

THE DEVELOPMENT OF RĀGALAKṢAṆA

With Reference to Other Modal Systems

by

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A b s t r a c t

This work traces the development of rāgalakṣaṇa as prescribed and described in the Nāṭyaśāstra (jātilakṣaṇa), Bṛhaddeśī, Saṅgītaratnākara, Svaramelakalānidhi, Rāgavibodha, Caturdaṇḍīprakāśikā, Saṅgītapārijāta, Saṅgītasārāmṛta, and Samgrahacūḍāmaṇi.

The structural and functional aspects of thirteen rāgalakṣaṇa are analyzed, namely, graha, aṃśa and nyāsa; tāra and mandra; bahutva and alpatva; apanyāsa, saṃnyāsa and vinyāsa; antaramārga; ṣāḍava and auḍava.

The analysis traces the growth and decline of the theory of these lakṣaṇa between 500 A.D. and the 19th century. As comparisons of nominally and/or modally related rāgas are made in terms of their lakṣaṇa, a new criterion for the proper identification of rāgas emerges.

In the process an attempt is made to solve the unsettled question of the identification of the BD basic rāgas and the SR rāgāṅgas.

E r r a t a

Page

- 25 "bhāva" in lieu of "rasa": line 4.
- 38 Add to footnote: "For statistical purpose, the 'śuddha jātis' note is also indicated underneath their names"
- 39 Add the footnote: "A dash between notes indicates a three-śruti interval"
- 71 "above" for "below": footnote 4, line 3.
- 101 "to" for "the": paragraph 3, line 4.
- 106 "SR" for "SD": " 1, " 1.
- 122 Insert "by" between "step step": para.2, line 3.
- 124 Add s to "present": paragraph 2, line 1.
- " "step" in lieu of "beat": " ", " 13.
- 138 Add "39" in footnote.
- 166 Add s to "show": paragraph 1, line 1.
- 208 "realization" in lieu of "translation": para.2, line 2.
- 241 Insert "Ni" after "kākali" in second heading.
- 251 Add "57" in footnote.
- 255 Insert "as aṃśa" after "Ni": para. 1, line 6.
- 256 Bhātkaṇḍe misspelled in footnote 1.
- 273 "melodic" for "tonal" in last line of footnote.
- 286 Retroflex d in Saṃgrahacūḍāmaṇi which should also be underlined: paragraph 1, line 2.
- 312 "give" in lieu of "call": paragraph 1, line 2.
- 334 "rāga" in lieu of "mode" and insert at this point, "in the Ayyar edition": penultimate line.
- " Eduṭānilacite misspelled in footnote 2.
- 344 Manasuloni misspelled in the first example.
- 358 Add to footnote: "While Turks is the literal translation of Turuṣka, the reference here is perhaps to Muslims".

Dedicated to my Husband

and

In humble tribute to

A.A. Bake
(1899-1963)

A b b r e v i a t i o n s

BD	Bṛhaddeśī of Maṭaṅga
BSOAS	Bulletin of the School of Oriental and African Studies
CDP	Caturdaṇḍīprakāśikā of Veṅkaṭamakḥin
EMDC	Encyclopédie de la musique et dictionnaire du Conservatoire. A. Lavignac, ed. 11 vols. Paris, Librairie Delagrave, c1913-31.
GDMM	Grove's Dictionary of music and musicians. E. Blom, ed. 5th ed. 9 vols. London, Macmillan, 1954.
JMAM	Journal of the Music Academy, Madras
JRAS	Journal of the Royal Anthropological Society
KPM	Kramik pustak mālikā of Bhātkhaṇḍe
MGG	Die Musik in Geschichte und Gegenwart. F. Blume, ed. v.1-13 in progress, Kassel, Bärenreiter, 1949- .
NS	Nāṭyaśāstra of Bharata
RV	Rāgavibodha of Somanātha
SC	Samgrahacūḍāmaṇī of Govinda
SD	Saṅgītarpaṇa of Dāmodara
SMK	Svaramelakalānidhi of Rāmāmātya
SP	Saṅgītapārijāta of Ahobala
SR	Saṅgītaratnākara of Śārṅgadeva
SS	Saṅgītasārāmṛta of Tulaja
TK	Tyāgarāja's kritis

A c k n o w l e d g e m e n t s

This study on Indian music has come of a full six-year period of work at the School of Oriental and African Studies, with interludes given to attendance at music festivals and conferences in Europe, to visits in India, and to the beginning of a new assignment at the University of the Philippines.

For the privilege to have been able to undertake all this, and thus to begin to grow in knowledge, understanding and appreciation of both Western and Indian music, I hasten to acknowledge lasting obligation to the University of the Philippines, for unstinted study-leave with financial assistance; to the Rockefeller Foundation, for a four-year fellowship grant including travel and conferences in Canada, the U.S.A., and Europe; to the School of Oriental and African Studies, for additional financial support; to my sister, Bessie Kelley Poe, and her son, Ronald Allan Poe, for more substantial material aid; and to my family whose encouragement and patience sustained me in spirit for the duration of my absence from home.

While wholly and alone responsible for the conclusions and limitations of this study, I wish to acknowledge

no less my eternal indebtedness to my advisers, the late Dr. Arnold A. Bake and Dr. John R. Marr; to my mentors, Nazir Ali Jairazbhoy and John E.B. Gray; and to Prof. Dr. Wilhelm Rau of the University of Marburg. All of them, at most every step of my work, gave me the full benefit of the resources at their command to enable me to pursue the object of my study with fruitful understanding.

R. K. M.

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P r e f a c e

The music treatises on which this work is based are printed editions of Sanskrit manuscripts. Like the manuscripts of music treatises found in various monasteries of Europe, these manuscripts are hand copies of the originals in various state and private libraries in India. In their printed form, the treatises have undergone much needed emendations and format revision. As other MSS of a treatise come to light, the work of collation and revision remains a continuing one. As a result, the latest printed edition of a work is usually, although not necessarily, an improvement over the earlier one. Where a text has had only one printed version, comparison can be made only with its manuscript.

The most important of early music treatises on Indian music is the Nāṭyaśāstra(NS), attributed to Bharata.¹ As a compendium of the ancient writings on the art and science of the drama, the NS contains six chapters (chaps. 28-33) on music which serve as the model of subsequent treatises on Indian music.

¹This could be either a proper name or a title conferred upon one proficient in the art and science of drama.

The NS explains the structure and nature of the jātis by means of ten features or characteristics, the lakṣaṇa, namely, graha, aṃśa, nyāsa, apanyāsa, mandra, tāra, alpatva, bahutva, ṣāḍava and auḍava. These jāti-lakṣaṇa become rāgalakṣaṇa when the rāga supersedes the jāti as India's model of classical music. The jāti or rāga is at once a scale and a mode, the former consisting of seven notes tuned to various pitch levels, the latter being the effect produced by the traditional and imaginative use of at least five of these notes.

In its present form the date of the NS has been fixed at possibly the 5th century A.D.¹ There have been four editions of the NS: the Gaekwad Oriental Series, Baroda edition with commentary by Abhinavagupta, in four volumes, as follows, vol.I, chaps. 1-7 (Series 36) 1926, a second edition, 1956; vol.II, chaps. 8-18 (Series 68) 1934; vol.III, chaps. 19-27 (Series 124) 1954; vol.IV, chaps. 28-37 (Series 145) 1964; the Kāvyaṃālā Sanskrit Series 42, Bombay, 1894, a second edition, 1943; the Kāshi (Chowkhāmbā) Sanskrit Series 60, Banares, 1929;

¹By comparing it with the Nāradaśikṣā and the Prātiśākhyas, S. Varma sets the NS's lower limit at this date. In Critical studies in the phonetic observation of Indian grammarians, (The Royal Asiatic Society, 1929), 49.

and the Bibliotheca Indica Series, Calcutta, in two volumes of which only the second volume has appeared, vol.II, chaps. 28-36 (Issue no.1570) 1956. Each succeeding edition usually includes variant readings from previous NS editions. We have used the 1943 Kāvyaṃāla, the Bibliotheca Indica (vol.II), and the Gaekwad (vol.IV) editions in this paper. An English translation of the NS by M. Ghosh appears as Bibliotheca Indica Series, vol.I, chaps.1-27 (Issue no.1559) 1951 and vol.II, chaps. 28-36 (Issue no.1581) 1961.

Our next source is Maṭaṅga's Brhaddeśī(BD). The title has been translated as the "great collection of formalized deśī, or regional songs with tunes."¹ On the basis of Maṭaṅga's references in the text to his predecessors, a probable date of the BD is about the 10th century.² To date only one edition of the BD has

¹Gangoly, O.C. Rāgas and rāginīs. . . (Bombay, 1948),16.

²V. Raghavan believes that Rudraṭa, one of the predecessors Maṭaṅga mentions in his BD, flourished in the 9th century and that the BD is therefore later than that century. In "Some names in early saṅgīta literature", JMAM, III, nos.1-2,19;25-6. But Gangoly reasons that the archaic nature of the BD rāgas makes this date difficult to accept (op. cit.,18).

been undertaken, the Trivandrum Sanskrit Series 94, Trivandrum, 1928. The edition is "based on two palm leaf manuscripts in Malayalam characters obtained from the Poonjar Raja, North Travancore." One of these manuscripts is described as being "exceedingly worn out; it is about four centuries old. . ." ¹ This is perhaps why the edition leaves much to be desired. Evidence of gaps in the text, ² of interpolations and corrupt readings is found in the printed text. In view of its historical importance it is hoped that other MSS of the BD will be found and a better edition made. For it is the BD, apparently, that first defines the rāga formally and explains the modal system of parent rāgas and their derivatives.

In the mediaeval period of the history of India, the most comprehensive work on Indian music was written, the Saṅgītaratnākara(SR). Its author, Śārṅgadeva, was employed by a Deccan king of the Yādava dynasty, who ruled from 1210 to 1247. It is these two dates that are usually given with reference to the SR. The text borrows

¹BD preface, p.2

²E.g., the description of Madhyamā and Pañcamī jātis is missing.

quite a bit of its basic jāti and rāga material from the BD. Three more lakṣaṇa are formally defined in the SR, namely, antaramārga, saṃnyāsa and vinyāsa.

The SR has had three printed versions. The first edition with the commentary of Siṃhabhūpāla appeared in 1879 in Calcutta but it is said only the svara chapter was published. In 1896 the SR appeared in two volumes with commentary by Kallinātha in the Ānandāśrama Sanskrit Series 35 edition of which a second one was published in 1920 in Calcutta. Between 1943 and 1953 an edition in four volumes with the commentaries of Kallinātha and Siṃhabhūpāla was undertaken by the Adyar Library, Madras, as follows: vol.I (Series 30) 1943; vol.II (Series 43) 1944; vol.III (Series 78) 1951; vol.IV (Series 86) 1953. Since then a second edition of vol.II which contains the chapter on the rāga was published in 1959. Our references are made to vols. I and II (1944 and 1959) of the Adyar Library Series. An annotated English translation of vol.I by C. Kunhan Raja was published by the Adyar Library (Series 51) in 1945.

After the SR, discussion of rāgalakṣaṇa in the treatises dwindles and their mention is confined to a brief listing of the rāga's features. For instance, in Rāmāmātya's Svaramelakalānidhi(SMK), our next source,

only one śloka is devoted to the definition of rāgalakṣaṇa. Post-SR writers, it would seem, leave the more detailed theory of rāgalakṣaṇa to earlier treatises such as the NS, BD and SR. Instead, they concentrate their attention to the task of developing a mela system that makes use of the svaras, now codified into twelve tones (excluding the enharmonic tones), by which the rāgas may be classified.

Printed editions of the SMK have been made from manuscripts found in Tanjore, Madras, Baroda and Bikaner. A first edition appeared at Kumbakonam in 1906 and another in 1910 at Bombay. In 1932 the Annamalai University published M.S. Ramaswami Aiyar's edition and translation into English of this treatise. Paperbacks of the SMK have also been issued in 1950 and in 1963 at Hāthras. It is the Annamalai University edition that we have used. The colophon at the end of the treatise gives the date 1472 of the Śaka era, that is, 1550, as the year the work was completed.

Somanātha, author of Rāgavibodha(RV), 1609 (according to its colophon), follows very much the same pattern set by the SMK. He introduces for the first time, however, a system of notating gamakas (ornamentation) by means of symbols of his own design, placed above or below the svara syllable. Based on fifty rāgas, the RV rāga-rūpas for the

vīṇā illustrate Somanātha's gamakas as well as his lakṣaṇa.

To our knowledge the RV has had three editions: the Poona, 1895 edition which includes the author's commentary and comes in four fascicles; the edition (with no commentary) and English translation by M.S. Ramaswami Aiyar, Triplicane, Madras, 1933; and the Adyar Library Series 48 edition, 1945 which includes Somanātha's commentary. It was possible to get all three editions for our study.

Caturdaṇḍīprakāśikā(CDP) refers to the four branches of instruction on the rāga, namely, ālāpa, ṭhāya, gīta and prabandha, or roughly, modal delineation, note-patterns in ascent and descent, melody and composition. The date of the work is estimated to be 1620.¹ It is in the CDP that the idea of a classificatory system for rāgas based on seventy-two melas is first propounded. Of these Veṅkaṭamakḥin, the CDP author, considers only nineteen to be the bases of the rāgas current in his day. He defines ten rāgalakṣaṇa; of the three left undefined, ṣāḍava and auḍava are embodied in the description of the rāgas and antaramārga is ignored.

¹According to the editors of the 1934 edition but Gangoly (op. cit.) gives the year 1660 (p.62 and 209).

The text is available in two editions: the 1918, Poona edition, and the Music Academy Series 3 edition, Madras, 1934. We have only the latter.

Ahobala's Saṅgītapārijāta(SP) is said to have been translated into Persian by the scholar, Dīnanāth, in 1724 and that the work must have therefore been written sometime in the 17th century.¹ A system of determining the pitches of twelve svaras by means of their description in terms of the length of the string of the vīṇā is given in the SP. Ahobala's basic scale is akin to the D mode. Other scales arise as the component parts of this basic scale are altered. The author describes 122 rāgas and illustrates them by examples of their svara prastāra or ālāpa. Musical illustration and the theoretical lakṣaṇa of the rāga from here on reduced to graha, aṁśa, nyāsa and its scale size may now be said to constitute the means for determining a rāga's characteristics.

The first printed publication of the SP was the Calcutta edition of 1884. Other editions have been issued in Hāthras in 1941 and 1956 with a commentary in

¹Bhātkhaṇḍe, V.N. A comparative study . . . (1930-31), 31. Gangoly cites 1665 as a probable date (op. cit., p.63).

Hindi. Our copy is the 1956 Hāthras edition.

The Saṅgītasārāmṛta(SS) is one of several works written by Tulaja of the Marāthās who was king of Tanjore between 1729-1735. The SS quotes a great deal from the SR and the CDP. Tulaja's 112 rāgas, based on twenty-one melas, are illustrated by various types of prayogas, that is, set phrases or formulae. These musical illustrations either confirm or conflict with the rāgas' theoretical lakṣaṇa.

All the manuscripts of the SS available in the Sarasvatī Mahal Library, Tanjore, have been declared incomplete.¹ The first printed version of the work appeared in Bombay in 1911. Our copy is the Music Academy Series 5 edition, Madras, published in 1942.

Finally, our last Sanskrit text for the study of rāgalakṣaṇa is the Samgrahacūḍāmaṇi(SC). From the condition of the cadjan-leaf manuscripts of the work and from the theories advanced in the text, it has been surmised that its author, Govinda,² probably lived in

¹Music Academy edition, vii of the introduction.

²Also known as Govindācārya to distinguish him from Govinda Dīkshita who is said to be the father of Veṅkaṭamakhin.

the second half of the 18th century.¹

A greater part of the SC is taken up by the notation of lakṣaṇagītas, vocal pieces that illustrate the rāga's characteristic phrases and other features, for each of the text's 366 rāgas. These and the SP and SS illustrations set the example that later theorists are to follow in developing practical and valid criteria for the identification of rāgas.

So far as we know, the only edition of the SC is the 1938 Adyar Library edition of S. Subrahmanya Sastri.

In preparing this short account of our sources, we have had to trace the chronology of the various editions of the nine Sanskrit music treatises from bits and pieces of information everywhere (introductory or prefatory remarks by the editors have not always proved helpful in this respect). It is hoped that gaps, if any, in this bibliographical survey will be filled in by the expert, errors corrected and further data added whenever new editions of these works appear.

¹SC introduction, xxxiii. Harold Powers, however, believes that the treatise was written in the 19th century. The background of the South Indian rāga system (Princeton University, unpubl. Ph.D. thesis, 1958), I, 22.

I n t r o d u c t i o n

The ancient music system of India is based on a series of seven svaras (notes), Sa, Ri, Ga, Ma, Pa, Dha, and Ni,¹ constituting what in effect are two conjunct tetrachords, Sa-Ma and Ma-Ni, of nine śrutis (microtonal units) each. There are three tone sizes in this svara series of twenty-two śrutis: a four-śruti tone comparable to the major tone, a three-śruti or minor tone, and a two-śruti or semitone.² The archetype svara-series called the Ṣaḍjagrāma (shortened to Sa-grāma) allpates the twenty-two śrutis as follows:

4 Sa 3 Ri 2 Ga 4 Ma 4 Pa 3 Dha 2 Ni³

¹Short for Ṣaḍja, Ṙṣabha, Gāndhāra, Madhyama, Pañcama, Dhaivata and Niṣāda, comparable to the Western vocables, ut (or do), re, mi, ga, sol, la, and si. Popley explains how the svaras come by their names. The music of India (London, 1921), 32-3.

²A.A. Bake traces the different tone sizes to the tones used in Sāmavedic chanting. "Indische Musik", MGG, VI, 1157-63.

One of the first to make a study of this subject was K.B. Deval who used a diachord to investigate the different sizes of tones. The Hindu musical scale and the 22 shrutees (Poona, 1910).

³The interval is reckoned from the upper note and the śruti-level precedes the svara.

A second archetype of svara-series, the Madhyama-grāma (Ma-grāma) differs from the Sa-grāma in its śruti-level for Pa:

Sa	Ri	Ga	Ma	Pa	Dha	Ni
4	3	2	4	3	4	2

Although presented in this manner initially, the Ma-grāma in fact begins its svara series on Ma¹ so that its fifth degree is Sa. The difference between the two grāmas is thus more readily understood when it is seen that the lowering of Pa² results in a "major third" in the Ma-grāma as against a "minor third" in the Sa-grāma:

Sa	Ri	Ga	Ma	Pa	Dha	Ni
4	3	2	4	4	3	2
Ma	Pa	Dha	Ni	Sa	Ri	Ga
4	3	4	2	4	3	2

A third grāma, the Gāndhāragrāma (Ga-grāma) which apparently consisted of three successive minor tones in the first tetrachord appears never to have had any

¹NS, 28:28-9

²It is this lowering of Pa by one śruti, called the pramāṇa or standard śruti, that serves to demonstrate the actuality of the three sizes of tones. See, Bake, A.A. "Bharata's experiment with the two vīṇās", BSOAS, XX (1957), 61-7.

practical application.

Intervals of nine śrutis and thirteen śrutis constitute a saṃvādī (consonant) relationship of perfect fourths and fifths; intervals of two śrutis and/or twenty śrutis, a vivādī (dissonant) relationship of the minor second and its inversion; all other intervals being anuvādī (assonant) relationships of thirds, sixths, augmented fourths and diminished fifths.

Ga and Ni in the two grāmas effect a change of pitch by the so-called principle of sādharmaṇa.¹ This is the principle of sharing, by which Sa and Ma each share two of their four śrutis with Ni and Ga, so that the latter assume the nature of a leading note, the distance between Ni-Sa and Ga-Ma having been reduced to a semitone.

Seven ascending svara progressions (mūrcchanās) are obtained from each grāma. While their svaras are given in an ascending series, the seven mūrcchanās themselves are arranged in descending order. Thus, in the Sa-grāma, the Sa-mūrcchanā is followed by the Ni-mūrcchanā, thence by the Dha-mūrcchanā, and so on.

¹See, Jairazbhoy, N.A. "Bharata's concept of sādharmaṇa", BSOAS, XXI (1958), 54-60.

In the Ma-grāma the system starts with the Ma-mūrcchanā, followed by the Ga-mūrcchanā, the Ri-mūrcchanā, and so forth. All fourteen mūrcchanās¹ are given proper names and are quite often referred to in the texts by these names.

Mūrcchanās form the bases of the jātis which, in turn, are endowed with structural and functional features. There are seven śuddha (basic) jātis from which subsequent developments in Indian classical music may be traced. These basic modes or jātis assume the names of the initial svāra of their mūrcchanās, four of which belong to the Sa-grāma (the mūrcchanās, Sa, Ri, Dha and Ni) and three to the Ma-grāma (the mūrcchanās, Ga, Ma and Pa).

With the exception of Dhaivatī, the jātis have a conjunct pentachord-tetrachord structure which may be likened to the structure of the Western church authentic modes. Dhaivatī, Arṣabhī's plagal, has the tetrachord-pentachord structure of the plagal mode.² Three of the modes may also be constructed as consisting of two disjunct tetrachords each, separated by a major tone: Ṣāḍjī,

¹Twenty-one mūrcchanās if the Ga-grāma mūrcchanās are considered.

²Strictly speaking, Ṣāḍjī cannot be Madhyamā's plagal because these two belong to different grāmas. The same is true of Niṣādī in relation to Gāndhārī.

Madhyama and Niṣādī.¹ In Western terms the modes may be said to represent the D, E, F, G, A, B, and C modes, D and G being the two principal modes.

<u>Jāti</u>	<u>Intervallic structure</u>																												
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¹As such, they may be said to have two tonics each, or, two sets of tonic consonants, viz., Ṣāḍjī: Sa-Ma and Sa-Pa; Madhyamā: Ma-Ni and Ma-Sa; Niṣādī: Ni-Ga and Ni-Ma. Of the three disjunct structures, Ṣāḍjī and Niṣādī possess perfect symmetry.

The intervallic relationship between svaras shown above is the basis of much of the principles governing the jāti's characteristics. To a large extent consonance determines the jāti's dominant svaras or aṃśas, and, lack of it, the jāti's weak or transitory svaras. In addition, lack of consonance appears to be responsible for gaps in hexatonic or pentatonic jātis. The choice of subsidiary finals also depends on the relationship between aṃśas and nyāsas (finals).

There are three registers in the Indian system: maṅdra, low; madhya, middle; and tāra, high; each register comprising seven notes, hence, called saptaka. (In current practice, however, saptaka is usually thought of as an octave.) The initial (graha) and final (nyāsa) of a jāti make the concept of saptaka a relative one.

Only three scale sizes are considered suitable for classical music:¹ heptatonic, hexatonic and pentatonic, all three being hemitonic and the latter anhemitonic as well.

Lakṣaṇa² may be defined as essential functional and

¹Although there are terms for a one-note, two-note, three-note and four-note series in the early treatises.

²The word is used in both the plural and singular sense.

structural features that, collectively and in various combinations, establish the jāti's, and subsequently the rāga's, formal size and shape and the "internal relationship"¹ that produce the rasa (mood or ethos) associated with it. When a jāti acquires specific features or lakṣaṇa (without which it is a mere mūrcchanā), it becomes a formal entity comparable to other musical art-forms. Finally, lakṣaṇa are criteria that serve to identify one jāti or rāga from another.

The lakṣaṇa include the graha (initial), aṃśa (predominant), final (nyāsa), apanyāsa (cofinal), saṃnyāsa (initial cadence note), vinyāsa (textual cadence note), tāra and mandra (upper and lower limits), bahutva and alpatva (prominence and transitoriness of notes), antaramārga (state of imbalance), ṣāḍava (hexatonic), and auḍava (pentatonic).

While these features are mentioned in various articles and books on Indian music, much remains to be analyzed or clarified, for at best much of what has been

¹A.A. Bake writes: "As in all true modal music it is the difference in internal relationship, not the difference in pitch, which distinguishes one rāga from another" (Ibid., p.64).

written in English on the lakṣaṇa has been more descriptive than analytic. When one considers how well established in theory these structural and functional lakṣaṇa were to the Indian mode at a time when Western music theory was in "an inchoate stage of development", one marvels at the extent to which Indian music theory had already developed fifteen hundred years ago. With the aid of the music terminology of the West it is hoped that this volume on the rāga-lakṣaṇa may stimulate critical analysis of the rāgas themselves.

Graha, Aṃśa and Nyāsa
in the Jāti

A study of the characteristics of the rāga, if it is to be comprehensive, will need to start at the rāga's immediate forbear, the jāti, from which its present-day basic features have been acquired. By tracing the role of the jāti-lakṣaṇa as described in the Nāṭyaśāstra (NS), Bṛhaddeśī (BD), and Saṅgītaratnākara (SR), some correlation between the various functional constituents in the jāti and the rāga may arise, at the same time retaining a sense of historical continuity. The three lakṣaṇa, Graha, Aṃśa and Nyāsa, to be considered in this section are usually grouped in this manner, as later Sanskrit texts will show.

It seems evident that Graha refers to a single initial note "from which [something] develops".¹ That this note might include a group of notes or be the opening note of an initial melodic phrase or formula, the definition in the NS gives no hint. In Byzantine hymns the word Initium may refer to a specific beginning note but it is the opening melodic formula that is usually meant by that term.²

¹grahās tu sarvajātīnām aṃśavat parikīrtitāḥ /
yaḥ pravṛttau bhaved aṃśaḥ so 'ṃśo grahavikalpitaḥ // 75
NS, 28

²Wellesz, E. A history of Byzantine music and hymnography
(2d ed.; Oxford, 1961), 327.

Intonation is another term used in the Gregorian chant as well. In psalms, canticles, introits, responsories, tracts, and communions, Intonation refers to a group of notes which constitute the opening recitative formula.¹ Graha, on the other hand, literally means 'laying hold of, seizing', and in this sense might apply to the initial effort, that is, the initial note, that establishes the modality of a jāti. Thus, the śuddha jātis derive their names from the initial or name-note (nāmasvara or nāmakṛt-svara) of the mūrchanās from which they were formed. The śuddha jāti's name-note, which is its graha, indicates, therefore, the degree of the parent scale (grāma) on which the jāti begins and the intervallic arrangement of its svaras. Somewhat parallel to this is the correlation found between the signature and intonation of a Byzantine mode which Strunk has shown to exist.²

That Graha is very closely linked with Aṃśa is understood from the Graha definition above, which equates Graha with Aṃśa: aṃśavat, like the aṃśa; and, so 'ṃśo grahavikalpitaḥ, the aṃśa as an alternative for graha.

¹Apel, W. Gregorian chant (London, 1958). See his examples of Intonation on pp.210, 227, 237, 489.

²Strunk, O. "Intonations and signatures of the Byzantine modes," Musical Quarterly, XXXI (1945), 339-355. The correlation in notation appears on pp.351-2.

Graha having been declared synonymous with Aṃśa, then never becomes separated from it.¹ This leads us to surmise that besides being the beginning note and/or the tonic degree of the jāti,² the Graha, as graha-aṃśa, may also occur in the beginning of sections of the jāti. Whereas an Aṃśa as a principal note has greater freedom of movement throughout the musical piece, the aṃśa-graha or graha-aṃśa is confined to beginnings.

Specific grahas and aṃśas are assigned to jātis in the NS, numbering 63 in all. The śloka reads, "The aṃśas are known always to be 63 [in number] in all the jātis of the two grāmas, and even so are the grahas."³ This inseparableness of the graha and aṃśa makes one wonder

¹When naming the aṃśas of the jātis, the grahas are invariably included. This section is introduced thus: aṃśagrahān idānīṃ vyākhyāsyāmaḥ - (We shall now explain in detail the aṃśas and grahas.)

NS,28:before 87.

²The tonic degree of the śuddha jātis would be the graha svāra that is also the nyāsa svāra. While a śuddha jāti may have several beginning notes, it might be safe to assume that its tonic is the same note as its final. That is to say, its scale may take several forms according to its starting point but its "authentic" form will have the graha (tonic) and nyāsa (final) on one and the same note.

