धएकोविंशतिः शुद्धविंशतिः

गागियभूषिणी नाम वागधीश्वरिनामकं ।
शूलिनीनामविख्याता चलनाटा प्रकीर्तिता ॥

प्रतिमध्यममेलकर्तृरागाणां नामानि ।

सालगो राग इत्युक्तो जलार्णवमतःपरम् ।
नाम्ना क्षालवराळीच नवनीतमिति स्फुटम् ॥
गवाबोधोति विख्याता भवप्रियमितीरितम् ।
पावनी लोकविख्याता रघुप्रियमितीरितम् ॥
शुमापंतुवराळीच षड्विधामार्गिणी तथा ।
सुवर्णागीतिविख्याता प्रोक्ता दीव्यमणीतिच ॥
धवर्लावरिविख्याता नामनारायणी तथा ।
कामवर्धिनिनामाच रामप्रियमितीरितम् ॥
गमनश्रमं इत्युक्तः स्मृता विश्वभरेतिच ।
श्यामलागीतिविख्याता षण्मुखप्रियनामकम् ॥
सिंहेंद्रमध्यमाचैव हेमवती सुनामकं ।
धर्मवतीतिविख्याता स्मृता नीतिमतीतिच ॥
कातामणिस्तथाप्रोक्ता ऋषभप्रियनामकम् ।
लतांगीति प्रसिद्धा च वाचस्पतिरितीरिताः ॥
विख्याता मेचकल्याणी चित्रावरिस्ततःपरम् ।
सुचरित्रमितिप्रोक्तं तथा ज्योतिःस्वरूपिणी ॥
धातुवर्धिनिविख्याता नासिकाभूषणी तथा ।
कोसलो राग इत्युक्तो रसिकप्रियनामकम् ॥

These are the present 72 Thatas of the Southern Music System this day. The names of the 12 notes which form the foundation of the system are as under:—

सा	री	ग शुद्ध	साधारण ग	अंतर	शुद्ध	प्रति	शुद्ध	शुद्ध	शुद्ध नि	कैशिक नि	काकली
शुद्ध	शुद्ध	चतुःश्रुतिरी	षट्श्रुतिरी	ग	म	म	प	ध	चतुःश्रुतिध	षट्श्रुति ध	नि

I do not propose to give the Swaras of the 72 Thatas here on this occasion. There are more than five hundred Janyaragas given under these 72 Thatas with their Arohas and Avarohas complete, but I do not think it necessary to go into the details.

I propose now to complete this long discourse, I have in the foregoing portion touched in a succinct way the sruti, swara, raga,

and thata portions of about 16 treatises. My object in this has been, as I said, to show that by a study of the ancient works, we will be in a position to effect certain very beneficial results so far as our present music is concerned. I have, therefore, explained which our old books are, which of them are available, and where, and what the system shown in them is, I now propose to show how the study of these is of practical use to us.

As the subject matter of our present music is of the same nature as that of the ancient music, the division and classification of that subject matter as adopted in those texts will come in handy for systematising our present music. These can be used as a basis for improvement according to our present conditions.

I think that in our present text books, we can safely leave out of consideration that portion of our ancient text books which deals with the physiological theories of the production of sound. But we will take the division of the gamut into 22 srutis adopted by these works for our gamut, and fix on it our shuddha scale, same as has been done in those works. It is well-known that our shuddha scale is the Bilawal scale, while that of some of the works is the Kafi scale, and that of others is the Mukhari scale. If the sruti intervals of the ancient works are such as do not satisfy the modern principles of acoustics, these can be determined by modern science, and standardised by consensus of opinion. If this is done, then the basis of the structure of our music will be standardised and uniform. The process of describing swaras in terms of srutis, vikrita swaras with reference to the shuddha swaras, thatas or genus modes in terms of the swaras and ragas in terms of the thatas etc. which has been used in the ancient works can be adopted for our present system. But the indefinite method of describing the shuddha swaras used in the texts will have to be improved on by describing the swaras in terms of the length of the speaking wire, of vibrational values, when there is a consensus of opinion as to these. When the swaras have been standardised, (are determined,) we can also fix on the number of parent modes under which the existing ragas can be classified and grouped. This is to be done by deciding mathematically the number of possible permutations and combinations as has been done by Vyankata Makhi, in his Chaturdandi Prakasika, and then taking from them such as will best fit the present derivative modes. When the number of the parent modes has been determined by consensus of opinion, we have to proceed to the classification of the existing ragas under the parent modes, and in this we will be following our ancient treatises. Only, we shall fix the classification having regard to the similarity of swaras, vadi note, peculiarity of development and other features between the parent mode and the derivative raga and

not arbitrarily, or blindly following the ancient works. Still, the rule followed in the ancient texts that a derivative Raga must have the same scale as the parent mode, the only difference being in the swaras deleted or added still remains. In the ancient texts, we see an absence of information which is necessary to enable one to make an accurate differential diagnosis of derivative ragas coming under the same parent mode. There the differentiation is made in arohana, vadi, time, graha, amsha and nyasa. This differentiation can be amplified by mentioning also the "pakads", or catches, similarity or dissimilarity of any particular raga, as compared with another derivative of the same thata, whether it is a "purvanga" or "uttaranga" raga, (that is whether its development is in the upper or the lower tetrachord), what vivadi note can be used in it and when, how, how it compares with a similar raga mentioned in the ancient texts, or in vogue in the Karnatik system, and so forth. We can also in our text books have illustrations of the "alapa" development of a raga, set to tala and notation according to modern methods of notation. As it is impossible to reduce to notation all the graces, meend slurs, gamaks, and other alamkaras, the notation may be supplemented by vocal records of practical experts, which records should be indexed and registered, and thrown open to the student studying with the help of the notations. If research is able to determine the meaning of pictorial descriptions of the ragas, (and I must mention that there are to be found works on the chromatics of sound, such as Field on Chromatics of Sound), then these pictorial representations can be incorporated in our text-books to be, as expounding the aesthetic and psychic possibilities of the raga. The ancient works do not throw light on the principles of the compositions of tunes or songs, so that even one has to fall back on a limited stock of "ustadi" songs, the correctness of which no one can be sure of as they have never been notated and have only been handed down from generation to generation. When these principles are determined, and standardised, incorrect versions of "ustadi" compositions can be corrected, and also new compositions made. By a study of the works relating to the southern system, we can compose songs for the northern musicians in the ragas which are southern there but have not found a place in the northern system, and thus induce, at some date, how distant soever, a fusion of the two systems of music.

In short, having by the study of the texts ascertained the groundwork of the system, constructive activity can improve on that groundwork and adapt it to the prevailing conditions of education. It is therefore, of great use to study those texts and to obtain from them a thorough insight into our music as it was.