³dvaigrāmikīnāṃ jātīnāṃ sarvāsām api nityaśaḥ /
triṣaṣṭir aṃśā vijñeyās tāsāṃ caiva tathā grahāḥ // 86
(Loc. cit.)

whether in an earlier tradition the graha was not the more important of the two, and that by the sixth century its significance was being overshadowed by the growing prominence of the aṃśa whose paramount position was by then becoming more fully recognized. Thus in the Bṛhaddeśī (BD), several centuries later, Mataṅga writes in his chapter on the jātis almost depreciatingly of the graha. He recognizes 63 [grahas which act as] aṃśas, and asks what is the difference between graha and aṃśa. The difference, he says, is that "the aṃśa is henceforth the vādi but the graha is of four-fold difference from the vādi and others",¹ that is, the graha is neither vādi, saṃvādi, anuvādi, nor vivādi. He then sums up the matter by the statement: "The difference lies on its prevalence and non-prevalence. For the graha has become non-prevalent."² His objective becomes apparent in the next sentence: "the superiority of the aṃśa comes from [the fact] that it creates the rāga and that it is all-pervasive".³ Thus, even while Mataṅga writes on

¹ aṃśavartiṣaṣṭi [sic; it should read, aṃśavat triṣaṣṭir] -
 bhedabhinno boddhavyaḥ/ nanv evam grahāṃśayo ko bhedaḥ/
 ucyate/ aṃśo vādy eva paraṃ grahas tu vādyādibhedabhinnaś
 caturvidhaḥ/ BD, after śl.196.

² yad vā pradhānāpradhānakṛto bhedaḥ/ graho hy apradhāna-
 bhūtaḥ/ Ibid.

³ rāgajanakatvād vyāpakatvāc cāṃśasyaiva prādhānyam/ Ibid.

the jātis he has his mind on the rāga.¹ To return to the four-fold difference of the graha, this passage has been interpreted as follows: ". . . by aṃśa the vādi alone is meant, but by graha is meant the four kinds of notes called vādi, etc." This is attributed to Siṃhabhūpāla as a commentary on the Saṅgītasudhākara.² This interpretation, however, is open to question. It is somehow difficult to see how a note which is synonymous with aṃśā which, in turn, is vādi, can be its own sonant, consonant, assonant and dissonant. It appears that to be all four kinds results in a loss of status. On the other hand, to maintain the vāditva, sonance, wholly to the aṃśa (albeit somewhat usurped by the graha) is to acquire a kind of superiority over all the other notes. For the vādi, in relation to the rest of the svaras, may also be a saṃvādi, anuvādi, and vivādi. This would be true of all the notes depending on the note-frame of reference. By relieving the graha of all vādi concept, the implication is that the graha is not

¹It could, however, be argued here that "rāgajanaka" might mean "bearer of charm", instead. But see further below.

²Ramachandran, N.S. The rāgas of Karnatic music (University of Madras, 1938), 76.

The Saṅgītasudhākara is a 14th century treatise. It seems apparent that Siṃhabhūpāla had got his ideas from the BD but wrongly interprets Mataṅga.

to be thought of as a determinant note, although it is an aṃśa-svara. That function is left to the vādi alone, the aṃśa, which Mataṅga aptly calls the "na grahas svaritaḥ", the non-initial-sounded [note].¹ It might help to clear the air to add that the aṃśa as vādi may be its own graha, but a graha cannot determine its aṃśa. The graha's role, therefore, is completely secondary, hence, Mataṅga's, not Siṃhabhūpāla's, verdict, "graho hy apradhānabhūtaḥ."

In the Saṅgītaratnākara (SR), the graha's dual nature, i.e., as graha and aṃśa, is also declared from the start.² Its commentator, Kallinātha, makes a play on the word graha³, and in three different ways explains graha's duality but adds little more. Having made it clear that wherever the graha or aṃśa is mentioned, both are meant, the SR never again refers to the graha in its description of the jātis.

It is from the Aṃśa as vādi that the concept of intervalllic harmony in the NS is evolved. From the sounded aṃśa four harmonic relationships are established, namely, the sonant, vādi; consonant, saṃvādi; assonant, anuvādi;

¹BD, p.57 in his discussion of the aṃśa.

²gītādinihitas tatra svarō graha itīritaḥ /
tatrāṃśagrahayor anyataroktāv ubhayagrahaḥ // 31

SR, I, 7

³gr̥hīta iti yena gītaṃ gr̥hyata iti vā grahaḥ/ SR, I, 7, p.181.

and dissonant, vivādi.¹ Without an aṃśa or sounded note of reference, as it were, no harmonic structure would be possible. It is this harmonic relationship in the jāti, and later, the rāga, that has made possible the development of its other features and from which the evolutionary process of the rāga may be traced.

Ten characteristics are ascribed to the Aṃśa by the NS,² all ten showing the power of the aṃśa as a determining factor in the jātis' features. Besides establishing harmonic relationships with other notes and being the most prominent note of the jāti, the aṃśa determines the compass or ambitus of the jāti, and regulates the choice of cadential pauses as well as beginning and ending notes. It might serve a purpose to translate this passage in the NS here:

"The aṃśa [is that note] in which beauty dwells and from which beauty emanates;

It is [the note from which] a movement of five notes away from it [fixes its] mandra and tāra register;

¹caturvidhatvam eteṣām vijñeyam śrutiyogataḥ /
vādī caivātha saṃvādī hy anuvādī vivādy api // 23
tatra yo yatrāṃśaḥ sa tatra vādī/ NS,28

²rāgaś ca yasmin vasati yasmāc caiva pravartate /
[tena vai tāramandrāṇām yo 'tyartham upalabhyate /]
mandratāraviṣayā ca pañcasvaraparā gatiḥ // 76

(Cont'd)

It is the most prominent note in a combination of several notes;

Whose consonant(s) and assonant(s) are other strong notes;

And is related to the graha, apanyāsa, vinyāsa, nyāsa, and saṃnyāsa;¹

As well as to be found all over [the musical piece]."

Both the BD² and the SR³ echo the exposition of the aṃśa in the NS, with one difference. For the first time
-Cont.

anekasvarasaṃyoge yo 'tyartham upalabhyate /
anyaś ca balino yasya saṃvādī cānuvādy api // 77
grahāpanyāsavinyāsanyāsasaṃnyāsagocaraḥ /
paricārya sthito yas tu so 'ṃśaḥ syād daśalakṣaṇaḥ // 78
NS,28

¹Each of these relationships is counted as one aṃśa feature.

²athāṃśaḥ kathyate/ aṃśavibhāgaḥ sa daśavidho boddhavyaḥ/
yasminn aṃśe kriyamāṇe rāgābhivyaktir bhavati so 'ṃśaḥ/
yasmād vārabhya gītaḥ pravartate/
yaś ca bahuprayogatarāḥ so 'py aṃśaḥ/ yo rāgasya viṣaya-
tvenāvasthitaḥ svarāḥ so 'py aṃśaḥ/
tenā ca tāramandrāṇaṃ yo 'tyartham upalabhyate // 197
grahāpanyāsavinyāsasaṃnyāsanyāsagocaraḥ /
anuvṛttaś ca yaś ceha so 'ṃśaḥ syād daśalakṣaṇaḥ //
BD,pp.57-8

³yo raktivyañjako geye yat saṃvādyanuvādināu /
vidāryāṃ bahulau yasmāt tāramandravyavysthitaḥ // 32
yaḥ svayaṃ yasya saṃvādī cānuvādī svaro 'paraḥ /
nyāsāpanyāsavinyāsasaṃnyāsagrahatāṃ gataḥ // 33
prayoge bahulaḥ sa syād vādy aṃśo yogyatāvaśāt /
bahulatvaṃ pragogeṣu vyāpakaṃ tv aṃśalakṣaṇam // 34
SR,I,7

in extant literature, presumably starting with Mataṅga, the existence of the vidārī as a music or verse section in connection with the other types of endings is mentioned.¹

As the most important note in the ecclesiastical modes, the tenor or reciting tone might be said to correspond to the aṃśa. The tenor is said to be characteristic not of the mode itself but of "the recitation tones associated with the mode and of a number of melodies derived from or related to these recitation tones."² Similarly, the aṃśa by itself can hardly be said to characterize the jāti. The aṃśa might be better thought of in terms of its repeated presence in melodic turns or phrases that tradition has associated with a particular jāti.

Besides being bound to a liturgical text which the aṃśa is not, the reciting tone is confined in theory to a single tone in any given mode: a fifth above the final (except the Phrygian) in the authentic modes, and a third below these (except the Hypomixolydian)³ in the plagal modes. On the other hand, the aṃśa may be as many as seven

¹The vidārī is discussed under the heading, Apanyāsa, Saṃnyāsa, and Vinyāsa.

²Apel, W. Gregorian chant, 136.

³The variance in the exceptions is caused by the avoidance of b.

in number, as in the *jāti*, *Ṣaḍjamadhyamā*. It is not clear, however, whether when a *jāti* has more than one *aṃśa*, all its *aṃśas* are utilized in one setting, or whether, and this is perhaps more likely, a *jāti* may have several facets to its nature depending on the *aṃśa* or, perhaps at most, a pair of *aṃśas* used to achieve the desired effect.

Another principal note comparable to the *aṃśa* might be the *ḡammāz* of the Arab mode. Generally the fifth note from the tonic, the *ḡammāz* is described as "le point culminant du mouvement mélodique, le degré le plus saillant de la mélodie."¹ When the *ḡammāz* is the fourth or third from the tonic, the modal scale is said to begin, not at the true tonic, but at the note one or two degrees lower.² Thus, the change in the modal framework rests not so much on the *ḡammāz* as on the beginning note.

Probably in no other type of modal music is there a principal or central note as powerful as the *aṃśa*, in that no other seems to have been assigned ten different functions. In theory, at least, this might be true, but in practice the power of a principal note in any kind of music is incalculable.

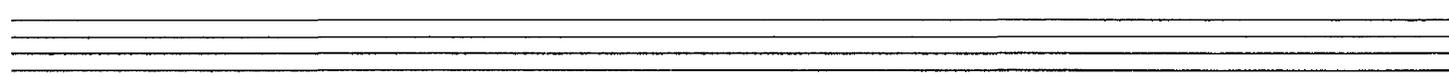
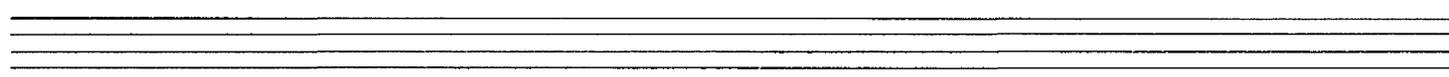
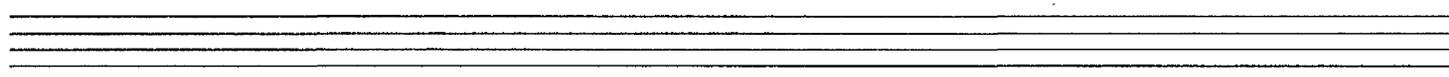
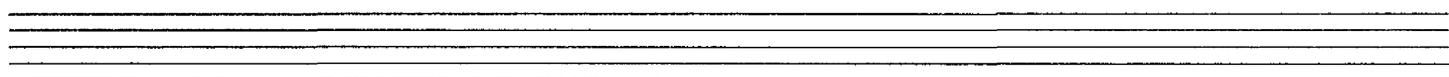
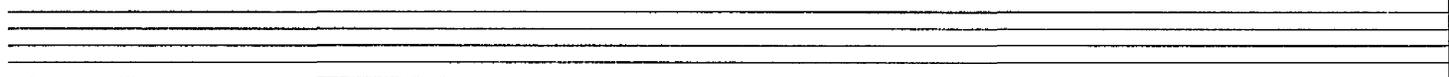
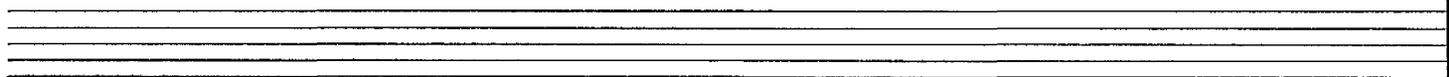
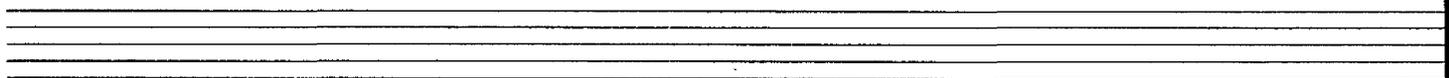
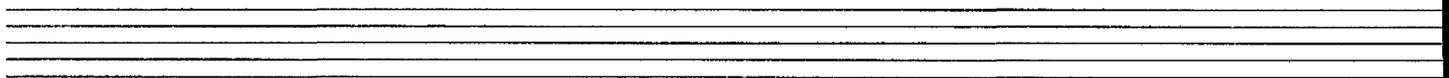
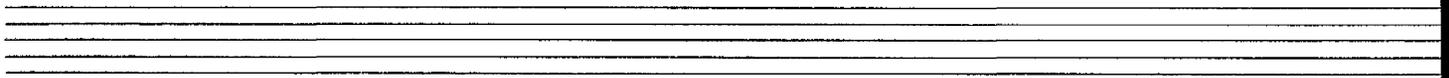
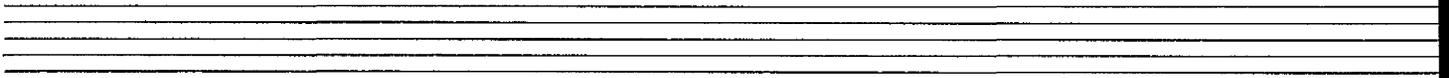
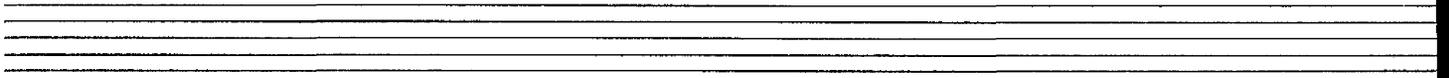
¹D'Erlanger, R. La musique arabe (Paris, 1949), V, 106.

²Ibid.

A table showing the graha-aṃśas and nyāsas of the śuddha and vikṛta jātis according to the NS now follows. It will be seen that Gāndhārī is the most popular śuddha jāti ingredient in the composition of the vikṛta jātis. Pa emerges as the most frequent graha-aṃśa, followed by Sa and Ni.

Jāti	!	Graha - Aṃśa	!	Nyāsa
S R G M P D N ¹	!	S R G M P D N	!	S R G M P D N
Nandayantī R G P	!	P	!	G
Gāndhārapañcamī G P	!	P	!	G
Madhyamodīcyavā G M P D	!	P	!	M
Gāndhārodīcyavā S G M D	!	S M	!	M
Pañcamī P	!	R P	!	P
Dhaivatī D	!	R D	!	D
Ṣaḍjakaiśikī S G	!	S G P	!	G
Naiṣāḍī N	!	R G N	!	N
Ārṣabhī R	!	R D N	!	R
Ṣaḍjodīcyavā S G	!	S M D N	!	M
Āndhrī R G	!	R G P N	!	G
Karmāravī R P N	!	R P D N	!	P
Madhyamā M	!	S R M P D	!	M
Ṣaḍjī S	!	S G M P D	!	S
Gāndhārī G	!	S G M P N	!	G
Raktaḡāndhārī G M P N	!	S G M P N	!	G
Kaiśikī S G M P N	!	S G M P D N	!	G P N
Ṣaḍjamadhyamā S M	!	S R G M P D N	!	S M
S R G M P D N	!	S R G M P D N	!	S R G M P D N
6 4 10 6 7 4 4	!	9 8 8 8 13 8 9	!	2 1 7 5 3 1 2

¹Suddha jāti composition



Like the graha, the Nyāsa, or final, is determined by or is related to the aṃśa. "Such is the nyāsa: of twenty-onefold, it is at the end of the limb [i.e., piece]."¹ The three texts agree to the total number of nyāsas in the jātis as a whole. The twenty-one nyāsas are made up of the seven svaras, a specified one for each of the eighteen jātis, except Ṣaḍjamadhyamā which has an additional one, and Kaiśikī which has two more. The śuddha jātis take their nāma-svara or tonic as their nyāsa. Among the vikṛta jātis, the three "udīcyava" ones, i.e., Ṣaḍjodīcyavā, Gāndhārodīcyavā, and Madhyamodīcyavā, have a common final, Ma. More than half of the vikṛta jātis take Ga as nyāsa. These have an anuvādi relationship with their corresponding graha-aṃśas but three of them are saṃvādis as well. The table shows that fourteen of the eighteen jātis have consonant endings, the rest being assonant to their graha-aṃśas, with the exception of Madhyamodīcyavā whose Pa graha-aṃśa might be considered a supertonal approach to its nyāsa-tonic, Ma, or the point of disjunction in its tetrachordal system.

¹atha nyāsaḥ - ekaviṃśatividho hy aṅgasamāptau/

The choice of more than one nyāsa, such as in the jātis, Ṣaḍjamadhyamā and Kaiśikī, is comparable to the medieval Byzantine system of echoi in which the four authentic echoi have their finalis on one of two tones that are a fifth or a fourth apart.¹ In Ṣaḍjamadhyamā its nyāsas Sa and Ma are also a fourth apart and are the finals of the jāti's component modes, Ṣādjī and Madhyamā, respectively. Kaiśikī's nyāsas are Ga and Ni normally, but when Dha and Ni are its main notes or aṃśas, then Pa as nyāsa is deemed preferable.² In this instance the finals are a fifth apart.

The question now arises as to whether nyāsa is to be considered both tonic and final. In the Roman authentic modes, tonic and final coincide. Similarly, the tonic, garār, of the Arab mode is "invariablement la première note de son octave fondamentale (son diwān asāsī). ... C'est toujours sur la tonique que s'effectue le repos final, la fin de la mélodie ou de ses parties principales."³

¹Reese, G. Music in the Middle Ages (London, 1941), 89.

²kaiśikyāṃśās tu vijñeyāḥ svarāḥ sarve 'rṣabhaṃ vinā /
eta eva hy apanyāsā nyāsau gāndhārasaptamau // 156
dhaivate 'ṃśe niṣāde ca nyāsaḥ pañcama iṣyate /

NS,28

³D'Erlanger, R. La musique arabe, V, 107.

The church plagal modes, on the other hand, have their tonic a fourth below the final. Is nyāsa to be thought of as the base of the jāti with its grahas as multiple tonics? Or do the grahas merely act as "points de départ" as does the mabdā of the Arab mode?¹ It seems reasonable to consider the nyāsa as the jāti's base, base being understood as tonic and final. In such a scalar structure, the graha-aṃśas would act as initial and pivotal centres but their final resolution lies on the tonic-final. Mention might also be made of the Indonesian sléndro paṭet system in which the gong tone has been likened to the tonic, and the dasar, "a sléndro fifth part" from the gong tone, to the central or dominant tone. Though each has a distinctive role in the paṭet, the two do not function separately, and are considered to be the "melodic foci of all paṭet".² Usually, either one of these two tones may be the final note of a sléndro genḍing but analysis has shown the first gong tone "to be the preferred finalis, and the dasar, the next choice for a final tone . . ." ³

¹Ibid., 105.

²Hood, M. The nuclear theme as a determinant of paṭet in Javanese music (Groningen, 1954), 237, et passim.

³Ibid., 121.

The question of nyāsa leads us to consider the drone. Why this matter of drone is not found in the NS, or in the SR, the most comprehensively written book on music theory, is indeed curious. And it is equally difficult to fathom how Captain Day determined the early drone to be the "Dha drone"¹, or how Clements arrived at the conclusion that "it was the existence of the drone in Indian music which led to the evolution of the Jātis".² As has been pointedly stated, "If there had been a development comparable to the present use of the drone, to have failed to mention the very foundation of the subject would have been an incredible omission in a text [NS] dealing with the theory of music."³ If we accept the proposition that there was no drone, or that its use was very limited, when the NS, BD, and SR were written, then when did the drone come to be associated with India's classical music?

¹Day, C.R. The music and musical instruments of Southern India and The Deccan (London, 1891), 109.

²Clements, E. Introduction to the study of Indian music (London, 1913), 47.

³Jairazbhoy, N.A. The relevance to present day theory and practice of Bharata's musical theory (Unpubl. typescript), 25.

Ṣaḍjamadhyamā (Prastāra)

BD, after śl.254

Musical notation for Ṣaḍjamadhyamā (Prastāra) in G-clef, showing measures 1 through 12. The notation includes various rhythmic values and accidentals, with measure numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 indicated above the staff.

Gāndhārodīcyavā (Prastāra)

BD, after śl.257

Musical notation for Gāndhārodīcyavā (Prastāra) in G-clef, showing measures 1 through 16. The notation includes various rhythmic values and accidentals, with measure numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16 indicated above the staff.

Blank musical staff

Raktagāndhārī (Prastāra)

BD, after śl.261

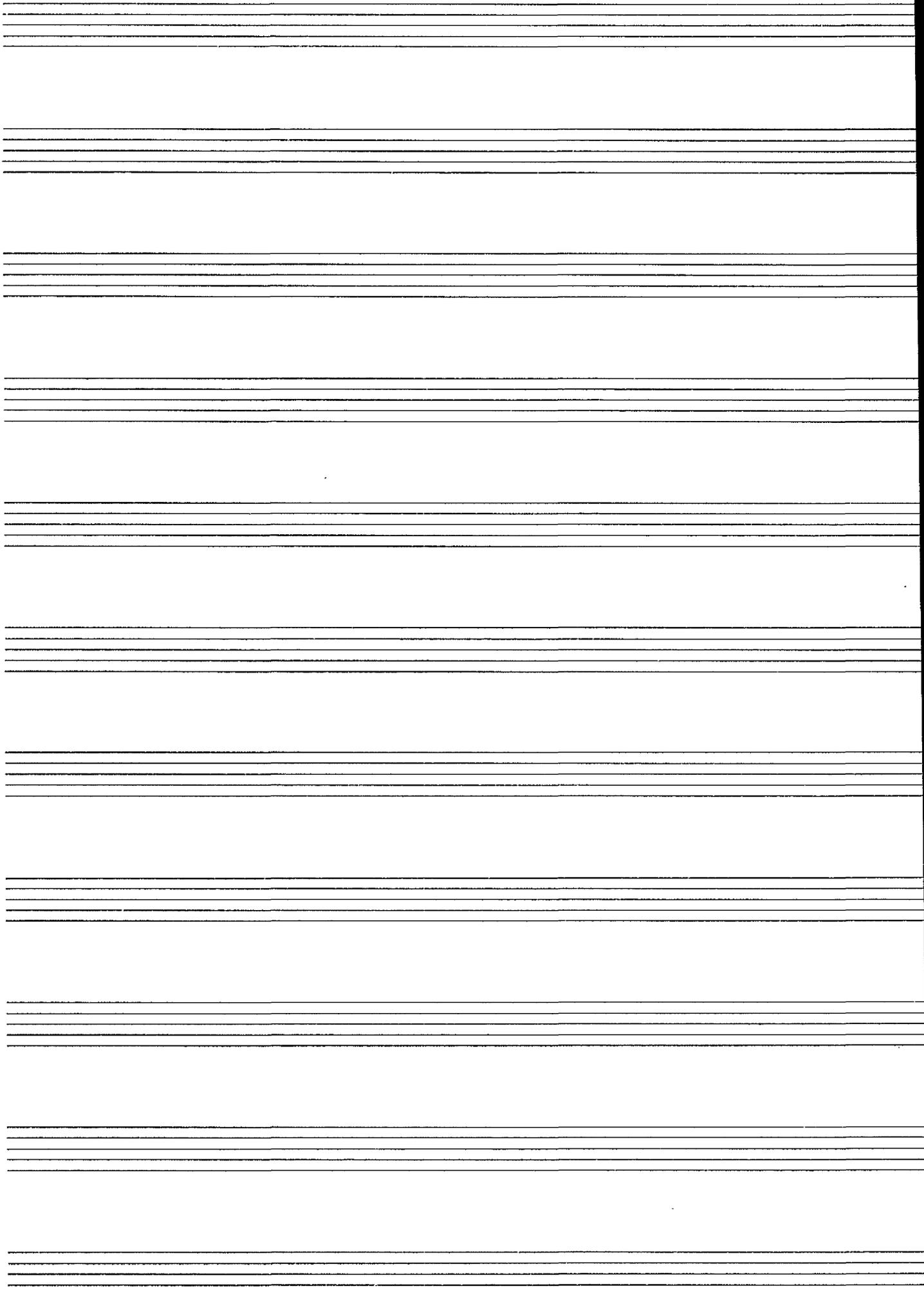
Musical notation for Raktagāndhārī (Prastāra) on a single staff. The notation consists of three lines of music, each starting with a treble clef. The first line contains measures 1 through 4, the second line contains measures 5 through 8, and the third line contains measures 9 through 12. The notes are primarily eighth and sixteenth notes, with some quarter notes. Measure numbers 1 through 12 are indicated above the notes.

Kaiśikī (Prastāra)

BD, after śl.265

Musical notation for Kaiśikī (Prastāra) on a single staff. The notation consists of three lines of music, each starting with a treble clef. The first line contains measures 1 through 4, the second line contains measures 5 through 8, and the third line contains measures 9 through 12. The notes are primarily eighth and sixteenth notes, with some quarter notes. Measure numbers 1 through 12 are indicated above the notes. A section symbol (§) is placed above measure 6.

§ First note given in text is Ni.



Madhyamodīcyavā (Prastāra)

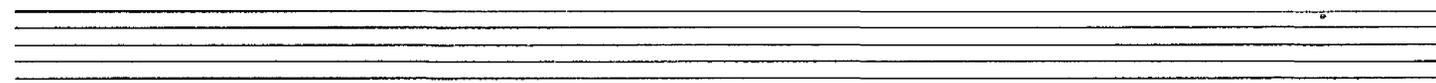
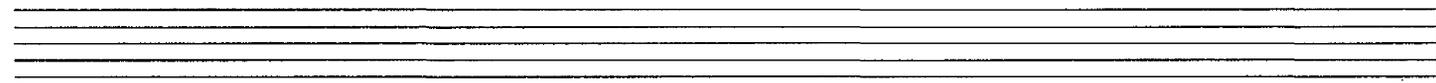
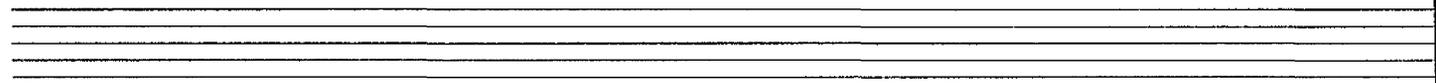
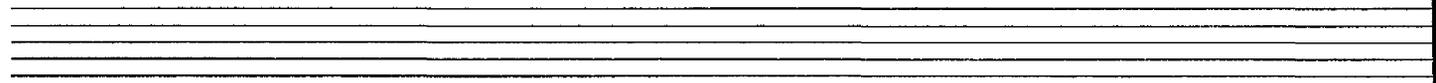
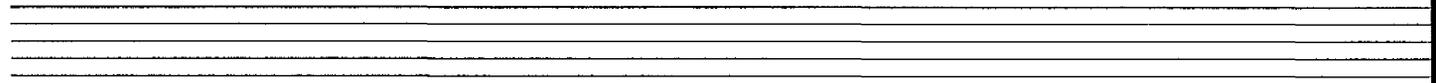
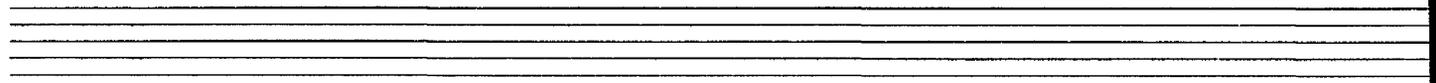
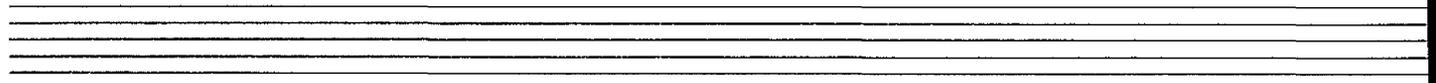
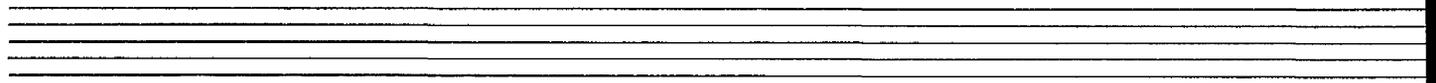
BD, after śl.267

Musical notation for Madhyamodīcyavā (Prastāra) in treble clef, spanning four staves. The notation includes various rhythmic values and accidentals, with measures numbered 1 through 16. The piece concludes with a double bar line.

Kārmāravī (Prastāra)

BD, after śl.269

Musical notation for Kārmāravī (Prastāra) in treble clef, spanning four staves. The notation includes various rhythmic values and accidentals, with measures numbered 1 through 16. The piece concludes with a double bar line.



Gāndhārapañcamī (Prastāra)

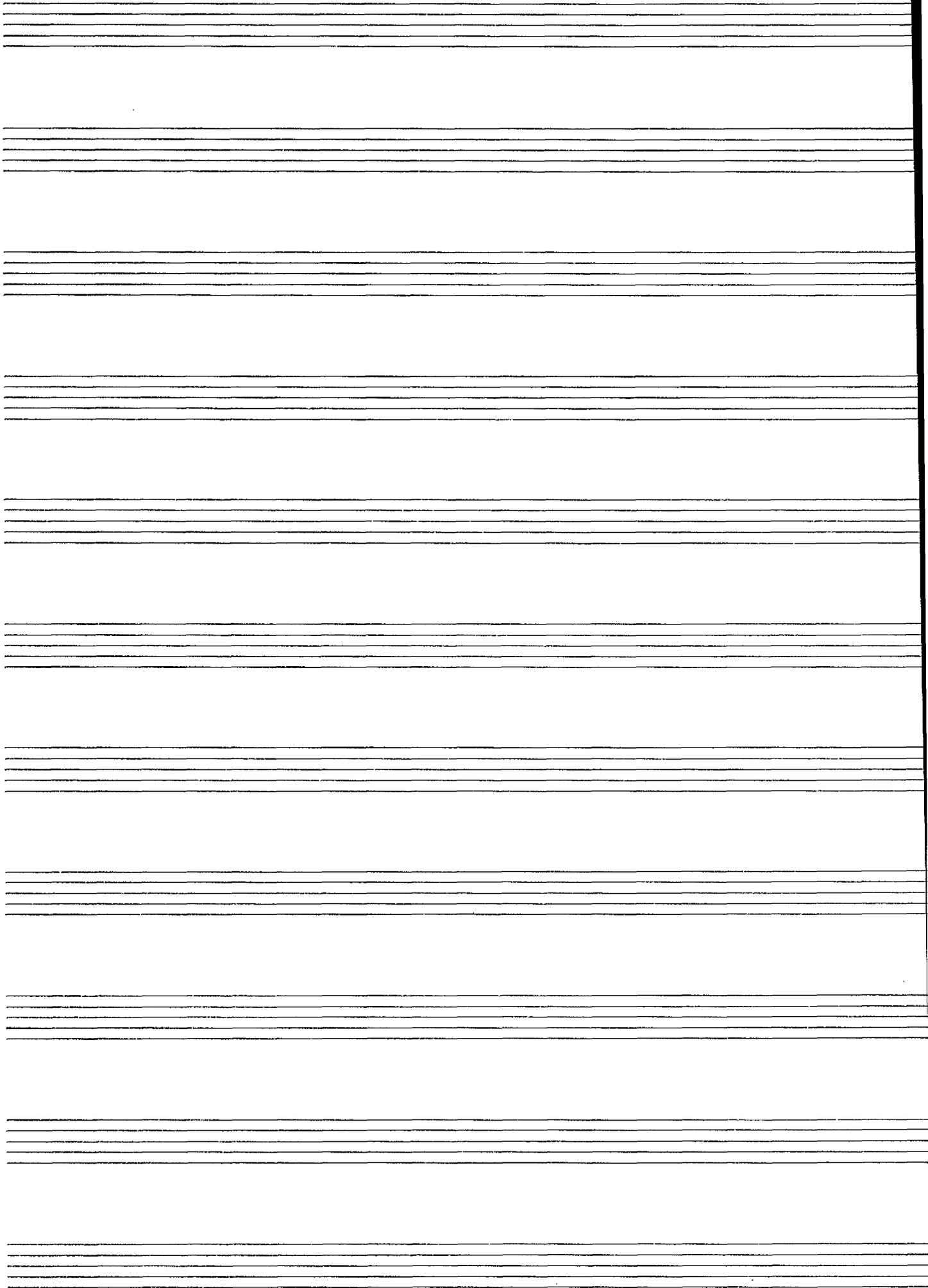
BD, after śl.271

Musical notation for Gāndhārapañcamī (Prastāra), BD, after śl.271. The notation is written on a single staff in treble clef, consisting of four lines of music. The first line contains measures 1 through 4, the second line contains measures 5 through 8, the third line contains measures 9 through 12, and the fourth line contains measures 13 through 16. The melody is composed of eighth and sixteenth notes, with some rests and ties. The piece concludes with a double bar line at the end of measure 16.

Āndhrī (Prastāra)

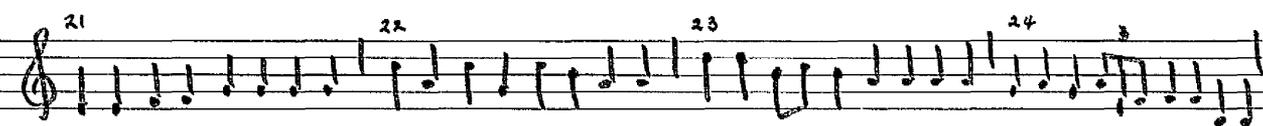
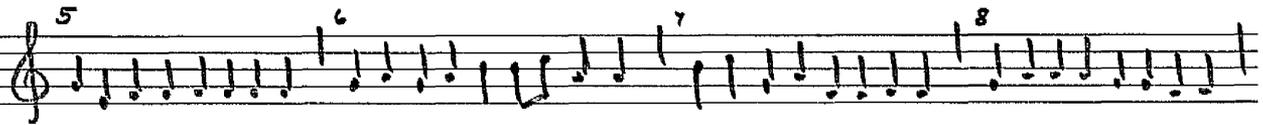
BD, after śl.273

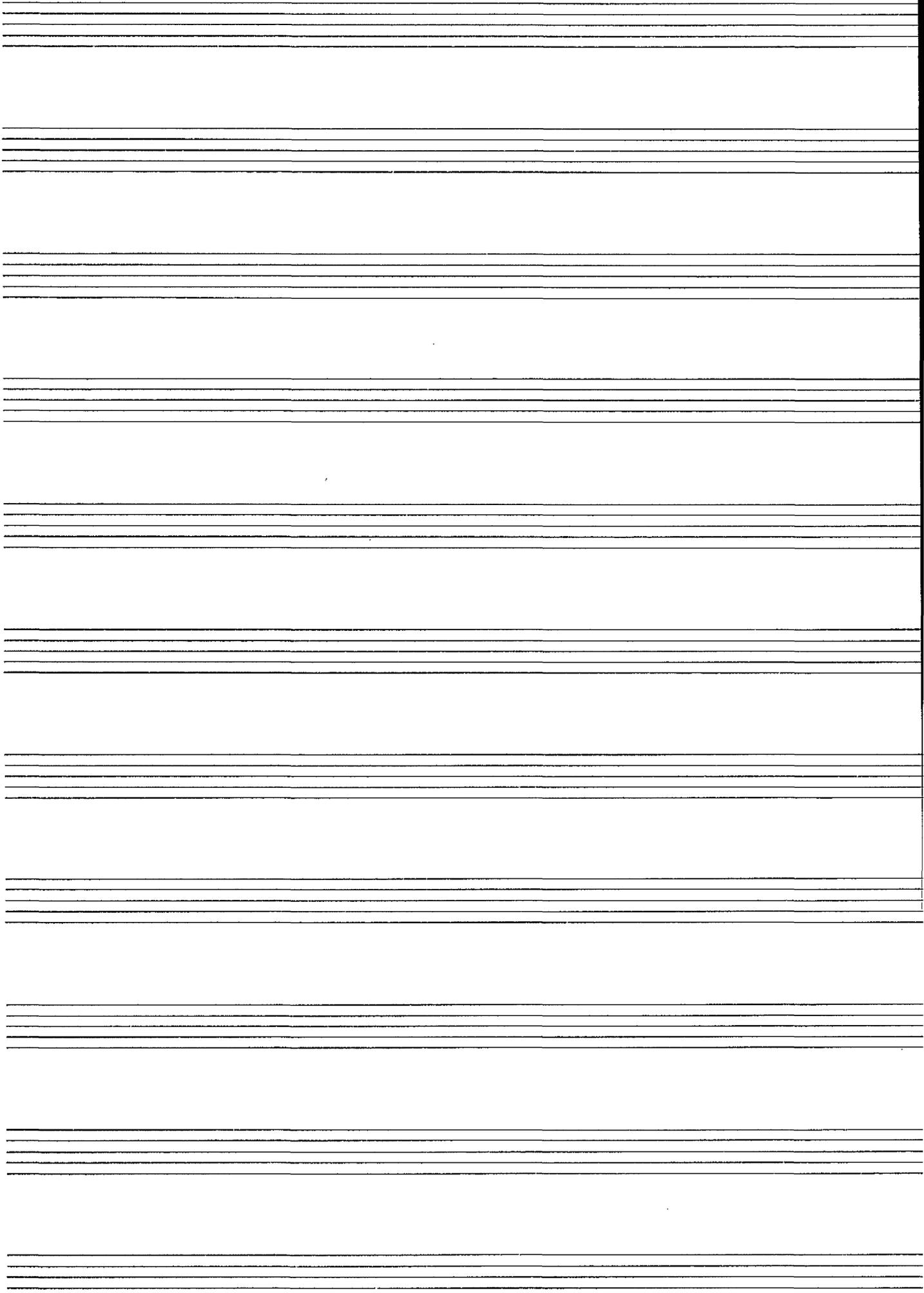
Musical notation for Āndhrī (Prastāra), BD, after śl.273. The notation is written on a single staff in treble clef, consisting of four lines of music. The first line contains measures 1 through 4, the second line contains measures 5 through 8, the third line contains measures 9 through 12, and the fourth line contains measures 13 through 16. The melody is composed of eighth and sixteenth notes, with some rests and ties. The piece concludes with a double bar line at the end of measure 16.



Nandayantī (Prastāra)

BD, after śl.276





Graha, Aṃśa, and Nyāsa
in the Rāga

In his treatise, the BD, Mataṅga quotes his predecessors, Kāśyapa, Yāṣṭika, Durgāśakti and others, on various aspects of the rāga. This attests the steady development of other modal forms into rāgas before his time. It is in the BD, however, that the rāga assumes a definite form. As Mataṅga declares: "Since the shape of the rāga's structure has not been stated by Bharata and others,¹ it will now be investigated and defined by us, together with its practice and theory."²

Mataṅga groups his genera of rāgas which he calls gītis into seven types, namely, cokṣa or śuddha, bhinna, gauḍa, rāgagīti (afterwards called vesara³), sādharmaṇa, bhāṣā, and vibhāṣā,⁴ each of these containing a number of

¹Mataṅga applies some of Bharata's rules concerning the jātis to the rāga, and by this śloka acknowledges Bharata's contribution.

²rāgamārgasya yad rūpaṃ yan noktaṃ bharatādibhiḥ /
nirūpyate tad asmābhir lakṣyalakṣaṇasaṃyutam // 279

BD

³A term Mataṅga borrows from Durgāśakti. BD:288 and p.94.

⁴idāniṃ saṃpravakṣyāmi sapta gītīr manoharāḥ /
prathamā śuddhagītiḥ syād dvitīyā bhinnakā bhavet // 285
tṛtīyā gauḍikā caiva rāgagītīś caturthikā /
sādharmaṇī tu vijñeyā gītījñaiḥ pañcamī tathā // 286
bhāṣāgītis tu ṣaṣṭī syād vibhāṣā caiva saptamī /
saptagītyo mayā proktā idāniṃ bheda ucyaṭe // 287 Ibid.

rāgas. However, Mataṅga's gītis are structurally of four categories only: śuddha, with its modified variant, bhinna, and its stylistic form, gauḍa; vesara; sādharmaṇa; bhāṣā and vibhāṣā, the last group of two being derivatives of the first three categories.¹

"Śuddhas are defined as those which conform only to their own particular brand of jātis, one or more of which are represented [in the rāga], all other jātis being disregarded."² It seems apparent from this definition that Mataṅga's śuddha rāga has come a long way from the śuddha jāti of Bharata's time. Although, as in Bharata, Mataṅga denotes which mūrchanā or modal position each rāga is to take, it is this selectivity of jāti composition which points to the sophisticated level the jāti-originated rāga has now attained. Of the five śuddha rāgas, only

¹Mataṅga's use of the generic term "gīti" when enumerating his rāgas has led Gangoly in his Rāgas and rāgiṇīs (pp.16-9) to believe that only the rāgagīti with its "eight varieties" (p.18) may properly be called rāga. After listing his gītis and those of other writers, Mataṅga continues with:

idāniṃ samprakṣyāmi rāgalakṣaṇam uttamam / (291)

(Now I will describe the superior characteristics of the rāga.)

and proceeds to do so starting with the śuddha rāgas.

²nirapekṣyānyajātīr ye svajā(?) svajātim anuvartakāḥ // 317
svajātyanyatamās caiva te śuddhāḥ parikīrtitāḥ /

Ibid.

Śuddhaṣāḍava originates from a single śuddha jāti and even this is in a modified form.¹ All the others arise from a combination of vikṛta or of śuddha and vikṛta jātis. An analysis of the jāti content of Mataṅga's śuddha rāgas indicates that all the śuddha jātis are represented except Dhaivatī (roughly B mode with its diminished fifth), and that the main jāti ingredients, Ṣāḍjī and Madhyamā, in various combinations with other jātis, are found in four of the five śuddha rāgas.

A table of Mataṅga's scales now follows. Antara Ga and kākali Ni as prescribed in the text are indicated by a sharp sign.

¹vikāramadhyamājāteḥ saṃbhūtaḥ śuddhaṣāḍabaḥ // 318

Ibid.

SUDDHA

BHINNA

Sāḍava

Ṣaḍja

G AN

GA N

Sādhārīta

Tāna

GA N

GA N

GAUḌA

Kaiśikamādhyama

Kaiśikamādhyama

Kaiśikamādhyama

GA N

GA N

GA N

Pañcama

Pañcama

Pañcama

G AN

GA N

GA N

Kaiśika

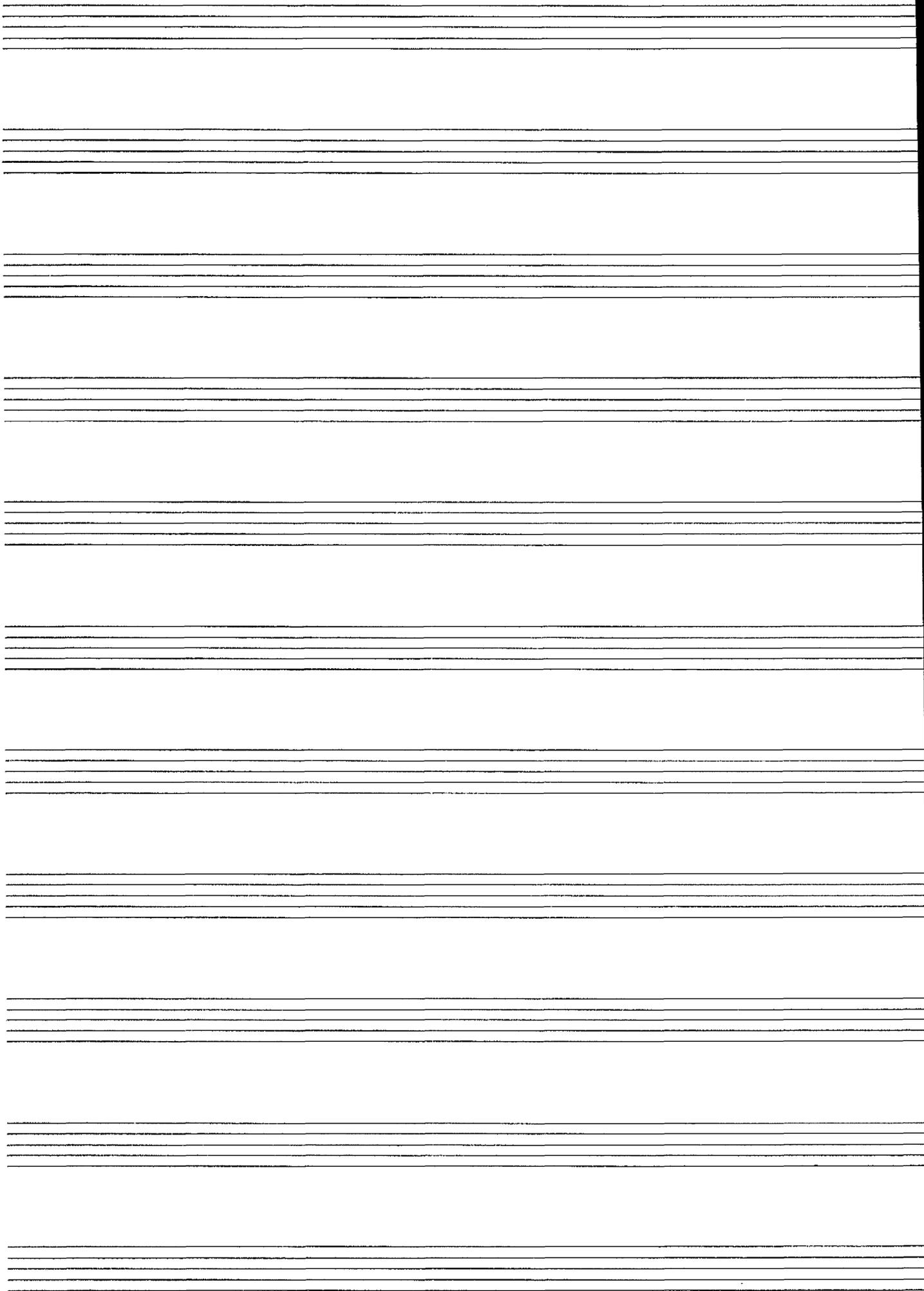
Kaiśika

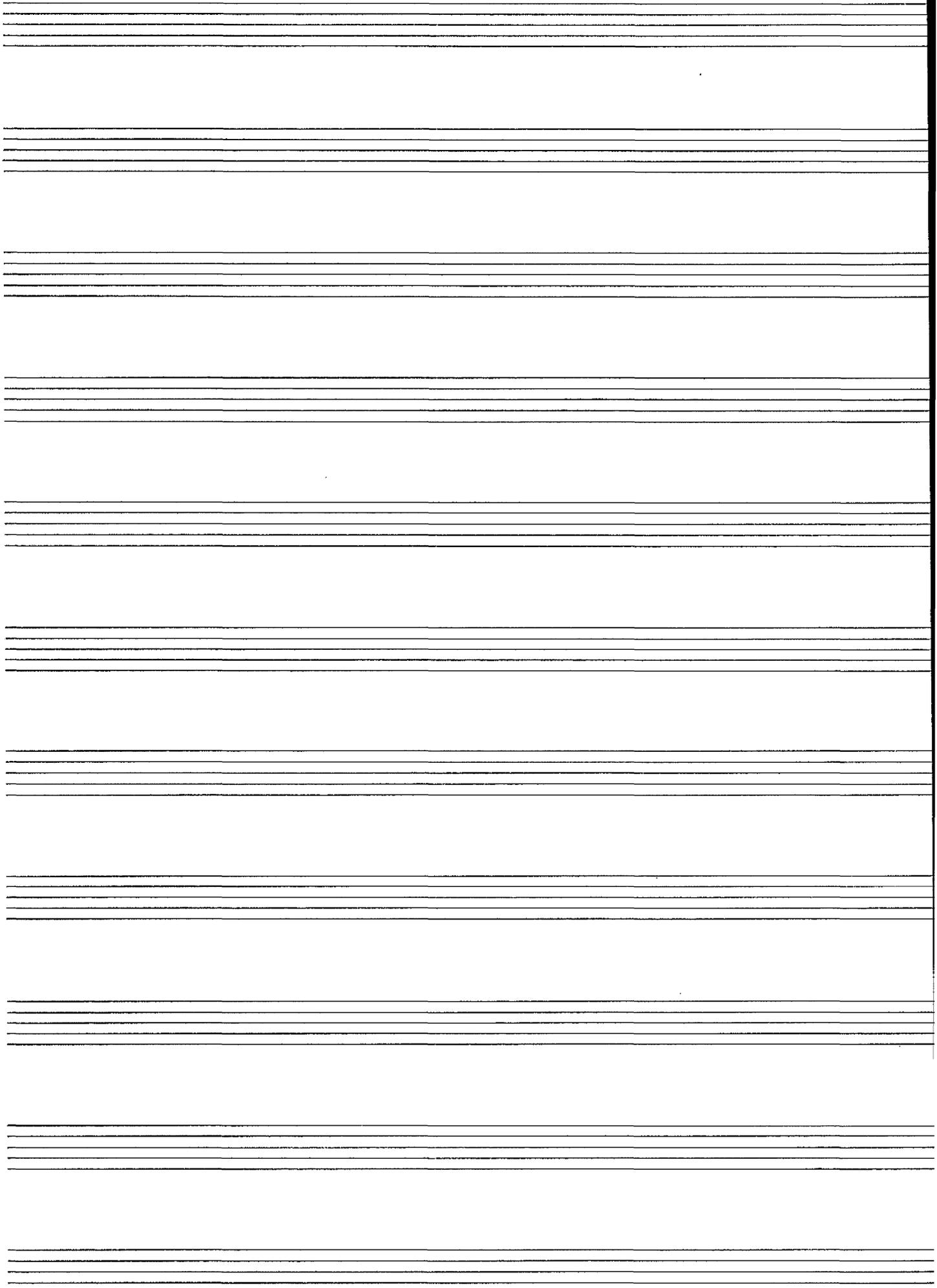
Kaiśika

GA N

GA N

GA N





SĀDHĀRANA

Narta Śaka Kakubha

N GA GAN N GA

Bhammaṇapañcama Rūpasādhārīta Gāndhārapañcama

N GA N GA GAN (GAN)

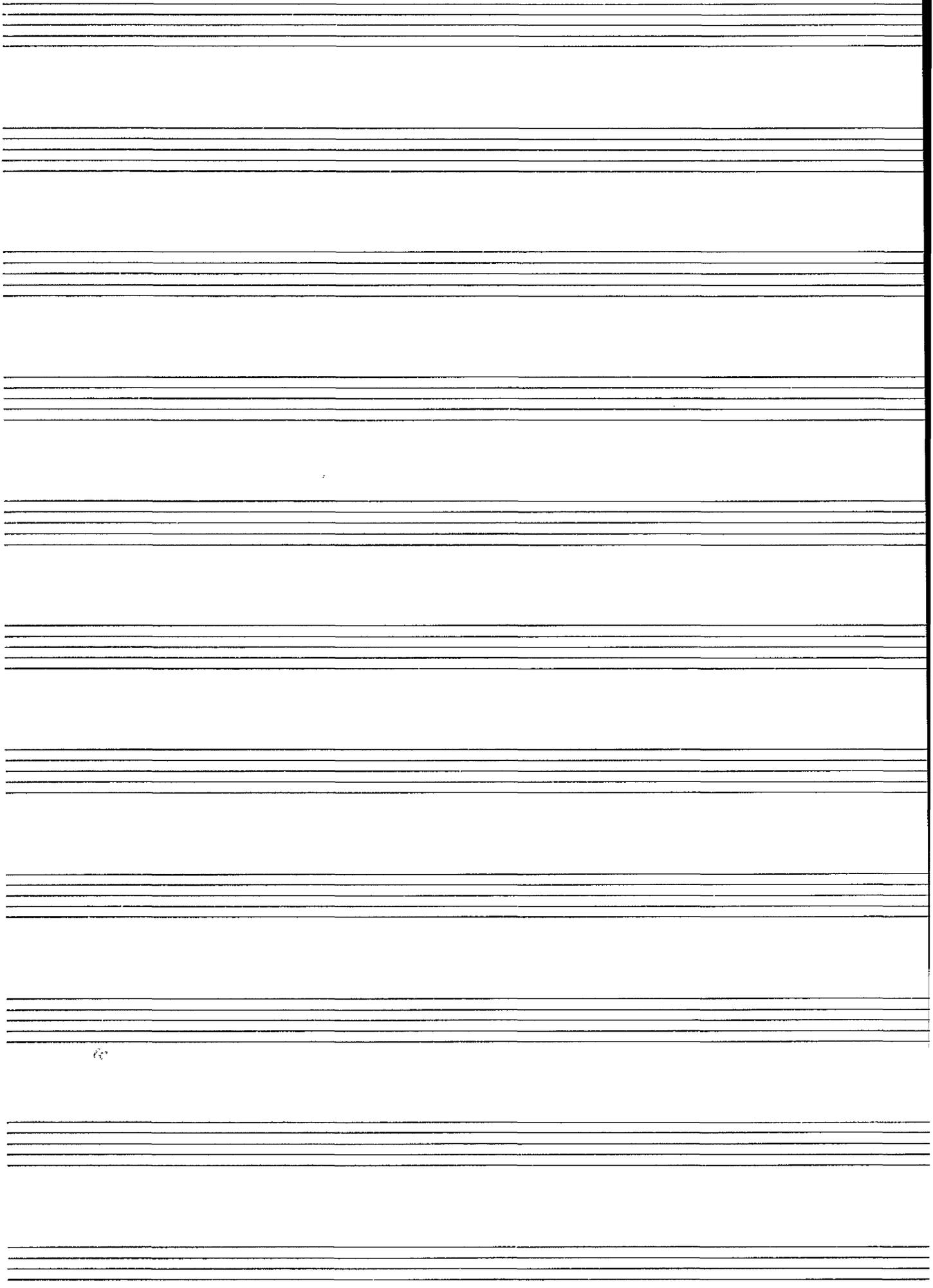
Ṣaḍjakaiśika¹ Pañcamaṣāḍava Revagupta

N GA N GA N (A) GA N

Ṭakkasaindhava

GAN

¹After SR, II, 2:65-6.



6

Graha, aṃśa and nyāsa as explained in the BD in connection with the section on the jāti apply also to the rāgas. By means of their position in the rāga we arrive at some idea of the scale-types. The BD scale table shows that Śuddhaṣāḍava and Śuddhapañcama are "authentic" modes. And from the position of the nyāsa it appears that Śuddha-sādhārīta and Śuddhakaiśikamādhyaṃ are "plagal" modes of the former, and Śuddhakaiśika a plagal form of Śuddhapañcama.¹

¹The description of Śuddhapañcama is missing but two places in the text provide some facts. Line 5 on p.86 is a sentence which is out of place in the description of Śuddhaṣāḍava. The sentence appears to disclose the origin of Śuddhapañcama as being Ṣaḍjodīcyavā:

śuddhapañcamah ṣaḍjodīcyavatījātiḥ smṛtaḥ / (BD)

And BD:325 reads:

śuddhapañcamavat proktaḥ svarajñair bhinnapañcamah //

(By a scrutiny of its svaras Bhinnapañcama is declared to be like Śuddhapañcama.)

It is being assumed that Śuddhapañcama as reconstructed in the table above is valid enough. Śārṅgadeva whose description of early rāgas coincides in almost every respect with the BD, gives Pa as graha, aṃśa and nyāsa of Śuddhapañcama, with the mūrchanā, Hṛṣyakā (Pa), as its modal position (SR, II, 2:149).

As to the modifiable svaras, Ga and Ni, it is not clear whether in the BD sādharmaṇa system there is fluctuation in the use of normal Ga and Ni and their sādharmaṇas, or whether the antara Ga and kākali Ni prescribed are fixed notes.¹ There is no evidence that a dichotomy, that is, a system of two scales, one with the normal Ga and Ni, and the other with their sādharmaṇas instead, exists in the BD but it is strongly suspected that even when sādharmaṇa svaras are prescribed, some fluctuation between these and their normal svaras actually occurs. It is not surprising, therefore, that the plagal modes, Śuddhakaiśikamādhyaṃ and Śuddhakaiśika do not include antara Ga in their scales if they are to represent exact plagals of their authentic modes.

Generally speaking, the śuddha or cokṣa rāgas are characterized as being heptatonic and as having their notes used in a straightforward and even manner with regard to their grace notes (lalita) in all three registers.²

¹For a thorough explanation of this phenomenon, see, Jairazbhoy, N.A. "Bharata's concept of sādharmaṇa", BSOAS, XXI (1958), 54-60.

²mandrāmandraś ca tāraś ca ṛjubhir lalitaiḥ samaiḥ // 291
svaraś ca śrutibhiḥ pūrṇā cokṣā gītir udāhṛtā /

Another characteristic is the high position in the ambitus of graha and aṃśa. This tāra position of graha and aṃśa may be explained by the avarohī varṇa (descending phrases) that are still another feature of the śuddha rāgas.¹

Bhinnarāgas are modified śuddha rāgas² which differ according to: svāra (tonic shift), jāti (prototype variancy), śuddha (purity of traditional ornamentation), and śruti (microtonal distribution).³

By shifting the graha-aṃśa from Ma of Śuddhaṣāḍava to Dha in Bhinnaṣāḍja, and from Pa in Śuddhapañcama to Dha in Bhinnapañcama, the result is a svarabhinna, the purpose of the modification being to stress an assonant or dissonant relationship rather than a consonant one.⁴ The shift of graha-aṃśa Ma to Dha in Bhinnaṣāḍja stresses the assonant relationship (a major third) between Dha and Sa, since Ri, its consonant svāra, has been omitted in this pentatonic

¹The only exception being in the description of Śuddha-kaiśika where the text reads, 'ārohī varṇa' (ascending phrases), p.87, but this might be a scholiast's error. SR gives 'avarohī', II,2:32.

²bhinno 'tra vikṛta ucyate/ vikṛtatvaṃ ca pūrvoktaśruti-bhinnety ādilakṣaṇāt/ BD, after:322.

³śrutibhinno jātibhinnaḥ śuddhabhinnaḥ svarais tathā // 322
caturbhir bhidyate yasmāt tasmād bhinnaka ucyate / Ibid.

⁴yadā vādī gṛhītaḥ syād saṃvādī ca vimokṣyate // 323
vivādī vānuvādī vā svarabhinnaḥ sa ucyate / Ibid.

rāga. In the BD vivādī table (maṇḍala)¹, vivādī occurs between Ni and Dha, and between Ri and Ga. In Bhinna-pañcama the reference is to the vivādī relationship between Dha (now graha-aṃśa) and Ni. By occasionally omitting Ri, thereby depriving the modified rāga of its only consonant interval, Dha and Ri, the dissonant quality between Dha and Ni is emphasized.² That svarabhinna applies only to the authentic modes and not to the plagal ones suggests that the addition of another tonal centre introduces interest and variety, the two tonal centres being graha-aṃśa on a note other than nyāsa, and the nyāsa svara itself. We shall see this principle applied again and again in succeeding rāgas. The plagal modes with their inherent dual tonality, on the other hand, are modified by other means.

In a jātibhinna, it is the paucity or frequency of the rāga's jāti-aṃśa by the use of subtle devices and oblique [svara] movements that distinguishes Bhinna- from

¹BD, p.17.

²pañcamasya sthāne sthāne vivāditvena gṛhīto bhavati/
pañcamasyaś ca saṃvāditvena(?) varjyate kadācid asau
bhinnapañcamaḥ svarabhinno 'bhidhīyate/

Ibid., p.89.

Śuddhakaiśikamadhyama.¹ Śuddhakaiśikamadhyama is bound to two jātis, Ṣaḍjamadhyamā and Kaiśikī. This means that the rāga has inherited a background rich in aṃśa since the combined jātis use all seven svaras as aṃśas. A way of modification would be to reduce the number of parent-jātis and to lessen the role of the remaining jāti's aṃśas. Bhinnakaiśikamadhyama then is seen to originate from only one parent-jāti, Ṣaḍjamadhyamā. By itself, this jāti utilizes all seven svaras as aṃśa and has therefore that many tonal centres. By dodging these active notes and placing more emphasis on only two tonal centres, Sa and Ma, by means of sthāyi varṇa (plateau position of phrases, i.e., no rise or fall), the modified rāga distinguishes itself from its śuddha counterpart.² A transcription of vocal pieces in these two rāgas as found in the SR is given below.

¹jātīnām aṃśakaṃ sthāya(?) svalpakas tu bahus tathā // 326
alpatvaṃ ca bahutvaṃ ca prayogālpabahutvataḥ /
sūkṣmātisūkṣmair vakraś ca jātibhinnaḥ sa ucyate // 327
Ibid.

²śuddhakaiśikamadhyo hi kaiśikīṣaḍjamadhyamājātyor
jāta(ya?)ḥ/ bhinnakaiśikamadhyas tu ṣaḍjamadhyamajāter
jātatvāt tad aṃśagrāhitvena masthāyivarnagrāhitvena ca
sūkṣmātisūkṣmaiḥ prayogaiś ca jātibhinno bhaved i)ty
arthaḥ/

Ibid., before: 328.

Śuddha and Bhinna Rāgas

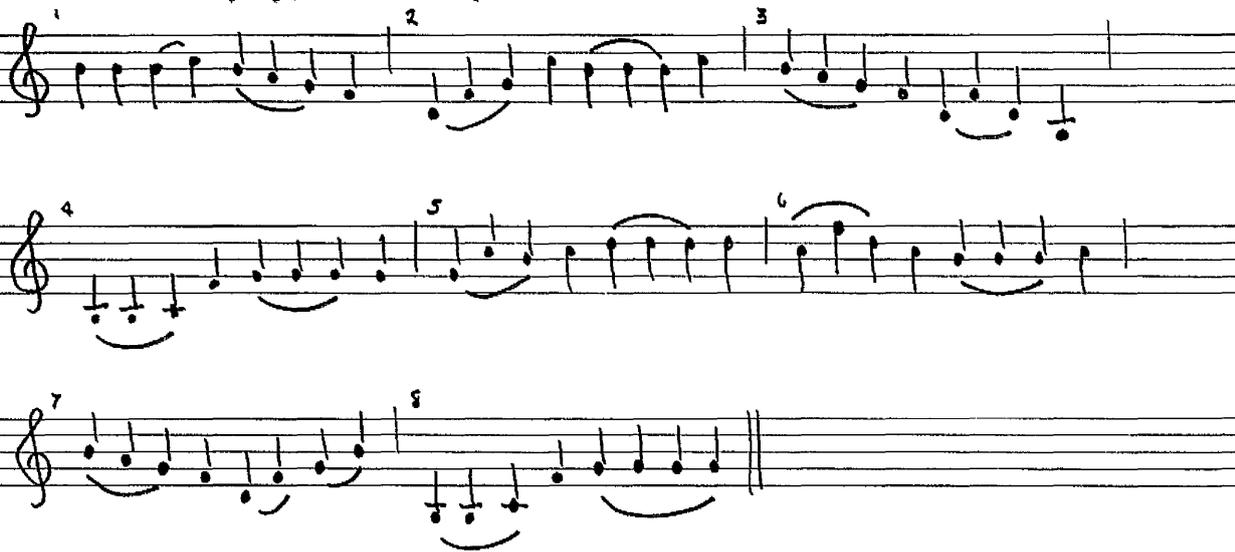
Śuddhaṣāḍava (Ākṣiptikā)

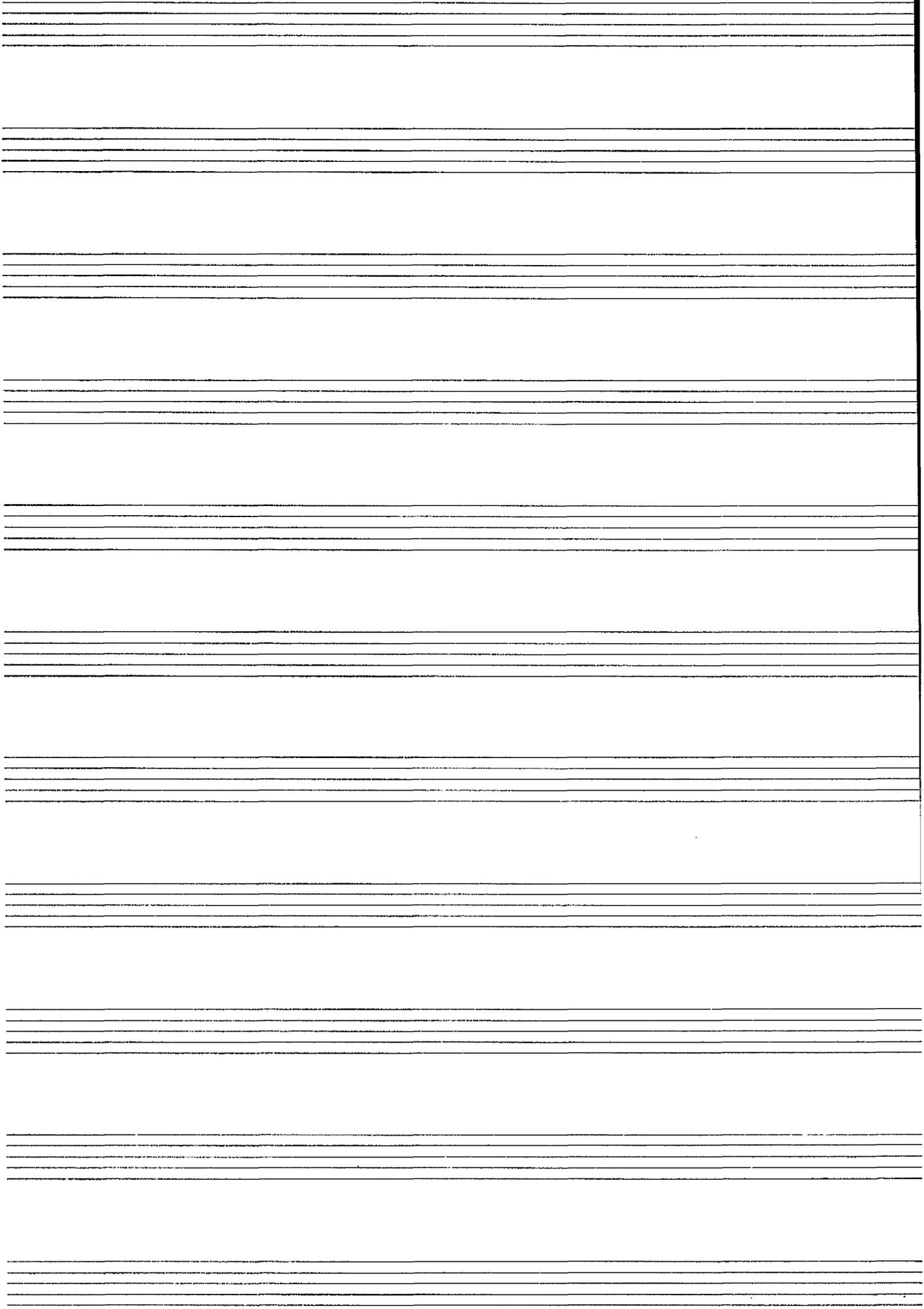
SR, II, 2, before: 77.



Bhinnaṣāḍja (Ākṣiptikā)

SR, II, 2, before: 82.





Śuddha and Bhinna Rāgas

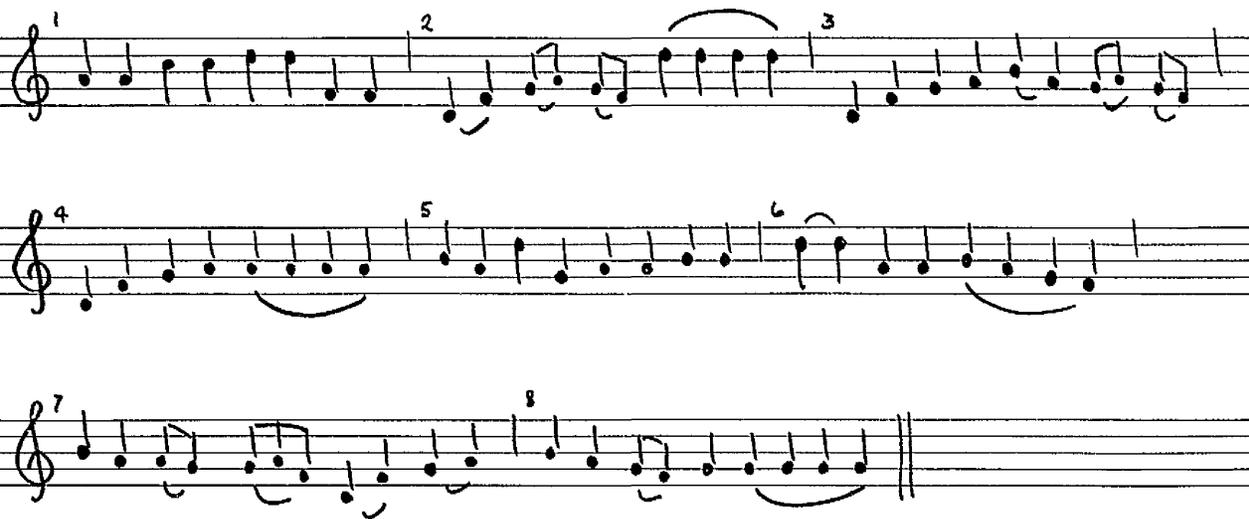
Śuddhasādhārita (Ākṣiptikā)

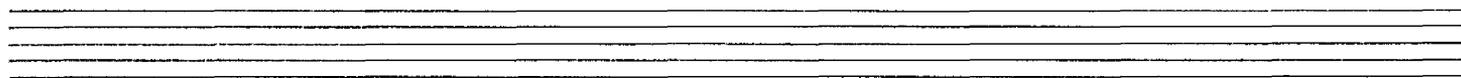
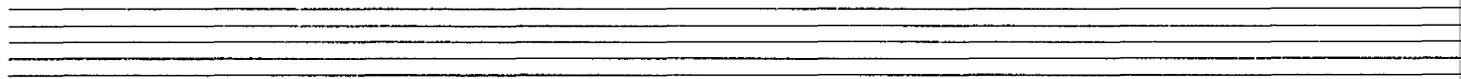
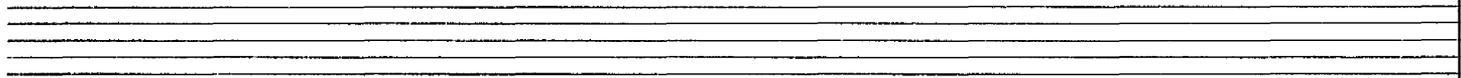
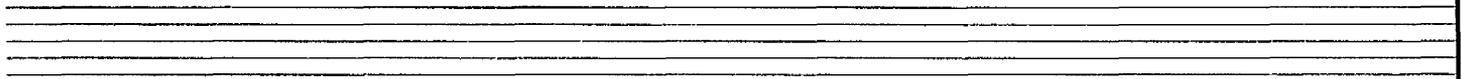
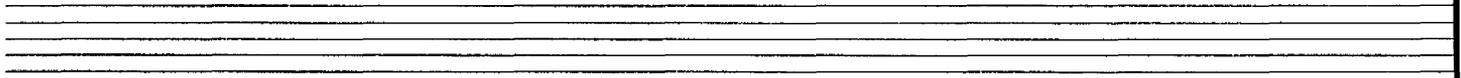
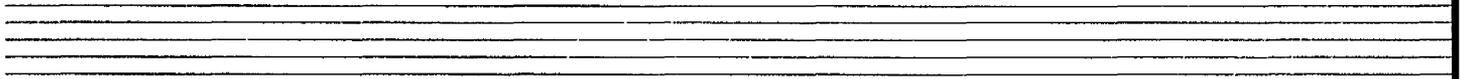
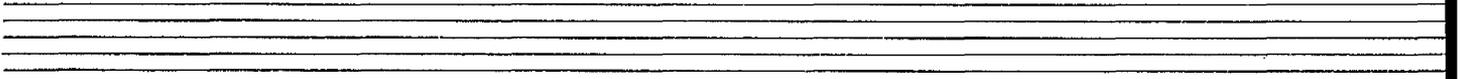
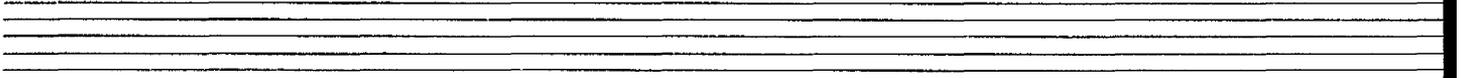
SR, II, 2, before: 27.



Bhinnatāna (Ākṣiptikā)

SR, II, 2, before: 37.





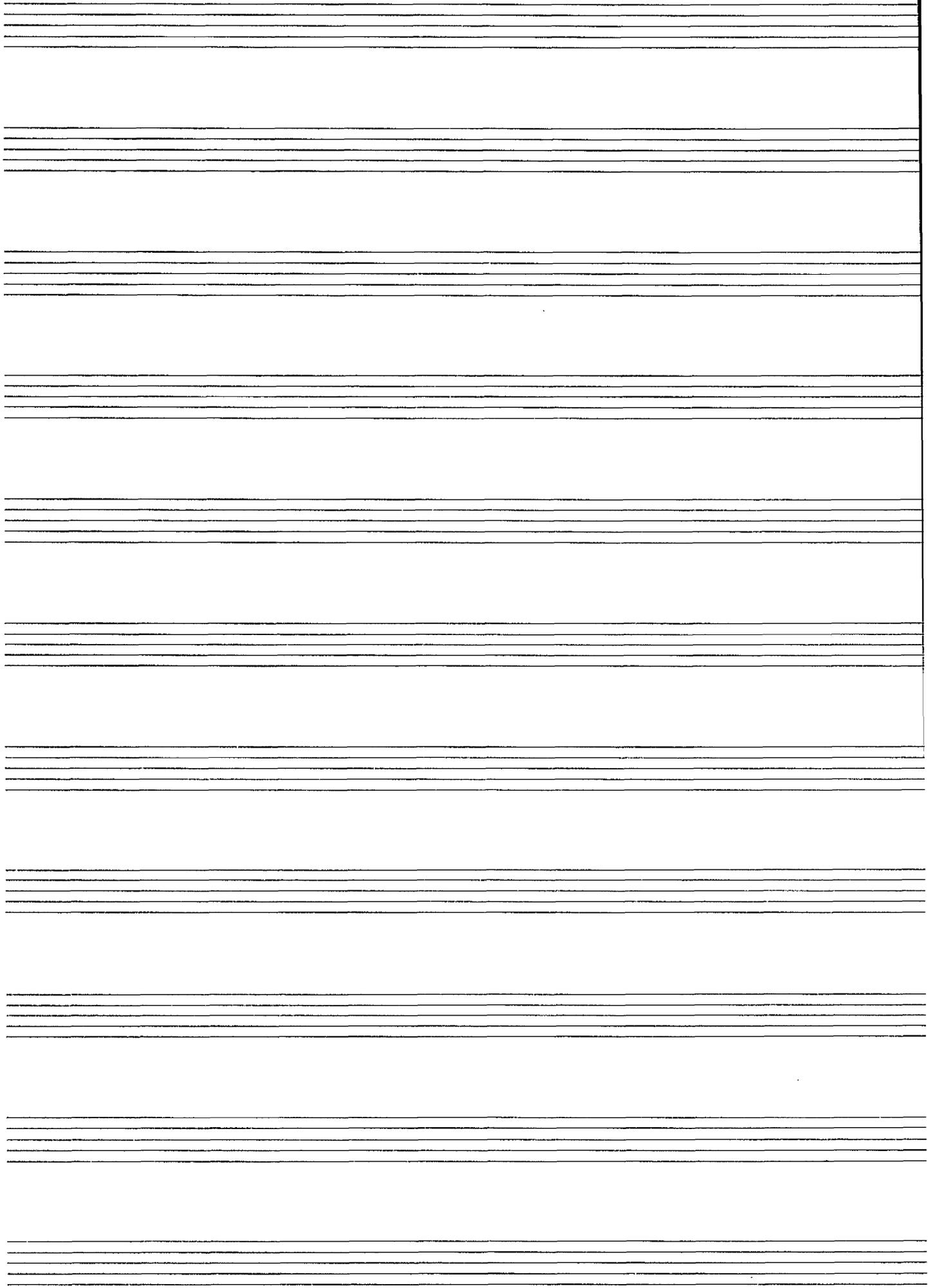
Śuddha and Bhinna Rāgas

Śuddhakaiśikamādhyama (Ākṣiptikā) SR, II, 2, before: 99.



Bhinnakaiśikamādhyama (Ākṣiptikā) SR, II, 2, before: 35.

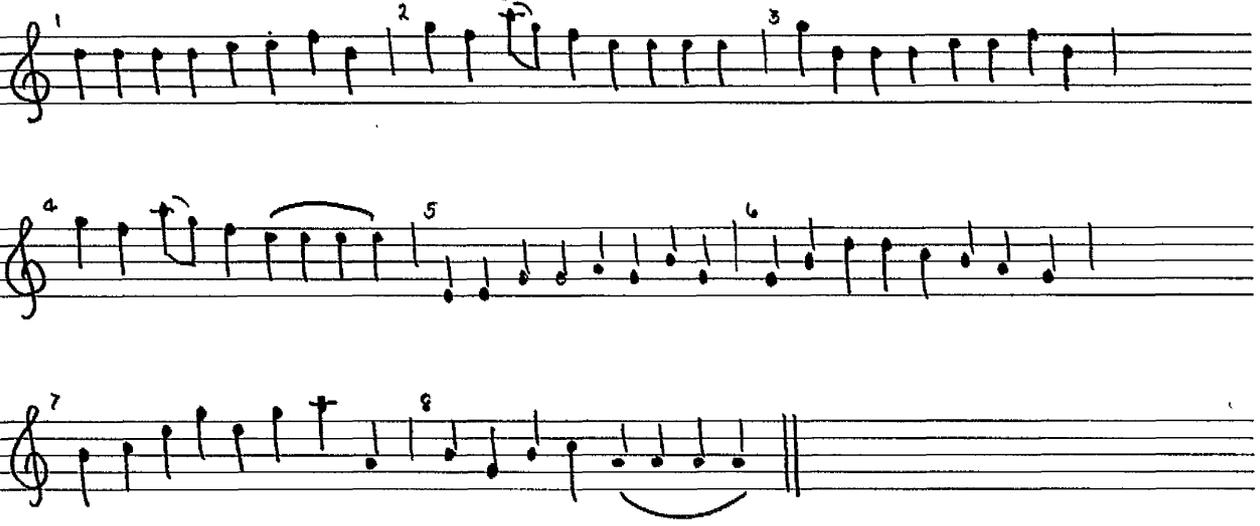




Suddha and Bhinna Rāgas

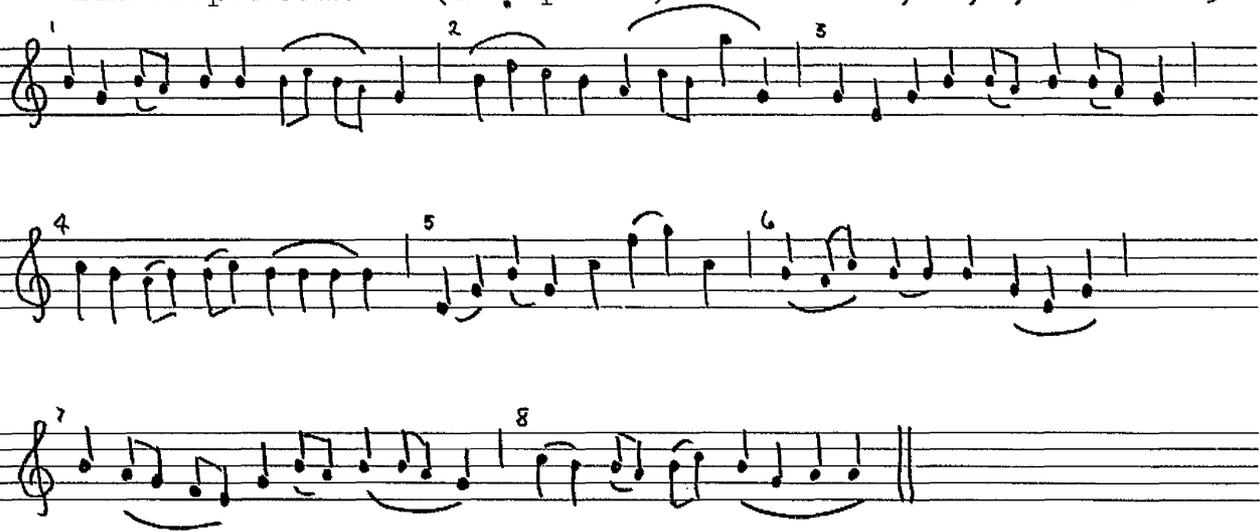
Suddhapañcama (Ākṣiptikā)

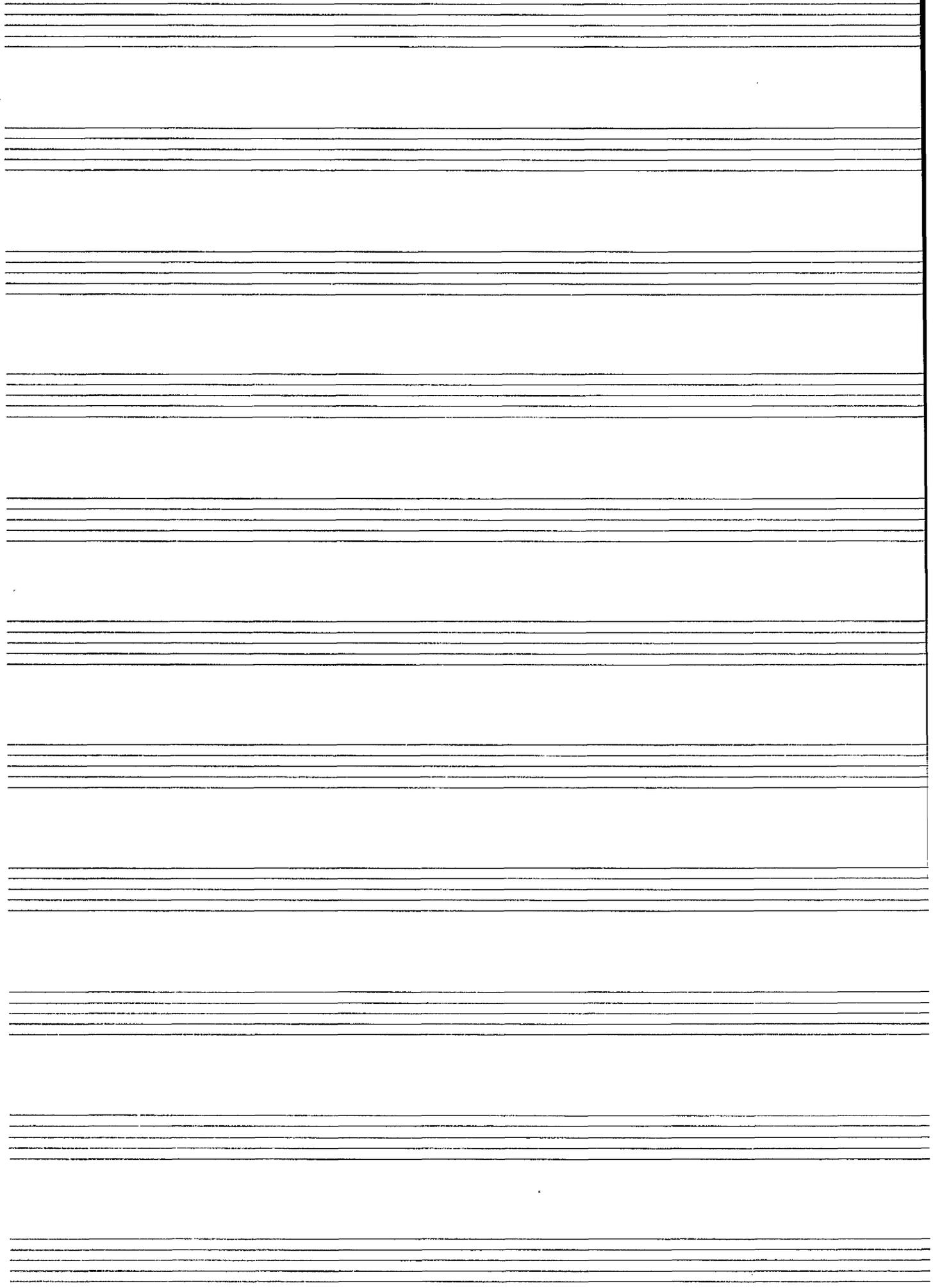
SR, II, 2, before: 151.



Bhinnapañcama (Ākṣiptikā)

SR, II, 2, before: 85.



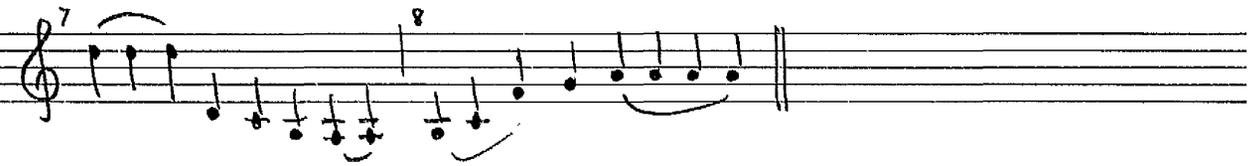


Śuddha and Bhinna Rāgas

Śuddhakaiśika

(Ākṣiptikā)

SR, II, 2, before: 33.

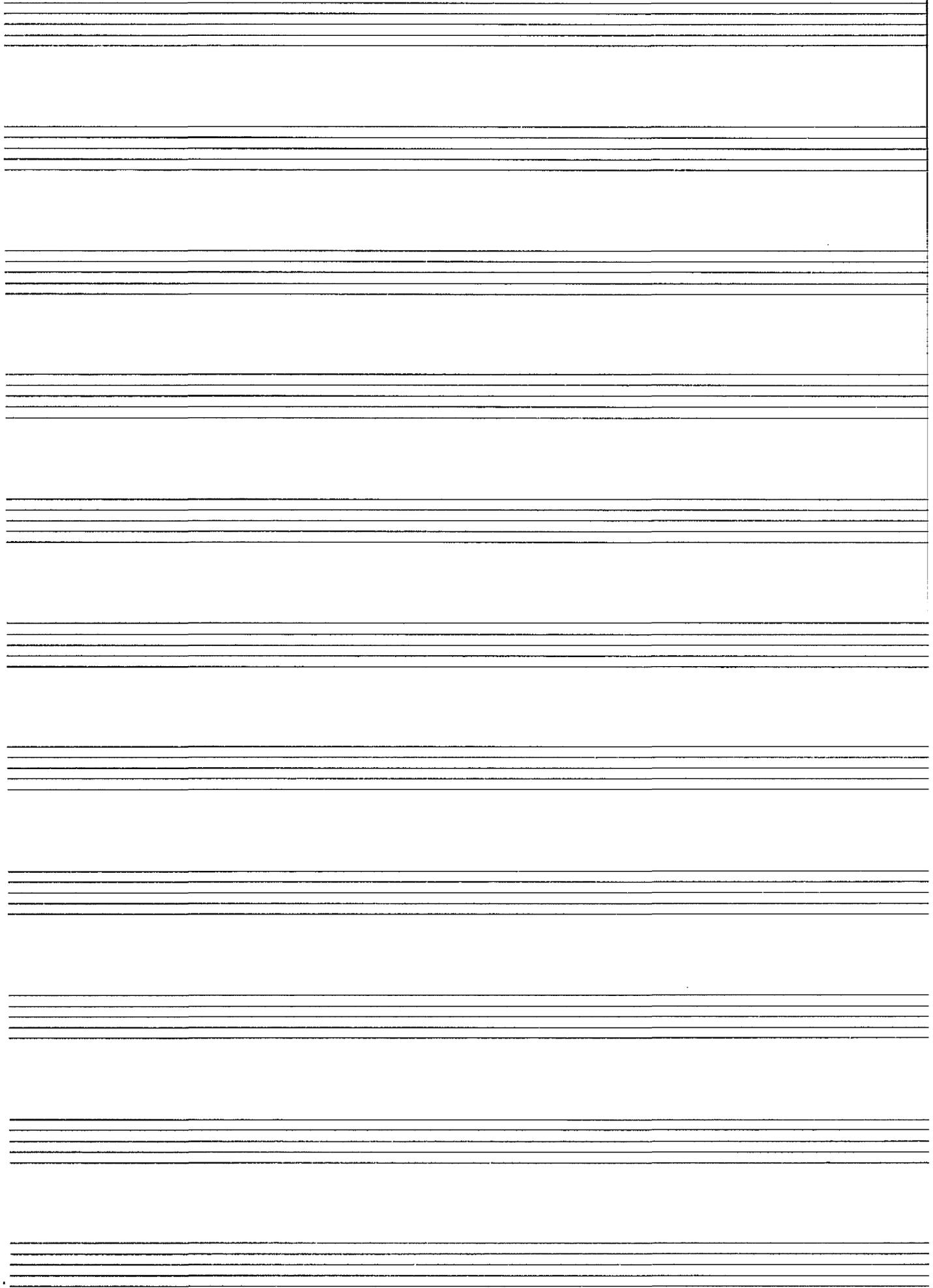


Bhinnakaiśika

(Ākṣiptikā)

SR, II, 2, before: 40.





The distinction between Śuddha- and Bhinna-kaiśika which is called śuddhabhinna seems to be one of cleavage in traditional practice. "Śuddhabhinna is defined as that [condition] which, having taken hold of the traditional ornamentations of its jātis, now dispenses with [the ornamentations of] one of them."¹ Both Śuddha- and Bhinna-kaiśika are bound to the jātis, Kaiśikī and Kārmāravī.² Mataṅga states that although Bhinnakaiśika has all the characteristics of its śuddha counterpart, it is still considered a variant.³ In what way? He points out that Śuddhakaiśika's extension of notes aims at mandra (low register) and that the notes prescribed for its ālāpa would have to concentrate on that register. On the other hand, Bhinnakaiśika's ālāpa is performed on the tāra (high) svaras, because of which the rāga becomes a variant.⁴

¹ parityajann anyajātiṃ svajātikulabhūṣaṇaḥ /
svakaṃ kulaṃ tu saṃgrṇṇaṅ śuddhabhinnaḥ prakīrtitaḥ // 329
Ibid.

² Which of these two jātis is dispensed with in Bhinna-kaiśika is not stated.

³ śuddhasya lakṣaṇaṃ samagraṃ bhinnakaiśikasyāpi vidyate/
tarhi ko bhedaḥ/ Ibid., after: 329.

⁴ śuddhakaiśika udayaṃ (?) yady api rāgaḥ tathāpi bhedo 'sti/
mandrabahulo 'yam/ yena saṃsthāne(na) śuddhakaiśike svarā-
lāpaḥ kriyate tatsaṃsthānaṃ vihā(ya) tair eva svarair
ālāpaḥ kartavyaḥ/ vibhinnakaiśike hi tārasvarair ālāpaḥ
iti/ rūpānyatvenāyaṃ bhidyate/ Ibid., p.91.

Śuddhakaiśika's initial graha-aṃśa in the tāra register might explain the descending note-extension of its ālāpa. However, the ultimate criterion in this type of bhinna is one of adherence to tradition, exemplified by Śuddhakaiśika, and of non-adherence by Bhinnakaiśika.

The fourth type of bhinna, the śrutibhinna, is a change in the distribution of śruti values in a mode that has the same plagal position as Śuddhasādhārīta. Although it is never once called Bhinnasādhārīta, the implication is that Bhinnatāna¹ is a variant of Śuddhasādhārīta since the latter is the only śuddha rāga that still remains to be modified. In our BD scale table, it will be seen that Tāna is made up of two unequal conjunct tetrachords, while Śuddhasādhārīta has two equal disjunct tetrachords, within their respective grāma system of śrutis. "When Ni adds two more śrutis [to it in a grāma system] in which Pa has four śrutis, this change results in a śrutibhinna."² Ni which has been raised to kākali in Tāna redistributes the number of śrutis within its tetrachord; a change of grāma further rearranges the śruti values. Tāna is also an

¹Sometimes simply Tāna or even Bhinnanāsika, BD,p.92.

²catuśśruteḥ pañcamasya yadā śrutidvayaṃ gr̥hṇāti niṣādaḥ tadāsau śrutibhinno 'bhidhīyate/

example of svarabhinna, its śuddha's graha-aṃśa having shifted from Sa to Pa; moreover, its jāti lineage differs entirely from Śuddhasādhārīta.¹ It is only its nyāsa that ties it to the mode of the latter. This might explain why Tāna is not called Bhinnasādhārīta, since it is a variant of all sorts.

In summing up, it might be said that the change from śuddha to bhinna generally involves a change in lakṣaṇa: in svarabhinna, a change of tonic (graha-aṃśa) to bring about the less usual assonant or dissonant relationship between tonic and final (nyāsa); in jātibhinna, the lack of stress (alpatva) on hitherto important (bahutva) notes of the rāga's parent jātis; a change of register or tessitura (mandra or tāra) in śuddhabhinna; and finally, a change in pitch level and of grāma, resulting in a relocation of śrutis, or śrutibhinna.

Three of the śuddha rāgas appear to be fitted for the Gauḍa type, the florid version of the more sedate śuddha style. As the gauḍa variance is one of style highly characterized "in all three registers by fast

¹Śuddhasādhārīta's parent jāti is Ṣaḍjamadhyamā which is in the Sa-grāma. Bhinnatāna's parent jātis, Madhyamā and Pañcamī, on the other hand, belong to the Ma-grāma.

shakes and other [musical] devices"¹ rather than one of basic lakṣaṇa, it will not be analyzed in detail here. There is, however, one puzzling phenomenon in it. Pañcama in its gauḍa form now has its nyāsa on Ma. When compared to Bhinnaṣaḍja, the only difference is that Gauḍapañcama is hexatonic whereas Bhinnaṣaḍja is pentatonic. Gauḍapañcama's nyāsa apparently brings the series of rāgas back to the first authentic mode, thus suggesting a cycle. In this context it might be said that while the mūrchanā determines the rāga's modal position, the graha-aṃśa the rāga's starting and central points, in the final analysis it is the nyāsa that gives the rāga its stability and consequence.

Mataṅga's five śuddha rāgas may be considered the five basic modes. The next step would be permutations in the use or non-use of the variable Ga and Ni, in further jāti combinations, in continued shifts of the graha-aṃśa, in alpatva or bahutva of various svaras, in transiliency of scale, and in the creation of other authentic modes when in any given mūrchanā graha-aṃśa also becomes nyāsa. Where these permutations are not evident, it will be

¹ohāḍī mantrajā(?) . . . tu prayogair drutakampitaiḥ // [333]
aviśrāmeṇa trīsthāne gauḍagītīr udāhṛtā /

remembered that the two types of modification, jāti- and śuddha-bhinna, are not apparent on paper. This might explain why some rāgas in the BD are very much like others, such as, Pañcamaṣāḍava versus Revagupta, or Śaka versus Ṭakkasaindhava.¹ Most of these coincidences occur among the Sādhāraṇa rāgas which are so called, Maṭaṅga explains, because they have many things in common with the other rāgas.²

The following table is a summary of the rāgas in the BD, with nyāsa as the basic svāra of the modes, together with their plagal and quasi-plagal forms. All the modes are represented except the E mode, that is to say, no mode ends on Ri.

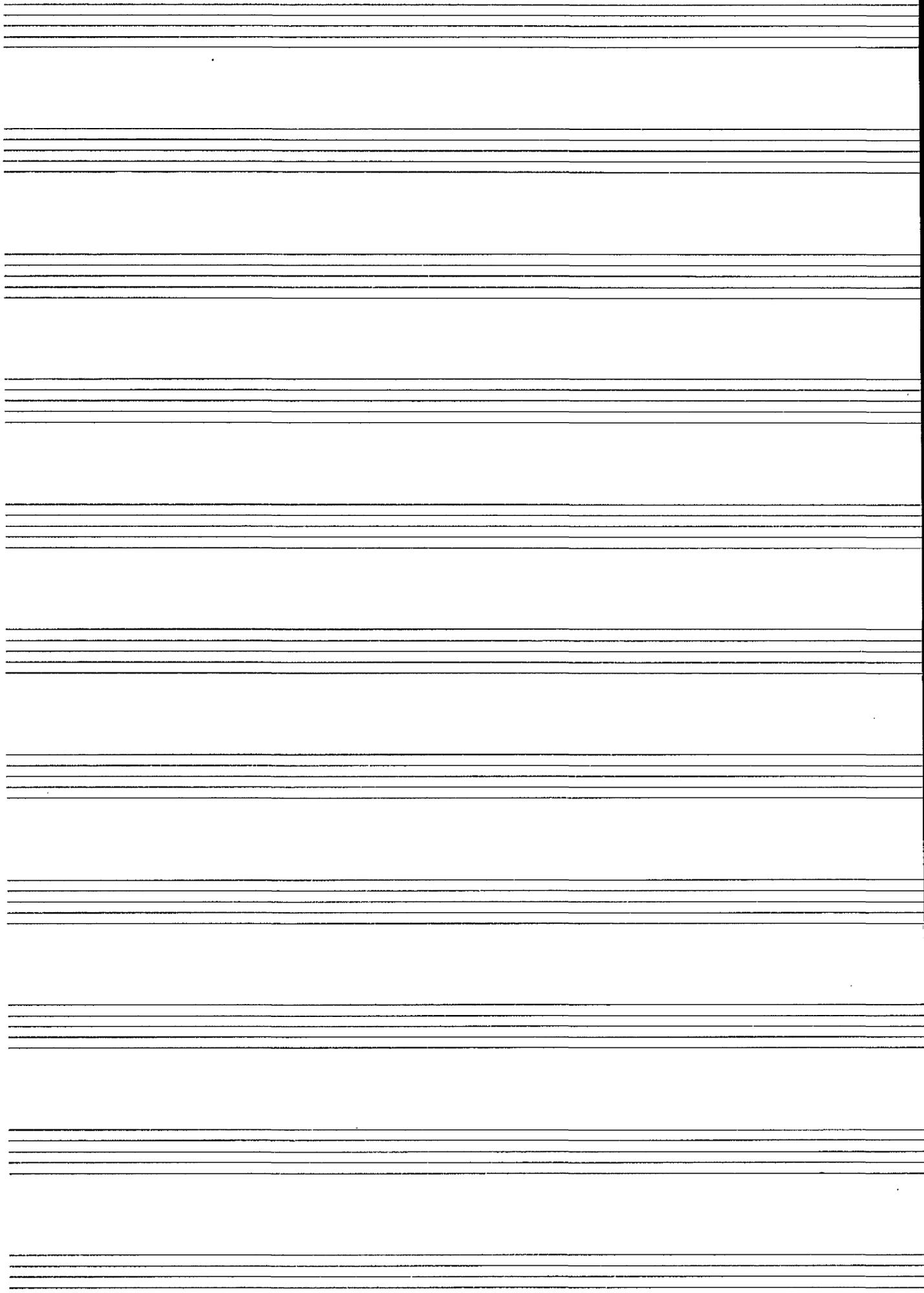
¹Of these four rāgas, only Śaka appears in Maṭaṅga's original list (BD:316). The other three appear in the section which describes each rāga more fully (these three are described on pp.101-3). On the other hand, Ṣaḍjakaiśika, which is in the original list, is missing in the rāga description.

²pūrvoktānāṃ sarveṣāṃ rāgaṇāṃ yā gītayas tābhir jāyamānatvāt teṣāṃ sādharmaṇatvam/ etat sādharmaṇagītyā gīyamānatvāt/

Summary of BD Scale-Types

The image displays a grid of musical notation for various BD scale types, organized into three columns and eight rows. Each cell contains a staff with notes and labels. The labels are as follows:

Row	Column 1	Column 2	Column 3
1	GAN	GAN	GAN
2	GAN	N GA	
3	GAN	N GA	N GA
4	N GA	N GA	N GA
5	GAN	GAN	N GA
6	N GA	N GA	
7	GAN	GAN	
8	N GA		



Mataṅga's Bhāṣā rāgas are of four types according to root, mūla; country of origin, deśaja; mixture, saṅkīrṇa;¹ and hue, chāyāmātrā.² These Bhāṣās³ derive from one śuddha rāga, Śuddhapañcama; from three bhinnas, Bhinnaṣaḍja, Tāna, and Bhinnapañcama; from all the Vesaras; and from two of the Sādhāraṇas, Gāndhārapañcama and Pañcamaṣaḍava.⁴

In the description of the bhāṣā rāgas, no mention is made of graha, only of aṃśa and nyāsa (Anta being the word used more often for nyāsa). This omission of graha might

¹The extent to which the bhāṣā rāga employs features of its parent and other rāgas.

²The degree to which the derivative rāga takes on the musical colouration of its parent rāga.

³There are two separate sets of bhāṣā rāgas in the BD: the set credited to Yāṣṭika, pp.105-33, and a second smaller group of rāgas according to Śārdūla, pp.133-40.

⁴Evidence of interpolation in the BD text is seen in the summing up of the Sādhāraṇa rāgas. These rāgas number seven, according to the summary quoted below, yet their total comes to nine. The interpolated line which we have underlined, contains the rāgas, Revagupta and Pañcamaṣaḍava, names not in the original list, BD:316.

idānīṃ sādharmaṇānāṃ grāhavibhāgaḥ pradarsyate --
 bhamāṇapañcamo jñeyo madhyamagrāmasambhavaḥ /
 gāndhārapañcamo nartaḥ ṣaḍjakaiśika eva ca // 362
 rūpasādhārito rāgaḥ śakaḥ kakubha eva ca /
revaguptas tu ṣaḍjākhye jñeyāḥ pañca(ma)ṣaḍavaḥ // 363
 sapta sādharmaṇāḥ proktā grāmadvayasa(m āśra)yāḥ /

indicate either that the opening note in a bhāṣā rāga is not of much importance or that it is inferred in the aṃśa svara. In the short musical illustration reserved for each bhāṣā rāga, more often than not, the opening note coincides with aṃśa.

Here follow our findings regarding aṃśa and nyāsa in the bhāṣā rāgas grouped according to their parent rāgas.

Ṭakka's derivatives amply illustrate the use of svarabhinna, tonic shift. The tonic aṃśa is seen on every degree, except Ri, of the parent scale. Ṭakka whose base (nyāsa) is Sa, has the largest number of bhāṣā rāgas, a total of sixteen, in the BD. To illustrate the tonic shift:¹

The image shows six musical staves, each representing a different bhāṣā rāga. The staves are arranged in two rows of three. Each staff has a treble clef and a key signature of one flat (B-flat). The notes are represented by circles on the staff lines. Below each staff, there are two letters indicating the aṃśa: 'NA' for Lalitā, Verañjikā², and Saindhavī; and 'N A' for Pañcamākhyā, Gāndhārapañcamī, and Mālavesarī. The staves are separated by double bar lines.

(How much antara Ga and kākali Ni of Ṭakka are used in its bhāṣā rāgas is a matter of conjecture; hence, we have left the mode "bare".)

¹The description of the rāgas used as examples of the tonic shift is found in BD, pp. 108-13.

²Vegarañjī in the SR but with Sa as aṃśa (II, 2:118).

The plagal shift to Ma is found in five of the bhāṣās; Sa, the original tonic, in four; Dha in only one.

Śuddhapañcama has ten derivative rāgas to its name. These also cover the whole range of tonic foci except Ni. Like Ṭakka, Ni is kākali in Śuddhapañcama's scale but unlike Ṭakka, Ni is not used as tonic in Śuddhapañcama.

The image shows six musical staves, each representing a different rāga. The first row contains Dākṣiṇātyā, Māṅgālī, and Trāpaṇī¹. The second row contains Andhālī², Gūrjarī, and Kaiśikī. Each staff has a treble clef and a key signature of one sharp (F#). The notes are written as circles on the staff lines. Below each staff, the tonic notes are indicated as 'N' and 'A'. For example, Dākṣiṇātyā has 'NA' below it, Māṅgālī has 'N A', Trāpaṇī¹ has 'N A', Andhālī² has 'N A', Gūrjarī has 'N A', and Kaiśikī has 'N A'.

(BD, pp.121-5)

It is in Bhinnaṣaḍja's bhāṣā rāgas that we find the greatest number of them beginning and ending on the same note. But the curious thing is that the terminal note of these derivative rāgas is not the parent rāga's nyāsa of

¹Trāpaṇī's aṃśa is not given in the text but according to its description, Sa and Ma are plentiful and Pa is weak; moreover, Sa is the opening note thrice in succession.

²Andhālī's Ni is said to be kākali always:

niṣādakākālīrūpā kartavyā sā tu nityaśaḥ // (p.123)

The rāga's name also appears as Amālī.

Ma but rather on its tonic aṃśa of Dha. All nine bhāṣās end on Dha and five of these also have their tonic aṃśa on Dha. This appears to be a case where a shifted tonic generates so much power that it shifts the mode, as it were, a major third away from the old base of Ma.¹ The Dha mode once confined to only two parent rāgas (see summary table of BD scale-types) now begins to have more adherents.

Bhinnaṣaḍja

parent rāga

Dākṣiṇātyā Pulindī Kāḷindī (#) Saindhavī

(BD, pp.125-8)

It is quite possible that the fifth degree in these bhāṣā scales is always raised, that is, to Ga antara, and that it is this consonant relationship between tonic Dha and antara Ga that has led to the modal shift.

¹A distance of seven śrutis which Mataṅga considers a saṃvādī interval (BD, p.16) but why he should restrict the seven-śruti consonant interval to the Ma-grāma is not clear since Ma to Dha is seven śrutis in either the Sa- or Ma-grāma.

In Mālavakaiśika whose base is Sa, three of its bhāṣās take the plagal position of Ma for tonic, another three remain on the Sa tonic, one on the next plagal position of Pa, and one on Ni.

As to Kakubha, Yāṣṭika's system of bhāṣā classification as incorporated in the BD seems to waver. None of Kakubha's seven bhāṣās end on its nyāsa, Pa. Instead, like Bhinnaṣaḍja's derivatives, they end on Dha (but only one takes the tonic Dha), thus suggesting another example of modal shift, but unlike Bhinnaṣaḍja's bhāṣās, they also end on Ni and perhaps on Sa, too (the text at this point is corrupt). This inconsistency and great variance between parent and bhāṣā rāgas might mean that Kakubha's so-called bhāṣās may have presented some difficulty to the classifier. We might mention, however, that the lone bhāṣā whose aṃśa and nyāsa are Dha is Kāmbhojā, a deśī rāga.¹

Hindola's bhāṣās remain true to their parent's pentatonic form. Only a sprinkling of Ri and Dha, Hindola's omitted notes, is found in the musical examples given. However, one of its derivatives end on Ma, instead of on Hindola's Sa; fittingly enough, this bhāṣā's name is Ṣaḍjamadhyamā.²

¹BD, p.117. Yāṣṭika's verses are not numbered.

²Ibid., pp.120-1. This recalls the jāti by the same name whose finals are Sa and Ma.

Another instance of a plagal ending, rather than the more usual plagal beginning, is seen in one of Sauvīra's bhāṣās, which ends on Ma. Otherwise, all the other derivative rāgas end on their parent's Sa but with their tonic on either Sa, Ma or Ni.

As expected, Bhinnapañcama's bhāṣās, like Bhinnaṣaḍja's, (both rāgas being the product of a shift in tonic, svара-bhinna) end on the tonic aṃśa Dha instead of on the final of Pa of their parent. But when one of them has its tonic on Pa and ends as stated above on Dha, it might do well to ponder at this point on whether Yāṣṭika's parent rāgas agreed in every respect with those of Mataṅga.

Of the remaining parent rāgas, the bhāṣā rāgas follow more or less the pattern described above.

It might be said then, regarding the aṃśa and nyāsa of bhāṣā rāgas, that their derivation is not unlike that of the early śuddha rāgas in which a plagal tonic replaces the original tonic-final. This occurs most usually in Sa-based rāgas and it is Ma, not Pa, that is the derived plagal tonic. Conversely, Ma may also act as a plagal final to a Sa tonic. This alternating feature between Sa and Ma is not found in any other pair of saṃvādī svaras. On the other hand, a puissant tonic may cause a shift from

the mode of the parent rāga to another mode that is one or two degrees removed from it. In this manner, less used modes are put into greater circulation by rāgas that continue to retain within their melodic structure the characteristic patterns of their parent.

The rāga volume of the Saṅgītaratnākara (SR) opens with several listings of rāgas. These lists which include pūrvaprasiddha and other obsolescent rāgas are meant to introduce some kind of historical perspective to the rāgas that are eventually described in the book. The basis of all these rāgas are the five genera of rāgas (grāmarāgas) that correspond to Mataṅga's basic rāgas in the BD.

The description in the SR of the general characteristics of the Śuddha, Bhinna, Gauḍi, Vesara, and Sādhāraṇa rāgas follow very much the same line of thought as that in the BD. Two more śuddha rāgas, however, are added to the BD's five. These two are Ṣaḍjagrāma and Madhyamagrāma, evidently named after the grāmas themselves. They are found mentioned in other sources prior to the SR and possibly during or after Mataṅga's time, such as the

Nāradīyāsikṣā¹ and the Kuṭumiyāmalai Inscription.²

Mataṅga is believed by many to have come from North India, which may account for his not having mentioned these two śuddha rāgas. Śārṅgadeva, on the other hand, came from a family that emigrated from Kashmīr to the south of India and in his SR evidence can be found of his knowledge of both North and South Indian rāgas. This is one explanation for the exclusion of Ṣaḍjagrāma and Madhyamagrāma rāgas from the BD. Another explanation might be that Mataṅga never considered these two as rāgas on account of their names. He might have considered the characteristics attributed to these rāgas as applying to the rāgas in the Sa-grāma and Ma-grāma in general, if we assume he had seen or heard of the inscription at Kuṭumiyāmalai. As described in the SR, Ṣaḍjagrāma appears to duplicate Śuddhasādhārīta, and Madhyamagrāma's principal difference from Śuddhakaiśikamadhya is one of grāma, the latter being in the Sa-grāma. The fact that the latter has a tāra graha-aṃśa does not alter the similarity.

¹The date of the Nāradīyāsikṣā has never been satisfactorily established. Some writers place it at between the 10th and 12th century.

²This Inscription which was discovered in 1904 at Kuṭumiyāmalai in Putukkōṭṭai State, South India, is written in "characters that seem to belong to the 7th century". Bhandarkar, R.B. "Kuṭumiyāmalai inscription on music," Epigraphia Indica, XII, no.28, 226-37.

Śuddhasādhārīta BD:319 et seq.	Śaḍjagrāma SR, II, 2:27-30
Śuddhakaiśikamādhyama BD:321 et seq.	Madhyamagrāma SR, II, 2:67-70

In scalar structure, therefore, neither Śaḍjagrāma nor Madhyamagrāma rāga appears to extend the modal scope of the basic rāgas in the BD.

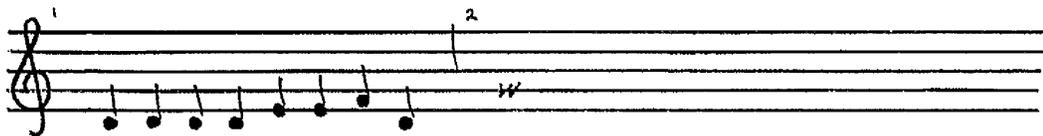
The SR follows the BD very closely in the matter of graha, aṃśa and nyāsa in the grāma rāgas. Differences between the two texts lie for the most part in such particulars as the jāti origin of the various parent rāgas, their varṇa movement, their notes of infrequent occurrence (alpatva) regarding which Matāṅga often prescribes two such notes, Śārṅgadeva only one of the two, their ornamentation, and grāma base (the SR assigns to Ṭakkakaiśika, Hindola, and Kakubha the Sa-grāma and Ma-grāma both).

We might point out some apparent inconsistencies between text and musical illustration. Perhaps these differences may not have been real at the time, or perhaps

practice already belied theory when these songs were written.

Śuddhapañcama in the SR is prescribed a madhya (middle register) Pa as the opening note of a sañcāri movement.¹ This is in contrast to our reconstruction of the rāga in the BD, which we have given a tāra Pa graha in keeping with the rest of the BD śuddha rāgas and their avarohi movement.

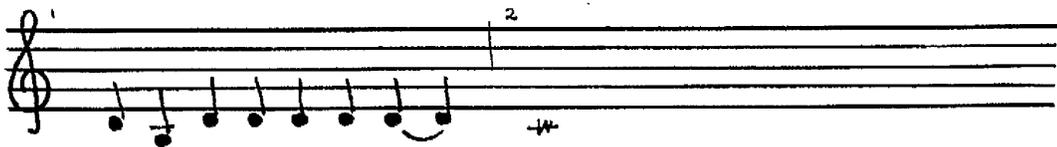
Śuddhapañcama (Ākṣiptikā) SR, II, 2, before: 151



(The initial figure shows no Pa)

Two Vesara rāgas begin on a note other than their graha-aṃśa:

Boṭṭa (Ākṣiptikā) SR, II, 2, before: 53



(The rāga's graha-aṃśa is Pa but the opening figure does not show it)

¹pañcamāṃśagrahanyāso madhyasaptakapañcamaḥ /
hṛṣyakāmūrchanopeto geyaḥ kāmadaivataḥ // 149
cāruṣaṃcārivarṇaś ca grīṣme 'hnaḥ prahare 'grime /

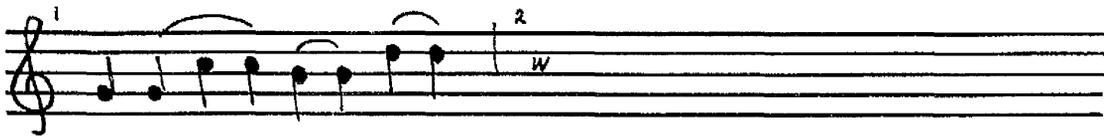
Mālavapañcama (Ākṣiptikā) SR,II,2,before:55



(The initial figure shows the rāga's graha-aṃśa, Pa, in the last "beat")

In four of the Sādhāraṇa rāgas, the following inconsistencies appear:

Rūpasādhāra (Ākṣiptikā) SR,II,2,before:58



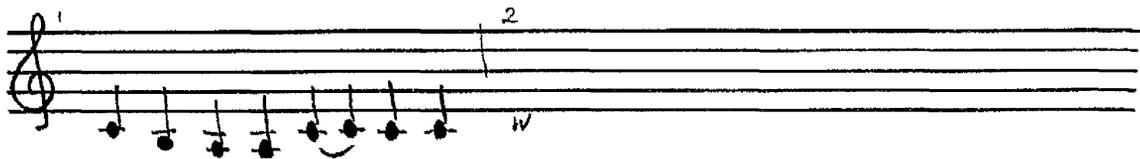
(The rāga's graha-aṃśa, Sa, appears at the end of the figure)

Bhāmāṇapañcama (Ākṣiptikā) SR,II,2,before:62



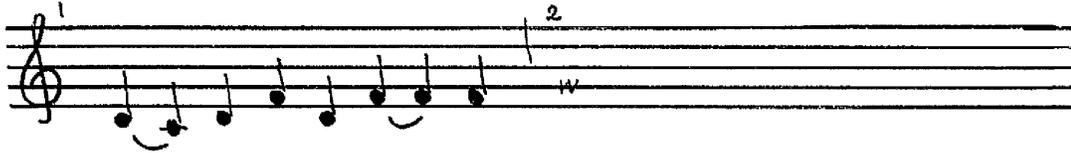
(The rāga's graha-aṃśa, Sa, is introduced by three notes)

Revagupta (Ākṣiptikā) SR,II,2,before:102



(The opening figure shows no Ri, the rāga's graha-aṃśa)

Gāndhārapañcama (Ākṣiptikā) SR,II,2,before:105



(Ga, the rāga's graha-aṃśa, is approached from a third below)

Out of the ordinary among rāgas is Ṣaḍjakaiśika; the rāga is prescribed a pair of graha-aṃśas, Sa and Ri, and a pair of nyāsas, Ni and Ga. The verse describing the rāga may also be interpreted to mean Sa is aṃśa, Ri is graha,¹ but the commentator, Siṃhabhūpāla, suggests that Sa and Ri be used "in this order", krameṇa, with Ni and Ga "alternately", vikalpena.² The Ṣaḍjakaiśika song notated (ākṣiptikā) begins on Sa and ends on Ni.

SR,II,2,before:67



This poses the question as to whether in this Sa-based

¹ṣaḍjarṣabhāṃśagrahaḥ syāt kaiśikījāṭisaṃbhavaḥ // 65
ṣabho 'lpo niganyāso . . .

Ibid.

²ṣaḍjarṣabhau krameṇāṃśagrahau yasya/ niṣādagāndhārau
vikalpena nyāsau yasya/

Ibid.,after:66

rāga,¹ the ending on Ni may be considered a suspension as against a Sa-drone (if there was a drone), or whether there is a modal shift from the Sa to the Ni mode intended. That Ga, a saṃvādī to Ni, is the second terminal point seems to support the second hypothesis. On the other hand, against a Sa-drone, Ni would have to be raised (kākali) if it were to act as a proper suspension.² That no mention is made of kākali Ni (nor of antara Ga) in the text might disprove this argument.

We have seen how a modal shift may be made by a strong aṃśa, itself the product of a tonic shift, in the bhāṣā rāgas in the BD. In Ṣaḍjakaiśika we see an earlier type of modal shift akin to that of Gauḍapañcama³ in which the modal shift is a degree below the original base.

As to the rāga's two-note graha, to consider Sa-Ri Ṣaḍjakaiśika's opening figure, as Siṃhabhūpāla and the ākṣiptikā above seem to suggest, rather than Sa or Ri

¹prasannādy avarohibhyāṃ yuktaḥ ṣaḍjādīmūrchanah // 66
vīraraudrād bhutarasaḥ śāmbhavaḥ ṣaḍjakaiśikaḥ /

Ibid.

²The North Indian rāga, Tillakkāmod (Khamāj ṭhāṭ) has this type of ending; occasionally it may also end on Ga. See Bhātkhaṇḍe's Kramika pustaka mālikā, III, 297-333.

³SR, II, 2:42-3 and BD:334 et seq. It will be recalled that Gauḍapañcama's base of Ma is a shift from Pa of Śuddhapañcama.

singly, would open the way to a fresh concept of graha.

At this point we shall leave the SR and continue with our discussion of the other jāti and rāga lakṣaṇa. We shall return to the SR as we examine the possible relation between the scales in the SR and those in the second group of treatises to be considered.

Tāra and Mandra

Studies of Vedic chanting made in this century show, among other things, that Vedic recitation tones cover a range of from a minor or major third¹ to a fifth.² Since the manner of Vedic chanting has been zealously preserved and strictly adhered to throughout the centuries, there is no reason to believe that the mode of Vedic incantation today is far removed from that of ancient times. As to whether these reciting tones may be considered tones in the musical sense remains a matter of controversy.³ Be that as it may, at a certain stage of India's musical

¹Bake, A.A. "The music of India," New Oxford History of Music, ed. E. Wellesz, I (1957), 200.

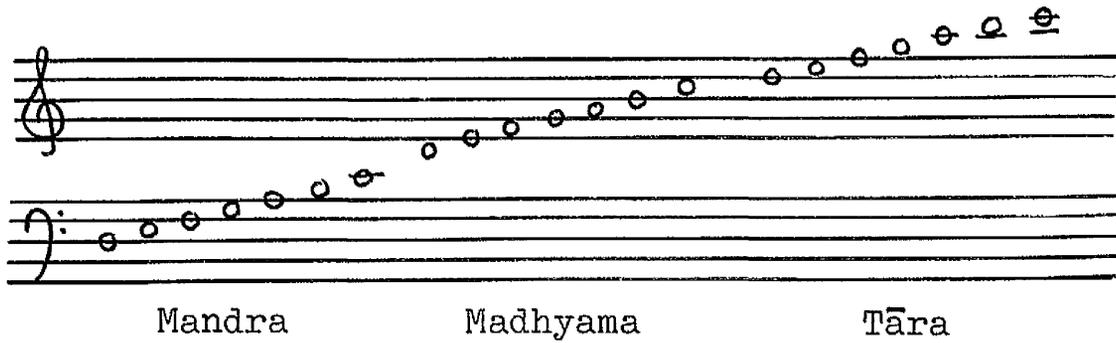
Excerpts of Kauthuma Vedic recitations are included.

²Gray, J.E.B. "An analysis of Ṛgvedic recitation," BSOAS, XXII (1959), 87. The author analyzes recitations from recordings made in Rājasthān, Bombay and Mahārāṣṭra. See also his, "An analysis of Nambudiri Ṛgvedic recitation and the nature of the Vedic chant," Ibid., 499-530.

³Dr. J.R. Marr suggests that there was no attempt initially to reproduce musically defined intervals but that influences from concomitant (in the society, that is) musical practice may have made themselves felt in medieval times, leading to a greater sense of "definition", musically speaking.

See also, Haug, M. Ueber das Wesen und den Wert des vedischen Akzent, (München, 1873)

development a system of seven tones was formalized by theoreticians and, eventually, in the recensions of the R̥gveda and other Vedic literature, mention is made of three vocal registers.¹ These are the Mandra, low, Madhyama, middle, and Uttama or Tāra, high. These registers are described as saptaka, octaves of seven notes each² or a total of twenty-one notes for the whole compass of the musical scale.



In the NS, the vocal registers are related to distances and to the parts of the body from which a sound emanates to reach these distances, thus: tāra, a far distance, in the head; madhya, a not-so-far distance, in the throat; and mandra, nearby, in the chest.³ The

¹ R̥gvedaprātiśākhyā, ed. Max Müller (1870), XIII, 17; and Vājasaneyiprātiśākhyā, (Benares Sanskrit Series, 1883-8), I, 10.

² Taittirīyaprātiśākhyā, (Bibliotheca Sanskritica, 1907), XXIII, 11.

³ tatra dūrasthābhāṣaṇe tāraṃ śirasō nātidūre madhyaṃ kaṇṭhena pārśvato mandram urasā prayojayet pāṭhyam iti/ NS, 17, after: 118.

subject-matter first appears in the NS chapter on music when the statement is made that "in the śuddha [jātis], nyāsa as a rule is mandra, in the vikṛta [jātis] there is no rule."¹ As only the mandra and tāra registers are defined in the NS, it is presumed that the middle register is the normal position of reference.

It should be said at the outset that the purpose of tāra and mandra is to establish the jāti's ambitus. These lakṣaṇa serve further to differentiate jātis that might be said to belong to the same modal scale but whose aṃśas differ, such as, e.g., the udīcyava jātis.

This discussion will attempt to show that tāra and mandra refer to upper and lower limits, respectively, of the jātis; that these limits do not necessarily coincide with their respective octave-registers; and that the terms, tāra and mandra, are relative to the position of aṃśa and nyāsa in the tetrachords of the middle register.

According to the NS:

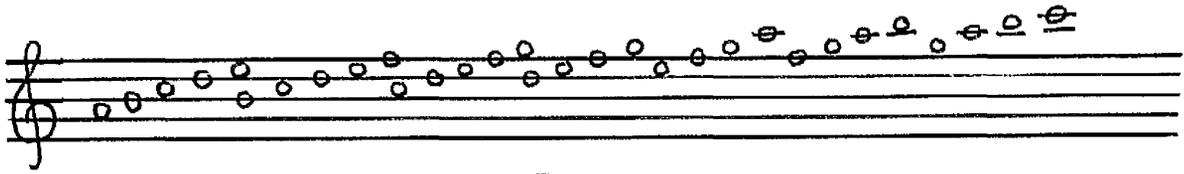
"The tāra range is five notes away. Therefore, from the aṃśa, the tāra range is understood to be up to four

¹nyāsavidhāv apy āsāṃ mandro niyamād bhavati śuddhāsu vikṛtāsv aniyamāt/

notes, or up to five [notes] from Pa, but preferably no further."¹

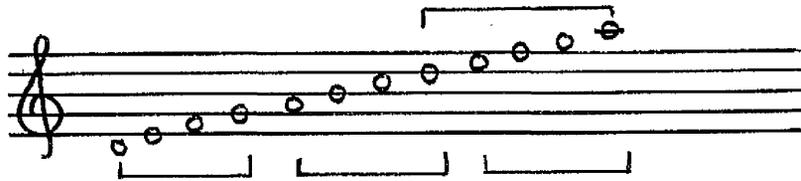
The question arises as to whether tāra is that note four or five degrees above the aṃśa, or whether this four- or five-note distance constitutes the tāra range. The answer to the question would necessarily depend upon the position of the aṃśa in the middle register which, as noted above, is to be considered the saptaka-point of departure. An affirmative answer to the question if applied to the aṃśas in the lower tetrachord of the middle register would invalidate the concept of a seven-note register. If applied to the upper tetrachord starting with Pa from which the ruling allows a five-note ascent, we arrive at tāra Ri; from Dha, at tāra Ga; and from Ni, at tāra Ma. To carry this argument farther, at this point in the vocal range, the aṃśas in the lower tetrachord of the tāra register will now be considered to make the following tāra ranges: tāra Sa to tāra Ma (the four-note ruling now applicable), tāra Ri to tāra Pa, tāra Ga to tāra Dha, and finally, tāra Ma to tāra Ni.

¹pañcasvaraparā tāragatiḥ/ yathā --
 aṃśāt tāragatiṃ vindyād [sic] ācaturthasvarād iha /
 āpañcamāt pañcamād vā nātaḥ param iheṣyate // 79



Theoretical tāra ranges

If we may judge by 17th century notated *vīṇā* pieces¹ and even by present-day *rāga* standards, it is doubtful that the *jāti*'s range ever reached *tāra* Ni. To our mind, the ruling is intended to establish two things: initial *tāra*, and the *tāra* range possible for all *jāti*s, subject to the position of their *aṃśas* in the register. The first is arrived at by the five-note ascent from Pa, making *tāra* Ri the initial *tāra*; the second by the four-note ascent from *tāra* Ri, thus, to *tāra* Pa, that is, from initial *tāra* up four degrees. This interpretation divides the gamut into three disjunct tetrachords and, later, it will be seen that the same disjunct structure occurs in *mandra*.



¹In the *Rāgavibodha*, some of which we have notated. The *ākṣiptikās* in the SR cannot be considered reliable sources for determining a *jāti*'s or a *rāga*'s range because the octave markings in the text appear to us questionable.

In the BD we have an explanation of the NS tāra ruling. According to Mataṅga, initial tāra may be determined in three ways: by a four-, a five-, or a seven-note ascent from a specified point or aṃśa (except in the seven-note ascent) in the upper tetrachord of the middle register. There also now appears to be some need to qualify the aṃśa for its role as tāra-determinant. The text in the BD is as follows:

"Now the properties of tāra are to be discussed. The tāra range is five notes beyond, beginning from the aṃśa [of the kind that is] strong in śruti [rather than] the weak. What is meant by this? Tāra is the ascent of four notes, or, tāra is the ascent from the fifth note, as in Nandayantī:



Thus, on account of Pa being [Nandayanti's] aṃśa, its tāra is Sa. This therefore is the path from Pa. After the eighth vidārī this is made known.

"The tāra rule [applies also] to a distance of five notes, as in Gāndhārī:



"From the word vā (in the NS text), [tāra] is also [applicable] to seven notes. Thus, the tāra range is of four kinds according to Bharata who says:¹

aṃśāt tāragatiṃ vidyād ācaturthasvarādibhiḥ /
āpañcamāt saptamād vā nātaḥ param iheṣyate // "

We have here a variant reading of the NS text on tāra.

The first tāra ruling of a four-note ascent as exemplified by Nandayantī, seems clear enough. The second tāra of a five-note ascent as shown by the jāti, Gāndhārī, has been deduced by us to have been made from the aṃśa, Ma. That is, from the final Sa in the example, which we understand to be tāra, counting back five notes, we arrive at Ma. Ma is one of Gāndhārī's five aṃśas, the others being Sa, Ga, Pa, and Ni. And according to the Ghosh edition

¹idānīṃ tāralakṣaṇam ucyate -- balavati ca śrutike 'ṃśe durberbaleśāṃśe[sic] aṃśasvaraprayogād ārabhya pañcasvaraparā tāragatiḥ/ kim uktaṃ bhavati/ pañcamasvaram ārohaṇa tāra iti catussvaram ārohaṇaṃ tāra iti/ nandayantī yathā - sāsarigasā/ iti pañcamāṃśatvāt ṣaḍjas tāraḥ/ āpañcamād iti yojanā/ aṣṭabhyā[sic] vidāryā boddhavyaḥ/ pañcasvaraṃ yāvāt tāraavidhiṃ yathā gāndhāryāṃ - nidhanisā/ iti/ vāsabdāt saptasvarasyāpi tāratā bhavati/ caturdhā tāragatiḥ tathā cāha bhārataḥ -

of the NS, Ma and Sa are the jāti's strong notes.¹ Here then is the first indication of a qualified aṃśa such as we do not find mentioned in the NS with regard to tāra. As to the third type of tāra, there is some reason to believe that Mataṅga might have erred in his interpretation of the NS text. We might rule out the possibility of copyist error regarding the NS quote because this reading also appears in the Ghosh recension.² According to Mataṅga's interpretation, the word saptamāt should have read āsaptamāt if it is to convey the same directional movement as ācaturthasvarāt and āpañcamāt. As it is, the second line of the śloka might better be translated thus:

"Or up to the fifth [note] from the seventh [note]
and preferably no further."

Here again we seem to see two aspects of tāra, namely, as initial tāra: the fourth note in ascent from a given aṃśa; and the tāra range: from the seventh note, i.e., Ni, up to the fifth note, i.e., Ma. It might be asked why the seventh note has to be understood as Ni since saptama might also mean the seventh degree of any given scale.

¹ṣaḍjamadhyamayor atra bāhulyaṃ saṃvidhīyate // 123

NS,28 (Ghosh)

²Ibid.:94.

This might be so but saptama in the NS is usually found to refer to Ni in the chapter on music. At any rate, Ni to tāra Ma is at least one tāra range possible, if the translation of the line in question is accepted.

So far the NS and the BD seem to agree in at least two ways of arriving at tāra. Mataṅga's third way we are inclined to discount. As to the fourth way, this might have to remain a mystery.

In the SR the matter of tāra is further elucidated. Here it is categorically stated that the aṃśa from which tāra is determined is found in the middle register. We learn also that omitted notes in pentatonic or hexatonic jātis are to be counted when determining tāra. And in Kallinātha's commentary to the SR text, another type of qualification is made regarding the tāra-determinant aṃśa. The SR text follows:

"The aṃśa is in the middle octave and for that reason the place of tāra is [determined] from there, the tāra limit being four notes upwards [from the aṃśa]. Within this [framework] there is free movement (i.e., no restriction) and any omitted [note in the progression] to tāra is also counted. [Thus] in Nandayantī the ascent

is said to be up to tāra Sa."¹

Nandayantī omits Sa in its hexatonic form but tāra Sa is still considered its upper limit.

Kallinātha points out that Sa and Ma being the only immutable four-śruti notes in both the Sa- and Ma-grāmas, these notes as well as the grāmas should be considered when determining tāra. The position of tāra is determined in two ways, thus: four notes from Sa, or four notes from Ma. When starting from tāra Ma in the Ma-grāma, the fifth [step] is to be avoided. This four-note ascent is therefore Ma-Pa-Dha-Ni. But in the Sa-grāma when starting from tāra Sa, the fifth [step] is the limit. Thus, four notes beyond would be Ri-Ga-Ma-Pa (not counting Sa, it seems). This, Kallinātha claims, is the upper limit (tārāvadhi), and this is the method by which tāra is determined. . . . Within these limits tāra movement is unrestricted. In the Ma-grāma, to ascend to tāra Ni is improper but in the Sa-grāma it is proper to ascend from tāra Pa to Dha and

¹madhyame saptake 'ṃśaḥ syāt tasmāt tārasthitāt parān /
svarāṃś catura ārohed eṣa tārāvadhiḥ paraḥ // 35
arvāk tu kāmacāraḥ syāt tāre lupto 'pi gaṇyate /
ātāraṣaḍjam āroho nandayantyāṃ prakīrtitaḥ // 36

Ni, the reward of this effort being pleasure.¹

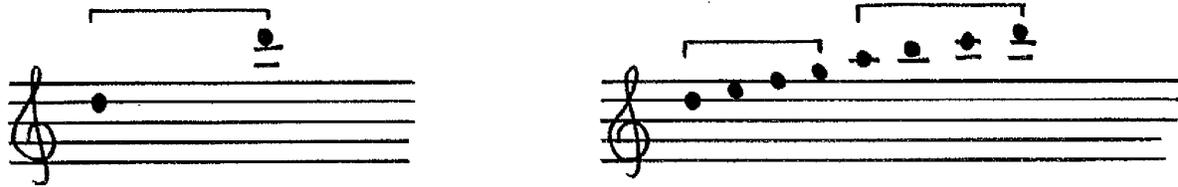


Kallinātha also quotes the NS text on tāra and his version is similar to that in the BD. In addition he draws attention to the fact that in former times, according to Bharata, Rudraṭa and others, the range was an ascent of from tāra Sa to tāra Sa (atitāra Sa presumably),

¹... aṃśaḥ syāt ṣaḍjamadhyamagrāmayoḥ prādhānyāt prābalyāc ca yasmin grāme yaś catuḥśrutiko 'ṃśaḥ ṣaḍjo vā madhyamo vā bhavet/ tārasthitād dviguṇāt tasmāt ṣaḍjād vā madhyamād vā parāṃś caturaḥ svarān/ madhyamagrāme tāvat tasmād iti tāramadhyamaparāmarśe tasmād iti lyablope pañcamī/ tam ārabhyety arthaḥ/ tena saha parāṃś caturō mapadhanīn ārohed ity arthaḥ/ ṣaḍjagrāme tu tasmād iti tāraṣaḍja-parāmarśe tasmād ity avadhau pañcamī/ tataḥ parāṃś caturaḥ svarān rigamapān ārohed iti/ eṣa tārāvadhīḥ eṣa uktaparakāras tārāvadhīḥ/ ...

... madhyamagrāme tāraniṣādāt parasya svarasyāsaṃbhavād eva; ṣaḍjagrāme tu tārapañcamāt parayor dhaivataniṣādayoḥ saṃbhave, śaktau ca satyām api tatra prayoge rakter abhāvād iti/

the highest Sa being equally reached by the application of the principle of the four-note ascent.



But this height is to be avoided not only because it is undesirable but on account of consonant consideration wherever tāra Ma is concerned so that no harm is done to Ma, so Mataṅga says.¹

Śārṅgadeva, Kallinātha and Siṃhabhūpāla single out Nandayantī as the exception to the rule of determining tāra from the top register, or, as an example of how initial tāra may be fixed. From an acceptable musical point of view, it would seem that the upper limit should not exceed tāra Pa at the very most, and the implication is that a range higher than this should only be attempted by an extraordinary singer.

¹parāvadhiva ā tāraṣaḍjāt tāraṣaḍjaparyantam ārohaḥ
prakīrtito bharaṭādibhir ity arthaḥ/ ...
yathā yāvat ṣaḍjam eva tāragatir madhyamasyāpy atra
saṃvāditvād anāśitvac ca tāragatī rudraṭena kṛtā madhya-
masyeti na doṣa iti mataṅgoktam/

While tāra depends on the aṃśa for its determination, Mandra is said to have three determinants, namely, the aṃśa, nyāsa, and apanyāsa. Of these three, however, nyāsa will be seen to exert the most influence in shaping mandra.

We have seen that Pa is made the typical aṃśa from which the pattern of determining tāra comes. And the implication is that at no degree lower than Pa in the middle register may this be done. Correspondingly, Ga appears to be the model from which mandra may be determined. However, it is as nyāsa, not aṃśa, that the reference to Ga is made. From this it might again be inferred that at no point higher than Ga may the determination of mandra be initiated. It will seem then that the Ma degree in the octave is either too low to lead to initial tāra or too high to place initial mandra. In terms of a four-note ascent or descent from Ma, the resulting Ni and Sa as end-notes of a saptaka¹ would rule out Ma as the focal note from which tāra or mandra may be determined.

The NS text on mandra follows:

"The mandra range is three-fold: as being away from

¹It will be recalled that Sa is the first degree of each of the three registers, and while pitch would be relative to these ranges, there is no evidence of transposition in the NS.

aṃśa, from nyāsa, and from apanyāsa. There is no mandra away from aṃśa but from nyāsa, [mandra] is at two places, as when Ga is nyāsa, Ri-Dha is seen [to be mandra]."¹

With regard to aṃśa, the NS ruling appears to say that the aṃśa is its own mandra. The aṃśa to be its own mandra is to say it is its lower octave. If this is so, the aṃśa ruling seems to apply to the aṃśas in the upper tetrachord, this tetrachord beginning with Ma apparently. Thus, the aṃśas in the upper tetrachord determine the initial and/or lower limits at mandra Ni, mandra Dha, mandra Pa, and mandra Ma. From Ga, however, it is the nyāsa that now assumes the function of setting the jāti's lower range. At this point, both the initial mandra and lower limit of a jāti are given as Ri and Dha, Ri being the initial mandra, or one note below the nyāsa, and Dha (mandra) the lower limit, or a descent of four notes from the initial mandra. How apanyāsa determines mandra is not clarified but the connection might be explained when it is seen that a jāti's aṃśas are generally also its apanyāsas.

¹trividhā mandragatiḥ -- aṃśaparā nyāsaparāpanyāsaparā ceti/

mandras tv aṃśaparo nāsti nyāse tu dvau vyavasthitau /
gāndhāre nyāsaliṅge tu dr̥ṣṭam ṛṣabhadhaivatam // 80

Thus is the nyāsa note said to be here also. In like manner is the nyāsa note also [a determinant]."¹

Dhaivatī's aṃśas are Dha and Ri; its nyāsa is Dha. The illustration above shows Ma to be the jāti's mandra, presumably, but the BD does not say how this mandra Ma is arrived at from Dha in the latter's capacity either as aṃśa or as nyāsa. If Ma is mandra and we assume that Dha, the determinant, is itself also in mandra, does this suggest that svaras in the upper tetrachord of the middle register acquire mandra simply by a descent to an octave, and that the lowest limit possible for any jāti is mandra Ma? If, on the other hand, Dha is thought to be in the middle register, would this not make its "mandra" Ma higher than Ri, the jāti's other aṃśa? And since Mataṅga states by means of an analogy that mandra is lower than aṃśa, it might perhaps be concluded from this that the svvara Ma in the illustration is in the lower register.

¹idānīṃ mandram ucyate -- mṛdu svaro mandraḥ/ sā ca mandragas[sic; perhaps, mandragatis] tridhā -- aṃśaparā nyāsaparā tatparā ceti/ aṃśasvarasya paro yaḥ syād iti bahuvrīhau tasmāt pūrvo yaḥ svaraḥ sa mandraḥ/ yathā dhaivatyāṃ -- dhādha nidhama padhamā/ māmāmā/ evam atrāpi nyāsasvara iti/ nyāsasvaro 'py evam eva/

Mandra in the SR is described as "proceeding from the middle-register-aṃśa to the aṃśa or nyāsa in the lower register, or to Ri and Dha below that [nyāsa], this [latter] being the limit of the mandra range within which there is unrestricted movement."¹

There are four points to consider in this definition: that mandra is determined from the middle register; that the aṃśa's lower octave is mandra; that nyāsa's lower octave is mandra; and that when these do not or cannot apply, then Ri-Dha is the mandra range.

That not all the aṃśas or nyāsas in the lower register can be considered lower limits of the jātis is implied by the inclusion of the Ri-Dha proviso the apparent purpose of which is to restrict the number of svaras that may act as lower limits.

As to "that [nyāsa]" in the Ri-Dha clause in the translation above, this may or may not be the nyāsa Ga referred to in the NS text. Concerning this, Kallinātha has an explanation to offer.

¹madhyasthānasthitād aṃśād āmandrasthāṃśam āvrajet /
āmandranyāsam atha vā tadadhaṣṭharidhāv api // 37
eṣā mandragateḥ sīmā tato 'rvāk kāmācāritā /

The word "nyāsa", he explains, does not refer to the jāti's final but to the last note of its grāma, Ga and Ni being the two grāmas' last notes. The Sa-grāma's last note being Ga, therefore Ga is the mandra note of the jātis in the Sa-grāma. Ni being Ma-grāma's last note, Ni is the mandra note of the Ma-grāma jātis. He cites the jāti, Ṣaḍjakaiśikī. Ga is this jāti's nyāsa but Ga has also a second aspect: it is the last note of this Sa-grāma jāti. Then there is the third consideration: the "Ri-Dha below" ruling. Here the term is meant to be taken in the alternative sense. To Ga and Ni, the intended ends of the grāmas, Ri and Dha are seen as the degrees below them respectively.¹

¹... atra nyāsaśabdena grāmāyor antimau gāndhāraniṣāḍau vivakṣitau, na tu jātyādīgītasamāpakaḥ/ tau ca vyatyāsenā ṣaḍjagrāmike prayoge mandragāndhāro nyāsaḥ, mādhyama-grāmike prayoge mandraniṣādo nyāsa iti grāmāyor mandrāvadhī bhavataḥ/ atra liṅgaṃ ṣaḍjagrāmīṇayā 'pi ṣaḍjakaiśikyā mandragāndhārasya nyāsatvadarśanam iti dvitīyaḥ pakṣaḥ/ tadadhaḥstharidhāv apīti tṛtīyaḥ pakṣaḥ/ atrāpiśabdo vikalpārtho ridhau ceti/ tacchabdena grāmānyāsatayā vivakṣitau gāndhāraniṣāḍau parāmṛśyete/ taylor adhaḥsthaū ridhāv ity anena krameṇa grāmavivakṣayā nyāsayor vyatyāsa eva darśitaḥ/ ...

SR, I, 7, after: 38.

Kallinātha's main criterion of the jāti's mandra, therefore, is its grāma, not its aṃśa nor its nyāsa. Ga is the mandra note of all the jātis belonging to the Sa-grāma, with Ri as an alternative mandra. Correspondingly, Ni and Dha are the mandra notes possible for jātis in the Ma-grāma.

Thus is the "Ri-Dha below" phrase explained but the statement completely ignores the role of the aṃśa as a determinant of mandra. Although it is not stated specifically, we must assume that Kallinātha's Ga mandra is in the lower register. In any other register, Ga would hardly be mandra to the Sa-grāma's first jāti, Ṣādḥjī, with its first degree on Sa.

Kallinātha's hypothesis might be shown as follows:

SG mandra ranges

1. Dha mode
2. Ni mode
3. Sa mode
4. Ri mode

MG mandra ranges

5. Ga mode
6. Ma mode
7. Pa mode

As shown above, the ranges of the modes in the Ma-grāma appear quite acceptable in relation to their position in the two registers. But there might be reason to doubt the practicability of the mandra recommended for the Sa-grāma jātis. It must be remembered that tāra Pa is the upper limit set by Kallinātha for the Sa-grāma jātis. For this reason, the Dha and Ni modes need to be placed within the lower and middle registers. Also on this account must mandra Ga and the alternative mandra Ri be considered to be in the lower register.

To summarize tāra and mandra in the jāti:

Tāra is established in the NS by a four-note ascent from the aṃśa or by a five-note ascent from Pa. We have interpreted this to mean that the five-note ascent from Pa sets initial tāra at tāra Ri, and a four-note ascent from this sets the upper limit at tāra Pa.

The BD reconciles the NS system with the octave-registers by determining initial tāra to be a four-note ascent from Pa or a five-note ascent from Ma, thus arriving at tāra Sa. Only aṃśas that are considered dominant, it appears, might qualify to act as tāra determinants.

The SR categorically places the aṃśa determinant to

be in the middle register. It also sets tāra as being four notes above the aṃśa but does not state from what note. In making this four-note ascent, notes omitted in hexa- or penta-tonic modes are counted.

In his commentary, Kallinātha considers that the tāra of a jāti is determined by its grāma. Thus, he sets the upper limit of jātis in the Sa-grāma at tāra Pa, and those of the Sa-grāma at tāra Ni. However, only extraordinary singers should attempt the latter range. According to Kallinātha, strong aṃśas, or those with four śrutis always in either grāma, are the principal tāra determinants, in other words, Sa and Ma.

Mandra is determined from the aṃśa, nyāsa and apanyāsa, according to the NS. No mandra is lower than the aṃśa. This seems to mean that the aṃśa's lower octave is its mandra. From Ga, however, the range is set at Ri and Dha (mandra). This indicates that aṃśas lower than Ga are confined to a four-note descent from the initial mandra which is one note below the nyāsa. By deduction, the lowest limit allowable is mandra Ma.

That mandra Ma is the lowest limit allowable appears to be corroborated in the BD in its illustration of Dhaivatī's mandra. Normally, this jāti's lower limit is mandra Dha, that is, its aṃśa's lower octave, but in the illustration, the jāti ends on (mandra) Ma.

The SD again places the determinant aṃśa in the middle register and, by implication, the aṃśa's or nyāsa's lower octave is its mandra. That not all aṃśas or nyāsas may act as mandra is seen in the "Ri-Dha below" proviso, a ruling almost certainly taken from the NS.

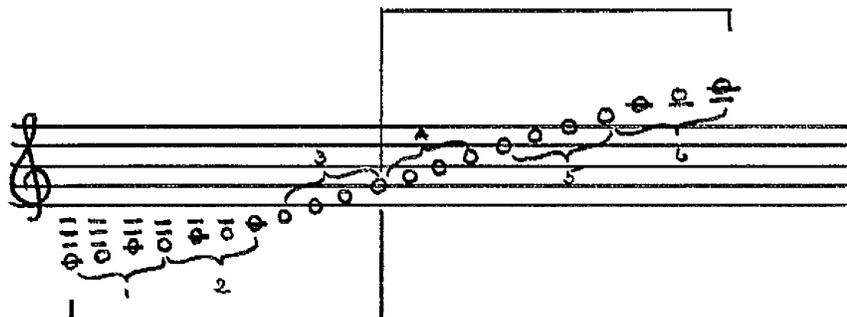
Ri and Dha, however, are interpreted by Kallinātha to mean the degrees below Ga and Ni, these in turn being Sa-grāma's and Ma-grāma's last note respectively. To Kallinātha, these so-called last notes of the grāmas, Ga and Ni, are the jātis' mandra notes depending upon their grāma, with Ri and Dha, respectively, as the alternative mandra notes.

From this summary, certain conclusions might possibly be made.

That the ancient theorists thought in terms of the tetrachord and pentachord seems evident in the ascent and descent of four or five notes from a point in the middle register to tāra and mandra. This seems to indicate that the octave division was a relatively late concept in the Indian musical system.¹ What was more significant was the

¹Although the word "saptaka" has been translated as "octave", per se, it carries no melodic or intervallic connotation. Perhaps Śārṅgadeva's expression "dviguṇas cottarottaraḥ" (double in value, higher and higher) when describing the vocal registers (SR, I, 3:7), is the closest to the octave concept.

concept of consonant relation, a concept that remains today as vital as ever. Thus, it might seem more to the point to think of the three registers in terms of six tetrachords, as follows:



By placing a dividing line between the six tetrachords at middle Ma, the resulting ranges might give some idea of the relative position the middle register (tetrachords 3 and 4) sometimes holds. Thus, *jāti*s (and subsequently, *rāgas*) based in the second tetrachord will reach *tāra* in tetrachord 4, theoretically, a *madhya* tetrachord. Conversely, those based in the fourth tetrachord will find their *mandra* in tetrachord 3, still within the middle register. In this context *tāra* and *mandra* may be said to be relative concepts within the framework of a theoretical three-octave gamut. Furthermore, the terms, *tāra* and *mandra*, may mean any or all of three things: the beginning of the upper and lower limit respectively; the ranges they encompass; and the upper and lower limits respectively of a *jāti*'s ambitus.

The relativity of the mandra concept, in particular, is demonstrated by the NS ruling on the nyāsa of the śuddha jātis. The ruling states that the nyāsa in śuddha jātis is always mandra but not necessarily so with the vikṛta jātis.¹ This may mean one of two things: that śuddha jātis may not end in the upper octave or tāra, mandra in the ruling implying the opposite of tāra; or, that śuddha jātis end an octave below their madhya position, thus, mandra. If the former, then śuddha jātis based on the notes of the upper tetrachord of the theoretical middle register would end in the middle of this register, that is, not mandra itself; if the latter, then śuddha jātis based on the notes of the lower tetrachord of this theoretical register would have a very low tessitura indeed. For a practicable meaning of the term, mandra, in the NS ruling, it would seem that the converse interpretation of the ruling, i.e., that śuddha jātis may not end in tāra, is preferable.

¹nyāsavidhāv apy āsāṃ mandro niyamād bhavati śuddhāsu vikṛtāsv aniyamāt /

In attempting to construct the jāti's ambitus, certain problems arise.

In jātis that have more than one aṃśa, which of its aṃśas is to determine tāra or mandra? It is perhaps this question that led Mataṅga to qualify the aṃśa when determining tāra, and brought about Kallinātha's suggestion regarding four-śruti aṃśas.

Does the presence of several aṃśas in a jāti suggest the possibility of a changing or flexible tāra and mandra range? Thus, in Karmāravī, if Pa is adjudged the strong aṃśa, the jāti's ambitus reaches up to tāra Ri only. If, on the other hand, its other aṃśas, Dha and Ni, are also considered, then the upper limit of the jāti extends to tāra Ma. Similarly, in Ṣaḍjodīcyavā, if Sa is the mandra determinant, then Sa is its own mandra (since Sa is below the jāti's base) but if Ma assumes this function, then the jāti's lower limit may be as low as mandra Ma.

Quite aware of these problems, we have nevertheless attempted to construct the jātis' ranges. In the following tables, the tāra and mandra notes are blackened.

Tāra and Mandra of the Jātis

Ṣād̥jī

Ārṣabhī

Gāndhārī

Madhyamā

Pañcamī

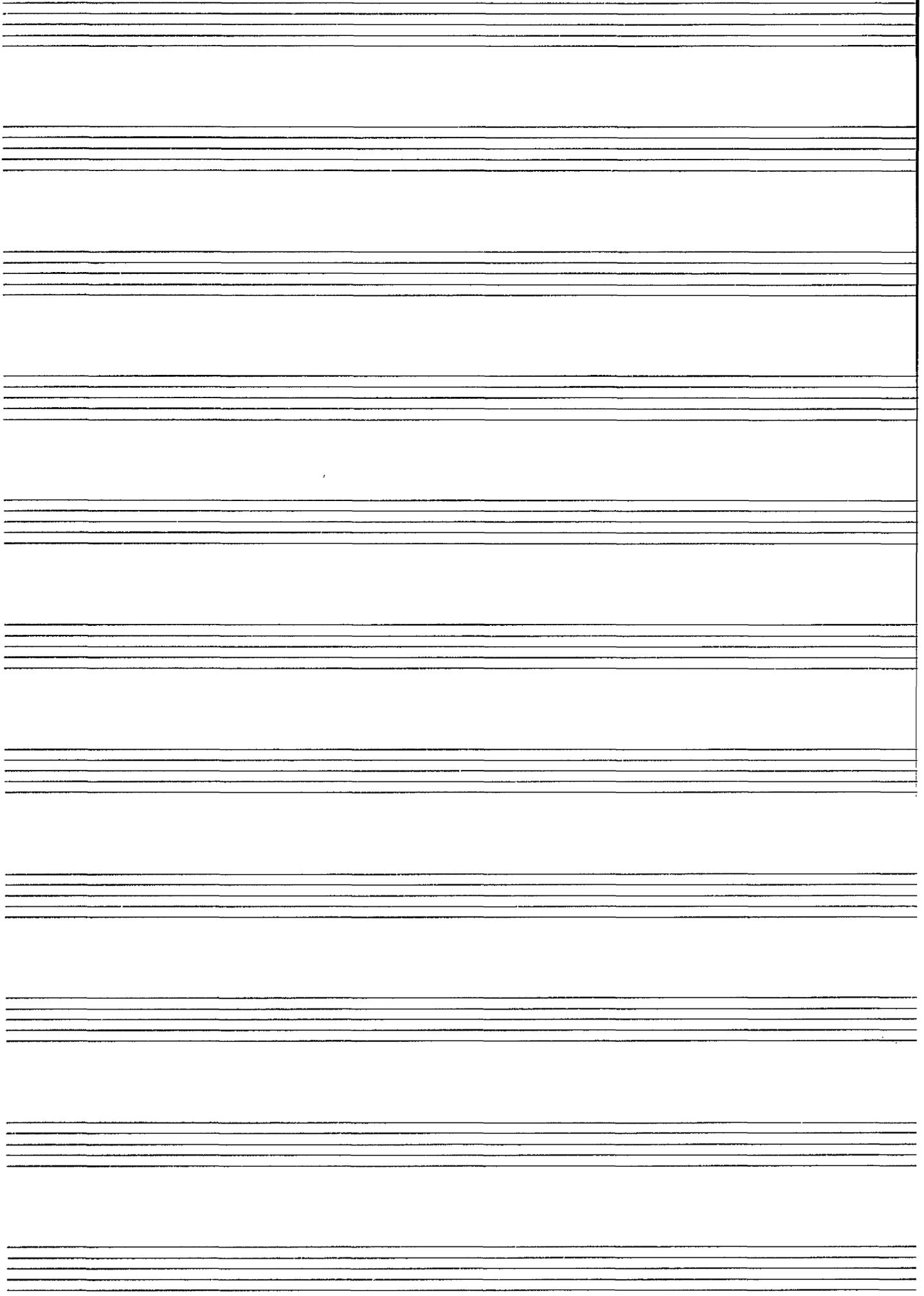
Dhaivatī

Naiṣādī

Madhyamodīcyavā

Nandayantī

Gāndhārapañcamī



Tāra and Mandra of the Jātis

Gāndhārodīcyavā

Musical notation for Gāndhārodīcyavā. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of 'A' characters, each under a bracket. The first group covers the first four notes, and the second group covers the next four notes.

Ṣaḍjakaiśikī

Musical notation for Ṣaḍjakaiśikī. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A' under a bracket.

Ṣaḍjodīcyavā

Musical notation for Ṣaḍjodīcyavā. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A' under a bracket.

Karmāravī

Musical notation for Karmāravī. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A A' under a bracket.

Āndhrī

Musical notation for Āndhrī. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A' under a bracket.

Raktaḡāndhārī

Musical notation for Raktaḡāndhārī. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A A A' under a bracket.

Kaiśikī 1

Musical notation for Kaiśikī 1. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A A A A' under a bracket.

Kaiśikī 2

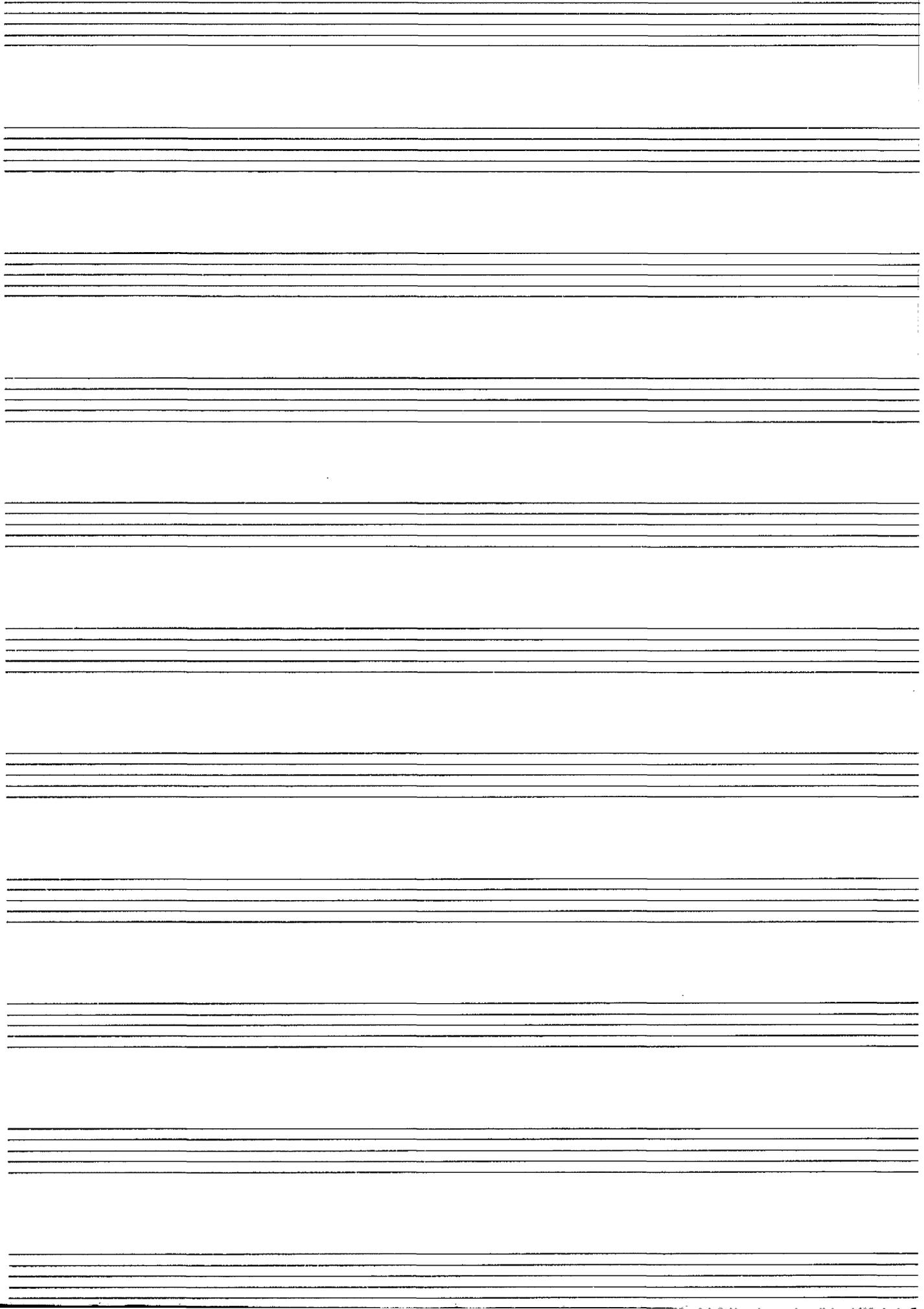
Musical notation for Kaiśikī 2. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A A A A' under a bracket.

Ṣaḍjamadhyamā 1

Musical notation for Ṣaḍjamadhyamā 1. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A A A A A' under a bracket.

Ṣaḍjamadhyamā 2

Musical notation for Ṣaḍjamadhyamā 2. The staff shows a sequence of notes with a treble clef. Below the notes are two groups of characters: the first group contains 'A' and 'NA' under a bracket, and the second group contains 'A A A A A A' under a bracket.



We shall now consider *tāra* and *mandra* wherever they are mentioned in the BD and SR *rāgas*. In general, the information given in these two texts consists of the *rāgas'* upper and lower limits, the register that features their ornamentation or *ālāpa*, or their possible tessitura.

As noted in the previous chapter, the *śuddha rāgas* in the BD begin on a *tāra* note.¹ As a consequence, the *rāga's* movement takes a descending (*avarohī*) pattern. Of the *bhinna rāgas*, *Bhinnakaiśikamādhyama's* ornamentation is concentrated in the lower range.² With its *nyāsa* on *Ma*, it is possible that this might extend down to *mandra Ma*. *Bhinnakaiśika*, on the other hand, is distinguished by having its *ālāpa* in *tāra*, while its *śuddha* counterpart develops its *ālāpa* in *mandra* after a *tāra* opening. Among the *bhāṣā rāgas*, *Dhaivatabhūṣitā* includes *tāra* and *mandra* among its *lakṣaṇa*. *Ri* is given as the *rāga's* *mandra*, and, as its name indicates, *Dha* is the *rāga's* focal note. From *Dha* the movement follows an upward and downward pattern

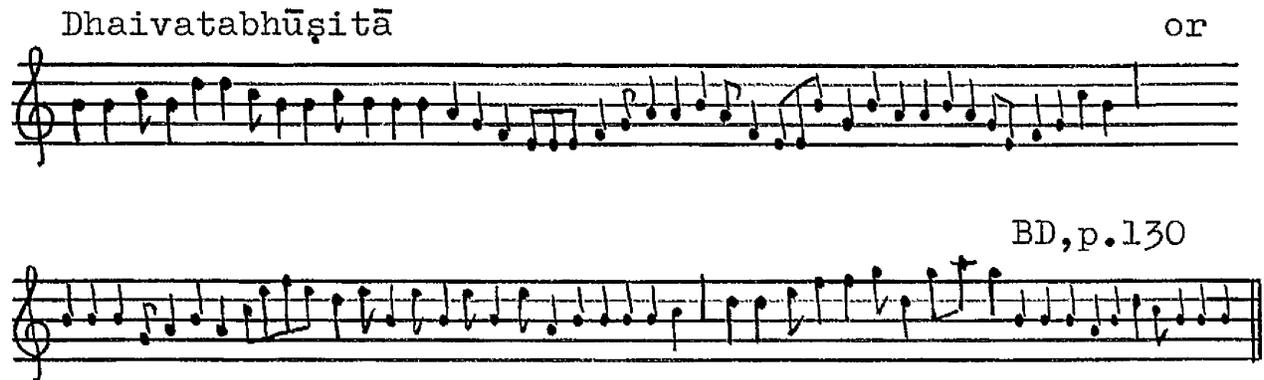
¹This high initial pitch is even now evident in bhajans and other devotional songs.

². . . madhyamo nyāsaḥ/ mandragamakaś ca/ . . .

BD, after: 328

Mandragamaka may also be translated, *mandra* is prominent.

to tāra and mandra in fast, medium and slow tempi.¹ The accompanying illustration notated here gives some idea of the rāga's ambitus.



It is the SR that gives the ranges or tessituras of about sixty of the rāgas current in its day. After the SR, no other text again mentions the rāga's tāra and mandra except in a few instances.

That tāra and mandra also mark one rāga from another is proved in the SR. This is specially seen among rāgas that have similar aṃśa and nyāsa and, furthermore, are

¹mandre 'tra ṛṣabhaḥ kāryo muhur muhuḥ /
 sphuritaṃ tatra kartavyaṃ drutaṃ madhyavilambitam //
 tāramandragatiṃ kuryāt tathārohāvarohaṇam /
 tathā bhāṣā ca vijñeyā bhinnapañcamasambhavā //

BD, p.129

J.E.B. Gray suggests that the missing four syllables in the śloka might be "dhaivataś ca".

derived from the same parent. For instance, the rāgas, Ragantī, Sāvarī, Bhogavardhanī, and Velāvalī, all derive from the parent rāga, Kakubha. All are based in Dha, and all, except Sāvarī, have Dha as aṃśa, too. Of the four, only Ragantī has no mandra range but it will be seen that it has the highest tāra. Bhogavardhanī and Velāvalī have similar lower ranges but while the former's upper range reaches up to tāra Ga, the latter extends only to its octave Dha.¹

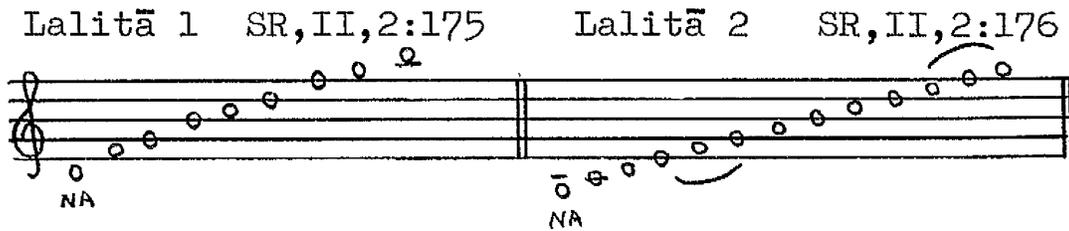
Ragantī	SR, II, 2:110	Sāvarī	SR, II, 2:111
Bhogavardhanī	SR, II, 2:112	Velāvalī	SR, II, 2:114

The two Kāmōda rāgas in the SR have similar mandra ranges and bases but it is the first variety that has a higher range.

Kāmōda 1	SR, II, 2:166	Kāmōda 2	SR, II, 2:167

¹Velāvalī's ambitus might perhaps be read an octave higher than it is shown here.

Of the two types of Lalitā rāgas, the second type is characterized by grace notes in the upper and "lower" registers on the notes Ri, Ga and Ma.¹ Here mandra is used in a relative sense, its range being actually in the madhya register. This is a good example of the use of the term, mandra, to indicate a position below that of tāra but not necessarily in the theoretical mandra register. That the rāga's lower limit is given as mandra Dha proves this.



In the rāga, Turuṣkagaṇḍa, we are told that its mandra is "struck".² While the real significance of this information can only be guessed at, it at least conveys the idea that the rāga's lower range requires special handling.

¹bhinnaṣaḍje 'pi lalitā grahāṃśanyāsadhaivatā /
rigamair lalitais tāramandrair yuktā dhamandrabhāk // 176
prajojyā lalite snehe mataṅgamunisammatā /

SR,II,2

²gāndhārabahulo mandratāḍito ripavarjitaḥ /
niṣādāṃśagrahanyāsas turuṣko gaṇḍa ucyate // 157

Ibid.

The six regional Varāṭī rāgas, Kauntalī, Drāviḍī, Saindhavī, Apasthāna, Hatasvara, and Pratāpa, appear to have in common either a low tessitura or an unlimited top range. This brings us to the question of whether there is no restriction in the rāga's range when no mention of tāra or mandra is made, or, whether when the limit of one or the other is given, this indicates the rāga's tessitura. The answer might be found in the information given in at least three rāgas in the SR. It is said that in Baṅgāla 1 and in Megharāga, mandra is left out.¹ This suggests that Megharāga whose upper limit is set at tāra Sa is confined to an ambitus of ten notes, while Baṅgāla 1 with no tāra specified may extend its range upwards indefinitely. On the other hand, Trāvaṇī is said to be without an upper register.² With mandra Ga as its lower limit, the rāga's ambitus, like Megharāga, consists of ten notes.

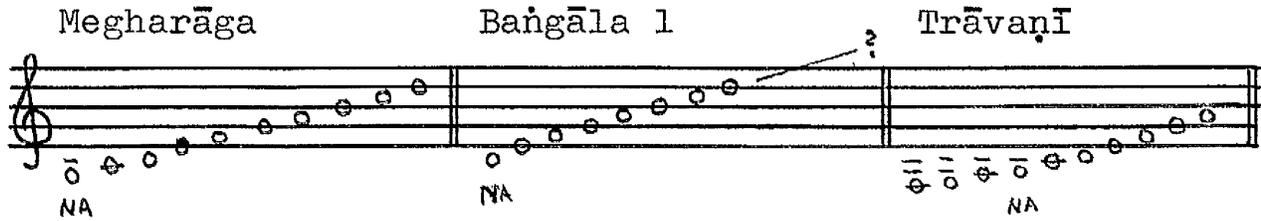
¹ṣaḍjagrāme mandrahīnaḥ ṣaḍjamadhyamayā kṛtaḥ // 160
baṅgālo 'ṃśagrahanyāsaṣaḍjas tulyākhillasvaraḥ /

.
ṣaḍje dhaivatikodbhūtaḥ ṣaḍjatārasamasvaraḥ // 164
megharāgo mandrahīno grahāṃśanyāsadhavataḥ /

Ibid.

²eṣā bhāṣāṅgam anyeṣāṃ dhagrahāṃśā nipojjhitā /
atārā prārthane mandradhagavyāptorumadhyamā // 187

Ibid.



Where both tārā and māndra of a rāga are stated, the widest range seems to be one of sixteen notes. This is seen in Śrīrāga. Māndra Ga and tārā Ma are the limits of this Sa-based rāga.¹ The extreme limit of any given range appears to be māndra Ga on the one hand, tārā Dha on the other.² In a few instances, the notes of tārā or māndra, not simply its limit, are given. As in the tārā-less rāga, Trāvaṇī, mentioned above: its māndra is stated to be Dha to Ga [downwards];³ while Dākṣiṇātyā's tārā is given as Ni-Pa-Ma-Dha.⁴ In general, the length of a rāga's ambitus varies from thirteen to fifteen notes. Some correlation might possibly be made between the extent of a rāga's range and the development of musical instruments, and, *pari passu*, of instrumental music, at this stage of India's music history.

¹ ṣaḍje ṣaḍjīsamudbhūtaṃ śrīrāgaṃ svalpapañcamam /
sanyāsāṃśagrahaṃ mandragāndhāraṃ tāramandhyamam // 159

Ibid.

² As noted above, māndra Ga may in some cases be in the middle register.

³ Loc. cit.

⁴ SR, II, 2:151.

In the modern Arab mode, the fundamental octave, al-dīwān al-asāsī, might correspond to the madhya register of a rāga mode. A note or notes added below this basic octave from the garār, tonic, and thus called the garārāt, might be equivalent to mandra; notes added above the jawāb, octave, thereby called the jawābāt, would perhaps correspond to tāra. The ambitus of the modern Arab mode consists of a combination of tetra- and penta-chords, al-ajnās, (cf. the 4-note or 5-note formation in the NS), aptly described as "formules de division des parcours de quarte ou de quinte"¹, covering a range of from ten to sixteen notes. The lowest note in the Arab gamut appears to be what would correspond to mandra Pa, in, e.g., the mode Yak-gah,² the highest to atitāra Sa, as in the mode, Rāst.³

The concept of a range above or below a fundamental or middle one also appears in Indonesian music. Thus, "the melodic center may move to an 'auxiliary scale' lying a pélog fifth above or below the principal scale,

¹D'Erlanger, op. cit., V, 99.

²Ibid., fig.46, p.118.

³Ibid., fig.72, p.178.

retaining, however the three gong tones (dasar, first gong tone and second gong tone) of the principal scale and thus remaining in the same paṭet."¹ These auxiliary scales which do not seem to carry a special nomenclature of their own might be comparable to tāra and mandra, provided no change of tonality is involved.²

¹Hood, op. cit., p.143.

²According to Kunst, these auxiliary scales are the result of modulation of which there are three kinds. One kind retains the paṭet but changes the tonality of the melody. (Music in Java, I,91-7)

ALPATVA and BAHUTVAANTARAMĀRGAṢĀḌAVA and AUḌAVA

The structure of the jātī, although steeped in tradition, was never a rigid one. The flexibility inherent in the jātī is due to the lakṣaṇa, Alpatva and Bahutva. As a result of these properties, the jātī develops a transilient character not often found in other modal systems. Today this ancient feature of the jātī remains as valid in the rāga system as it ever did.

Alpatva denotes the infrequent use of certain notes; Bahutva, the emphasis of certain other notes. When applied to a jātī's scale, the logical outcome is a reformation of its svara composition to any one of three shapes: a seven-degree scale, Sampūrṇa, a six-degree scale, Ṣāḍava, or a five-degree scale, Auḍava. A jātī, therefore, may assume three shapes as a result of the role that Alpatva and Bahutva play in its structure.

As in the discussion of Tāra and Mandra in which the middle register, Madhya, is considered the norm, early Sanskrit texts make the seven-degree scale, Sampūrṇa, the point of departure. This does not mean, however, that in

Sampūrṇa, the seven degrees of a scale are all stressed. As a general characteristic of the jāti, alpatva and bahutva are present in the three scale sizes mentioned above. But it does mean that all the seven degrees of the Indian scale are present in a sampūrṇa jāti.¹

It is perhaps almost futile to deduce when the various stages of the development of the Indian scale occurred. Although in early Sanskrit music treatises there are terms for a one-note, two-note, three-note,

¹That the seven-degree scale is considered the norm is also shown in the description of the six- and five-degree Tānas (roughly, note series or formulae) which seem to have developed along side the Mūrccchanās. To form these tānas in the two grāmas, the NS indicates which one or two of the seven svaras are to be omitted. (NS,28, prose before śl.36.) Thus, the six-note Sa-grāma tānas omit Sa or Ri or Pa or Ni while those in the Ma-grāma omit Sa or Ri or Ga. These number forty-nine in all. In the five-note series, the intervallic combinations, Sa-Pa, Ri-Pa, and Ga-Ni in the Sa-grāma are dropped, and Ri-Dha and Ga-Ni in the Ma-grāma, resulting in thirty-five permutations. (Some of these tānas of either the five- or six-note variety are duplicates, however.) It appears, then, that in the six-note tāna Ma and its major third, Dha, are always present, while in the five-note series Ma in consonance to either Sa or Ni is the mainstay of this type of tāna. These tāna configurations, although of no apparent modal significance, may have played some part in the jātis' scalar compositions.

and up to the seven-note series,¹ it does not follow that the Indian scale, or perhaps most other scale-systems, developed step step in this fashion.² It would appear, however, that the Sampūrṇa is the basis for deriving the

¹Mataṅga quotes Nārada regarding the seven "scale" sizes. The quotation includes the definition of the first four:

"ārciko gāḍikaś caiva sāmikaś ca svarāntaraḥ /
 auḍavaṃ ṣāḍavaś caiva sampūrṇaś ceti saptamaḥ //
 ekasvaraprayogo(bhi? hi) ārcikaḥ so'bhidhīyate /
 gāḍiko dvisvaro jñeyas trisvaraś caiva sāmikaḥ //
 catuḥsvaraprayogo hi kathitas tu svarāntaraḥ //"

BD,p.17.

Translation:

"Ārcika, Gāḍika, Sāmika, Svarāntara,
 Auḍava, Ṣāḍava and Sampūrṇa are said to be the seven
 [scale-types]
 Ārcika is so-called because of its use of one note,
 Gāḍika is known for its two svaras just as Sāmika is
 for its three svaras,
 Whereas Svarāntara is said to use four svaras."

In the examples of Syrian modes given by J. C. Jeannin in his article entitled "L'Octoëchos syrien" (in Oriens Christianus, New Series, III (1913), 82, 277), Mode II uses only four notes, Mode VI only three (pp.279-81).

²For instance, the heptatonic genus of Western music is said to have developed as an outgrowth of an earlier pentatonic one. See Yasser, J.: A theory of evolving tonality, New York, 1932.

Ṣāḍava and Auḍava, through the influence of Alpatva and Bahutva. As to which note or notes are to be stressed or unstressed, this appears to be a matter of tradition or evolution in the final scalar character of a jāti, subject, however, to the laws of consonance.

According to the NS, "alpatva [is achieved in] two ways: by laṅghana," that is, by leaping over or skipping a note, thus avoiding its sound, "and by anabhyāsa," the non-repetition of a note once sounded. "By means of laṅghana and anabhyāsa which cause the gīta's aṃśas to move into a state of antaramārga,¹ a jāti's ṣāḍava and auḍava are attained. Bahutva, the opposite of alpatva, is a combination (in the sense of a stirring up) of strong as well as of other various [notes]. Therefore, according to traditional practice where alpatva and bahutva [are applied to] a jāti's svaras, a jāti's reduced form is arrived at in two ways: by the use of strong aṃśas and by the avoidance of weak [notes] so that the

¹Literally, an intermediate course.

transiliency of the jātis reveals itself as two-fold"¹
(i.e., as ṣāḍava or auḍava).

Laṅghana is a term that present certain problems in the study of alpatva. Literally, it means a skipping or a leaping over and, when applied to the jāti, it means skipping a note. The question arises as to whether once a note is skipped it stays unsounded or whether it is reverted to and sounded in an altered progression of notes. This technique, called Vakra, of sounding a note in an oblique manner, that is, e.g., in a manner such as, 1-3-2-4, instead of a straight progression, 1-2-3-4, so that the sounding of the second degree is postponed until the succeeding "beat", is not apparent in the NS, BD or SR with regards to the jātis. Vakra which appears early in the description of the rāga does not seem implied in

¹dvividham alpatvam -- laṅghanād anabhyāsāc ca/ tatra
ṣāḍavauḍavitakaraṇatvam aṁśānām gītānām antaramārgam upa-
gatānām svarāṇām laṅghanād anabhyāsāc ca sakṛd uccāraṇam
yathājātiḥ/ tad vad bahutvam alpatvaviparyayād vividham
evānyeṣām api balinām saṁcāraḥ/

alpatve ca bahutve ca tathā pūrvaviniścayāt /
jātisvarais tu nityam syāj jātyalpatvaṁ dvidhā ca tat // 82
saṁcāro'ṁśabalasthānām alpatvaṁ durbalāsu ca /
dvividhāntaramārgas tu jātīnām vyaktikāraḥ // 83

the jātis and the word itself never appears in any of the description of the jātis even as late as the 13th century. In the case of anabhyāsa, it seems clear from the definition that it means the non-repetition of a note once sounded. This is not to say, however, that the note will remain mute. It might appear again in other passages or sections of the music. Alpatva and bahutva do not refer to a single instance where these devices are apparent in the rendition of a jāti but to their use at various sections throughout the piece. Possibly, it is this combined technique of avoidance and emphasis that might have led to Vakra whereby the old idea of avoidance now evolves into one of postponement or suspense. By postponing the resolution of a phrase, a pause in the rāga piece acquires greater desirability.¹

If laṅghana's definition above is accepted, that is, the avoidance of a note, then it is this aspect of alpatva rather more than anabhyāsa that encourages the development of transiliency in a jāti's scale.

¹Here, however, the note of suspension would be the oft-repeated and therefore the strong note.

Mataṅga in the BD adds nothing further to the NS description of alpatva and bahutva. We shall, however, refer to these lakṣaṇa in the BD in our discussion of Antaramārga.

Śārṅgadeva is somewhat more precise in his definition of bahutva and alpatva:

"Bahutva is considered two-fold on account of its [aspect of] abhyāsa (repetition) and of alaṅghana (non-avoidance) with regards to the [note] situated in (i.e., assigned as) the recurring aṁśa and to the vādi and saṁvādi (consonant pair).

"Alpatva is also two-fold: through laṅghana and anabhyāsa. Anabhyāsa is generally preferred among non-aṁśas as well as among those [svaras] to be omitted. As for laṅghana which chiefly affects that area in which [notes] are to be omitted, a little contact with the non-aṁśa is also possible, [a practice] which music experts are wont to do from time to time."¹

¹alaṅghanāt tathā 'bhyāsād bahutvaṃ dvividhaṃ matam /
paryāyāṁśe sthitam tac ca vādisaṁvādinor api // 49
alpatvaṃ ca dvidhā proktam anabhyāsāc ca laṅghanāt /
anabhyāsas tv anaṁśeṣu prāyo lopyeṣv apīṣyate // 50
īṣatsparśo laṅghanaṃ syāt prāyas tallopyagocaram /
uśanti tad anaṁśe 'pi kvacid gītaviśāradaḥ // 51

This definition makes clear what was previously only apparent or implied: bahutva is concerned with emphasizing the consonancy between aṃśa svaras; alpatva, with non-aṃśa svaras or with those that are ultimately dropped. And on bahutva Siṃhabhūpāla is even more explicit: he prescribes alaṅghana (non-avoidance) to the vādi (sonant), and abhyāsa (repetition) to its saṃvādi (consonant).¹

An interesting development in jātilakṣaṇa now appears. In the BD Mataṅga explains: "Since alpatva and bahutva are two-fold, then it is said there is movement among the nyāsa and other [lakṣaṇa] on account of antaramārga. Therefore, the mark of antaramārga in some jātis is [due to] the lack of paucity with respect to the non-aṃśa."²

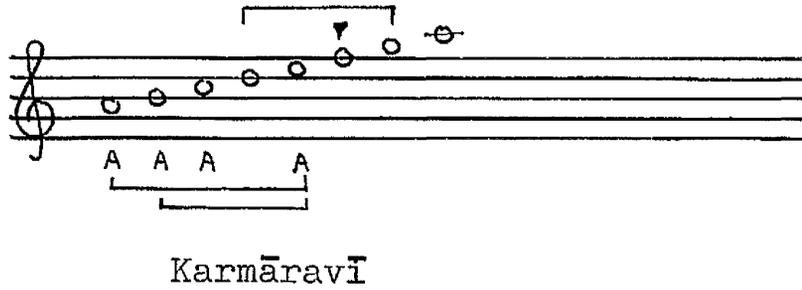
¹ alaṅghanād yasya bahutvaṃ sa vādī; tad yasyābhyāsāt sa saṃvādīty arthaḥ/ SR,I,7,p.190.

² . . . tathālpatvaṃ bahutvaṃ ca dvividhaṃ sanyāsādigato bhavet tadāntaramārgeneti/ antaramārgasya lakṣaṇaṃ yathā jātiṣu kvacid vā anaṃśo vināṃlpaḥ [sic] / (vināṃlpaḥ should read, vinālpah)

Bharata uses the word, antaramārga, to describe that transitory stage between Sampūrṇa and Śāḍava or Auḍava when a jāti tends to be transilient on account of its weak notes. (See above) However, he must have sensed some kind of phenomenon when he points out that in the jāti, Karmāravī, Ga is a special svara, but he makes no reference to Antaramārga in this instance.¹ Mataṅga, on the other hand, does and to strengthen his position he quotes the relevant passage in the NS.²

Let us examine Karmāravī.

Ri, Pa, Dha and Ni are the jāti's aṃśas; the remaining svaras, Sa, Ga and Ma are non-aṃśas.



¹gāndhārasya viśeṣeṇa sarvato gamanaṃ bhavet // 155
NS,28.

². . . tathā ca karmāravīyāṃ gāndhārasya sarvasvara-
saṅgatyā bahutvenāntaramārgaprayoga iti vakṣyate/
gāndhārasya viśeṣeṇa sarvato gamanaṃ bhavet / Loc. cit.

The consonant pairs among Karmāravī's aṃśas are Pa-Ri and Dha-Ri; and of its non-aṃśas, Sa-Ma. This leaves aṃśa Ni and non-aṃśa Ga at odds. The problem arises when Ga, the non-aṃśa, is prescribed the quality of bahutva, as it is in the BD and SR.¹ This is contrary to the SR precept that it is the aṃśa svaras that are stressed and the non-aṃśa ones played down. When, then, a non-aṃśa note is emphasized, it might mean that the jāti is characterized by a certain imbalance between its tetrachords. Although Ga here is a strong note, it still remains a non-aṃśa. Hence, the unusual emphasis on such a note can only mean intent to create a kind of asymmetry in this particular jāti. It is perhaps this asymmetry or imbalance that characterizes antaramārga. Had the principle of alpatva been applied to the non-aṃśa Ga, or, conversely, had bahutva's immanence in Ga been nullified, no imbalance, i.e., no antaramārga, would have arisen. This imbalance remains unresolved in Karmāravī because the jāti is one of four jātis that allow only the sampūrṇa form. In most other jātis an imbalance between an aṃśa svara and

¹BD:268-9; SR,I,7:101-2.

a non-aṃśa svāra is righted when the non-aṃśa is dropped in the jātis' śāḍava or auḍava form. Antaramārga, therefore, appears to be a phenomenon of sampūrṇa jātis in general.

A by-product of alpatva and bahutva, antaramārga finally emerges as a legitimate lakṣaṇa in the 13th century. The first definition of antaramārga appears to be that of Śārṅgadeva in the SR:

"Disregarding the position of nyāsa and other [lakṣaṇa], an extraordinarily contrived [melodic] combination of aṃśa and other [functional notes] with notes in the middle register that are de-emphasized by means of occasional non-repetition here and there and by outright avoidance in others, may result in antaramārga, chiefly among the vikṛta jātis."¹

In antaramārga, then, there is deliberate pairing of aṃśa with non-aṃśa svaras.

¹nyāsādisthānam ujhitvā madhye madhye 'lpatāyuvām / svarāṇām yā vicitratva kāriṇy aṃśādi saṃgatiḥ // 52
anabhyāsaiḥ kvacit kvāpi laṅghanair eva kevalaiḥ /
kṛtā sā 'ntaramārgaḥ syāt prāyo vikṛtajātiṣu // 53

We might define Antaramārga as the state of imbalance created in a jāti when there is substantial apposition of stress (bahutva) and unstress (alpatva) among its aṃśa and non-aṃśa svaras. It follows from this that it is antaramārga that causes a jāti's structure to become transilient. When an inherent imbalance cannot be righted, then this asymmetry marks one jāti off from another. In this context, antaramārga earns lakṣaṇa status.

According to the NS, "Ṣāḍava is a six-note [series] of which there are fourteen kinds and forty-seven ways [of forming it]; Auḍava is a five-note [series] of which ten kinds and thirty permutations are known."¹ These series and their permutations refer to the modal scales of which only seven of the possible fourteen scales from the two grāmas have been chosen to represent the jāti system. The basic modes are the Ṣāḍjī, Ārṣabhī,

¹ṣaṣṭsvaram ṣāḍavitaṃ caturdaśavidhaṃ saptacatvāriṃśat prakāram/ pūrvoktavidhānaṃ yathā jātyaṃśaparakārair iti/ pañcasvaram auḍavitaṃ vijñeyaṃ daśavidhaṃ prayogajñaiḥ / triṃśatprakāravihitaṃ pūrvoktaṃ lakṣaṇaṃ tv asya // 84

Dhaivatī and Naiṣādī of the Sa-grāma, and Gāndhārī, Madhyamā and Pañcamī of the Ma-grāma. From these seven modes, eleven other modes are derived, the derivative modes differing ostensibly in lakṣaṇa content rather than in scale.

Forty-seven permutations of the ṣāḍava form are obtainable from the seven jāti scales if the series that drops the tonic in the Ṣāḍjī and in the Madhyamā scales is excluded. Sa and Ma being the centres of the grāma system, it is possible that their omission from a ṣaḍava series would be inadmissible.

In the ṣāḍava and auḍava tables given below, the note-series or scale that is underlined is the actual variant form prescribed for the jāti in the NS. Only the letter of the svaras are indicated.

Ṣādava TableṢād̥jī (6)

- - - - -
 S G M P D N
 S R M P D N
 S R G P D N
 S R G M D N
 S R G M P N
S R G M P D

Ārṣabhī (7)

G M P D N S
 R M P D N S
 R G P D N S
 R G M D N S
 R G M P N S
R G M P D S
 R G M P D N

Gāndhārī (7)

M P D N S R
 G P D N S R
 G M D N S R
 G M P N S R
 G M P D S R
 G M P D N R
G M P D N S

Madhyamā (6)

- - - - -
 M D N S R G
 M P N S R G
 M P D S R G
 M P D N R G
 M P D N S G
M P D N S R

Pañcamī (7)

D N S R G M
 P N S R G M
 P D S R G M
 P D N R G M
 P D N S G M
P D N S R M
 P D N S R G

Dhaivatī (7)

N S R G M P
 D S R G M P
 D N R G M P
 D N S G M P
 D N S R M P
 D N S R G P
D N S R G M

Naiṣādī (7)

S R G M P D
 N R G M P D
 N S G M P D
 N S R M P D
 N S R G P D
N S R G M D
 N S R G M P

Of the auḍava type, thirty combinations may be obtained if the jāti's tonic remains intact. There are seven possible pairs of consonants that may be omitted from the sampūrṇa series to form an auḍava: Sa-Ma, Sa-Pa, Ri-Pa, Ri-Dha, Ga-Dha, Ga-Ni and Ma-Ni. Ṣāḍjī is given the ṣāḍava variant only.¹

Auḍava Table

<u>Ārṣabhī</u> (5)	<u>Gāndhārī</u> (5)	<u>Madhyamā</u> (5)
R M P N S	G P D S R	M D N R G
R M P D S	G P D N R	M D N S G
R G P D S	G M D N R	M P N S G
R G P D N	G M D N S	M P N S R
<u>R G M D N</u> ²	<u>G M P N S</u>	<u>M P D S R</u>
[R G M D S] ³		
<u>Pañcamī</u> (5)	<u>Dhaivatī</u> (5)	<u>Niṣādī</u> (5)
P N S G M	D S R M P	N R G P D
P N S R M	D S R G P	<u>N R G M D</u>
<u>P D S R M</u>	D N R G P	N S G M D
P D S R G	<u>D N R G M</u>	N S G M P
P D N R G	D N S G M	N S R M P

¹NS, 28:62 and 113.

²Ārṣabhī's actual

auḍava, according to the BD (:203) and the SR (I,7:64-5).

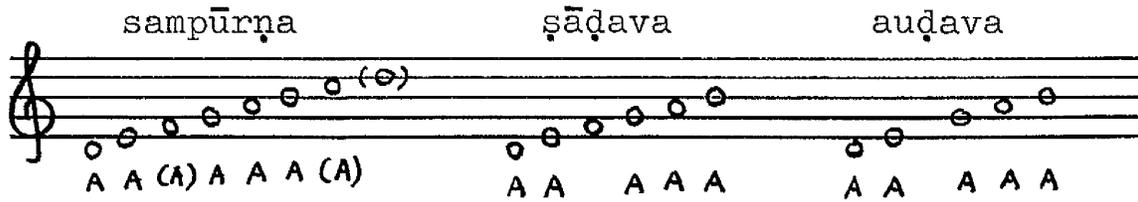
³In the NS, the jāti's auḍava omits Pa-Ni, an assonant melodic interval (28:117).

A study of the jātis' actual śāḍava scales shows that the process of elimination begins in the upper tetrachord. Śāḍava is formed by omitting a note in the upper tetrachord of the scale, and auḍava is then arrived at by omitting from the śāḍava a note in the lower tetrachord. The omitted notes are usually a fourth or a fifth apart. The whole process of transformation from a sampūrṇa to a śāḍava or auḍava obeys the irresistible law of consonancy.

In some jātis certain changes in the role of the svaras occur during the transformation. Some svaras that function as aṃśas in the jāti's sampūrṇa state, shed this function as the jāti assumes a śāḍava or auḍava form.

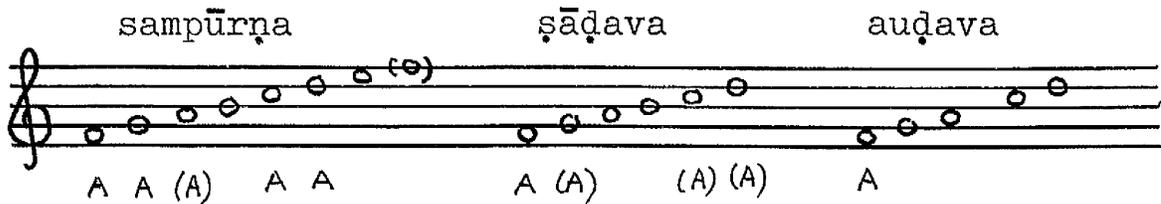
For instance, Śaḍjamadhyaṃ has all its svaras acting as aṃśas in sampūrṇa. As the jāti transforms into śāḍava, however, it is prescribed that Ni and Ga now revert to non-aṃśas. Ni is then omitted and then Ga in auḍava.¹

¹NS, 28:66 and 70.



Ṣaḍjamadhyamā scales

Another jāti with several aṃśas is Gāndhārī in which svaras Ga, Ma, Pa, Ni and Sa are aṃśas. Pa loses its aṃśa importance as Gāndhārī assumes a ṣāḍava shape but it is Ri, a mere svvara, that is dropped. In auḍava the rest of the jāti's aṃśas except the tonic Ga, now become anamśas¹ while Ri's consonant, Dha, is now omitted.²



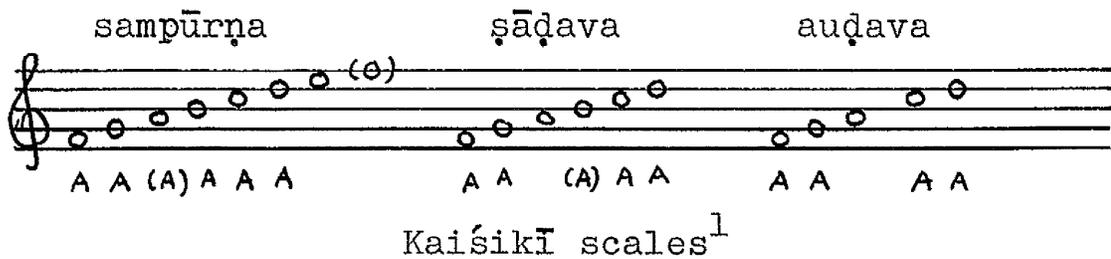
Gāndhārī scales

¹This is the term used in the NS (28:67) to denote the loss of aṃśa power. The letter A, however, under the notes in the illustrations always stands for Aṃśa. Aṃśas enclosed in brackets are anamśas in the succeeding scale.

²NS, 28:69; 131-2.

In Gāndhārī it is seen that although all its aṃśas except the tonic become anaṃśas in auḍava, none of them are dropped. What are omitted are svaras that carry no function in the jāti. In Ṣaḍjamadhyamā (see above), however, where all its seven svaras are declared aṃśas in sampūrṇa, it is perhaps unavoidable that in ṣāḍava and auḍava, an aṃśa svara, albeit subsequently depreciated, is dropped.

Kaiśikī, on the other hand, combines the two features. In ṣāḍava it drops a non-functional note and in auḍava an anaṃśa.



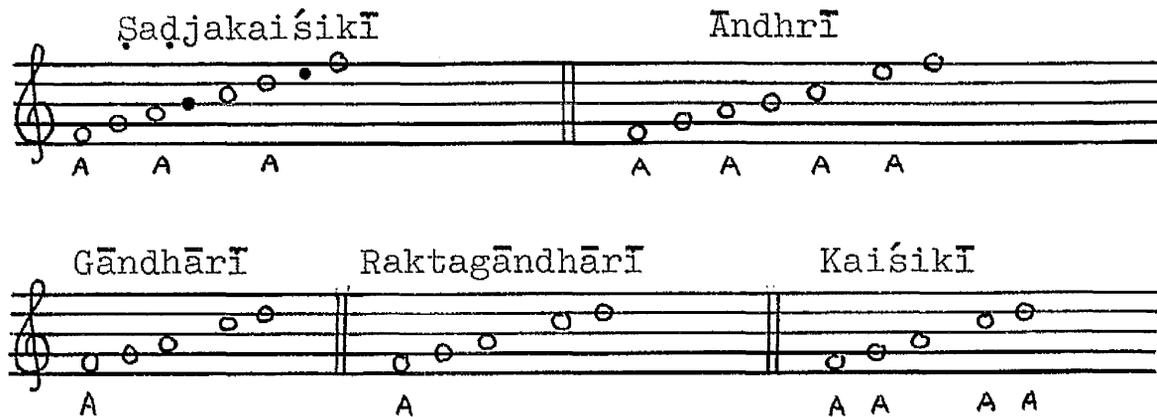
As to Kaiśikī's anaṃśas, Pa and Dha, it is possible that as aṃśas they run the risk of either being paired with a non-functional note, thus resulting in antaramārga, or forming a tritone with the tonic.

¹This is only one set of Kaiśikī's three modal structures. See the jātis' scales on p.

This tendency to maintain balance between functional and non-functional notes is also seen in Ṣaḍjodīcyavā:



In the various Ga modes (i.e., modes in which Ga is tonic and final) where the problem of the tritone is likely to occur, Dha, the tritone, is either a weak note (alpatva) as in Ṣaḍjakaiśikī,¹ or can be omitted as in Gāndhārī, Raktagāndhārī and Kaiśikī, or when not omitted as in Āndhrī, its effect is minimized by the judicious distribution of the aṃśas.



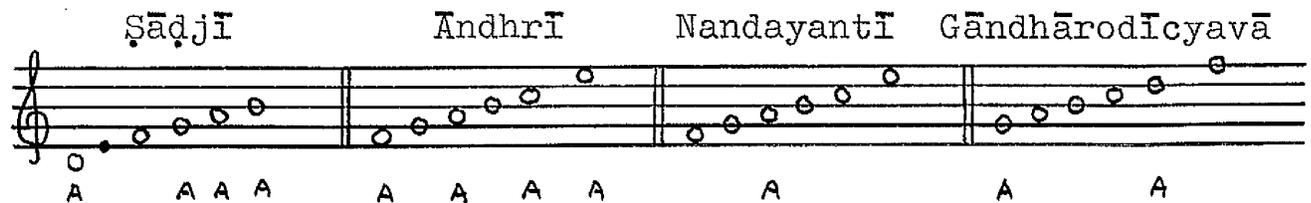
¹The weak notes of the jāti are indicated in the illustration by small black notes.

Four jātis remain sampūrṇa and admit no variant:

Ṣaḍjakaiśikī Gāndhārapañcamī Madhyamo-
dīcyavā Karmāravī



Another four have the ṣaḍava variant only:



In the two groups of jātis above, we note that the sampūrṇa jātis, Gāndhārapañcamī and Madhyamodīcyavā, and the ṣaḍava jāti, Nandayantī, are the three jātis in the jāti system that are characterized by only one aṃśa each. This might suggest that where there is only one aṃśa in a jāti, the possibility of transilience in its scale is lessened since only one of the three has a variant form.

The omitted note in the ṣaḍava jātis above is invariably a non-functional note.

¹In Ṣāḍjī's sampūrṇa form, Ni which is here omitted, is said to be kākali at times (SR, I, 7:60). This is one of the few indications of kākali in the jātis' scales.

A survey of the jātis' sampūrṇa, ṣāḍava and auḍava scales (given in toto below) will show that Ma is the only note that is never omitted from a scale. As Bharata writes:

"The elimination of Ma should never be attempted, for, in accordance to Gāndharva law, Ma has been decreed the most superior and undying of the seven svaras by those who chant the Sāma[veda]."¹

¹na madhyamasya nāśas tu kartavyo hi kadācan // 72
saptasvarāṇāṃ pravaro hy anāśī caiva madhyamaḥ /
gāndharvakalpe vihitaḥ sāmair api madhyamaḥ // 73

In the following comparative table¹

Alpatva is indicated by a small black note;

Bahutva is indicated by the symbol ▼ ;

Aṃśas that are temporary show this by (A);

these are the anaṃśas in the succeeding scale.

¹It is not always clear from the description in the NS, BD and SR texts whether the alpatva and bahutva in the jāti's sampūrṇa state also apply to its ṣāḍava and auḍava.

(The sequence of the jātis in the table follows that of the SR.)

- The jātis' scale forms -

sampūrṇa

ṣāḍava

auḍava

Ṣāḍjī

NS, 28, 112-3

Musical notation for Sampūrṇa and Ṣāḍava scales. The Sampūrṇa scale is shown as a sequence of notes: A, (A), A, A, A. The Ṣāḍava scale is shown as a sequence of notes: A, A, A, A.

BD: 245; and pp. 69-70

Musical notation for Sampūrṇa and Ṣāḍava scales. The Sampūrṇa scale is shown as a sequence of notes: A, (A), A, A, A. The Ṣāḍava scale is shown as a sequence of notes: A, A, A, A. An alternative form for the Sampūrṇa scale is also shown, starting with A and followed by (A), A, A, A.

SR, I, 7: 60-1

Musical notation for Sampūrṇa and Ṣāḍava scales. The Sampūrṇa scale is shown as a sequence of notes: A, A, A, A, A, with a sharp sign (#) above the fifth note. The Ṣāḍava scale is shown as a sequence of notes: A, A, A, A.

(Op. cit.)

Ārṣabhī

: 114-6

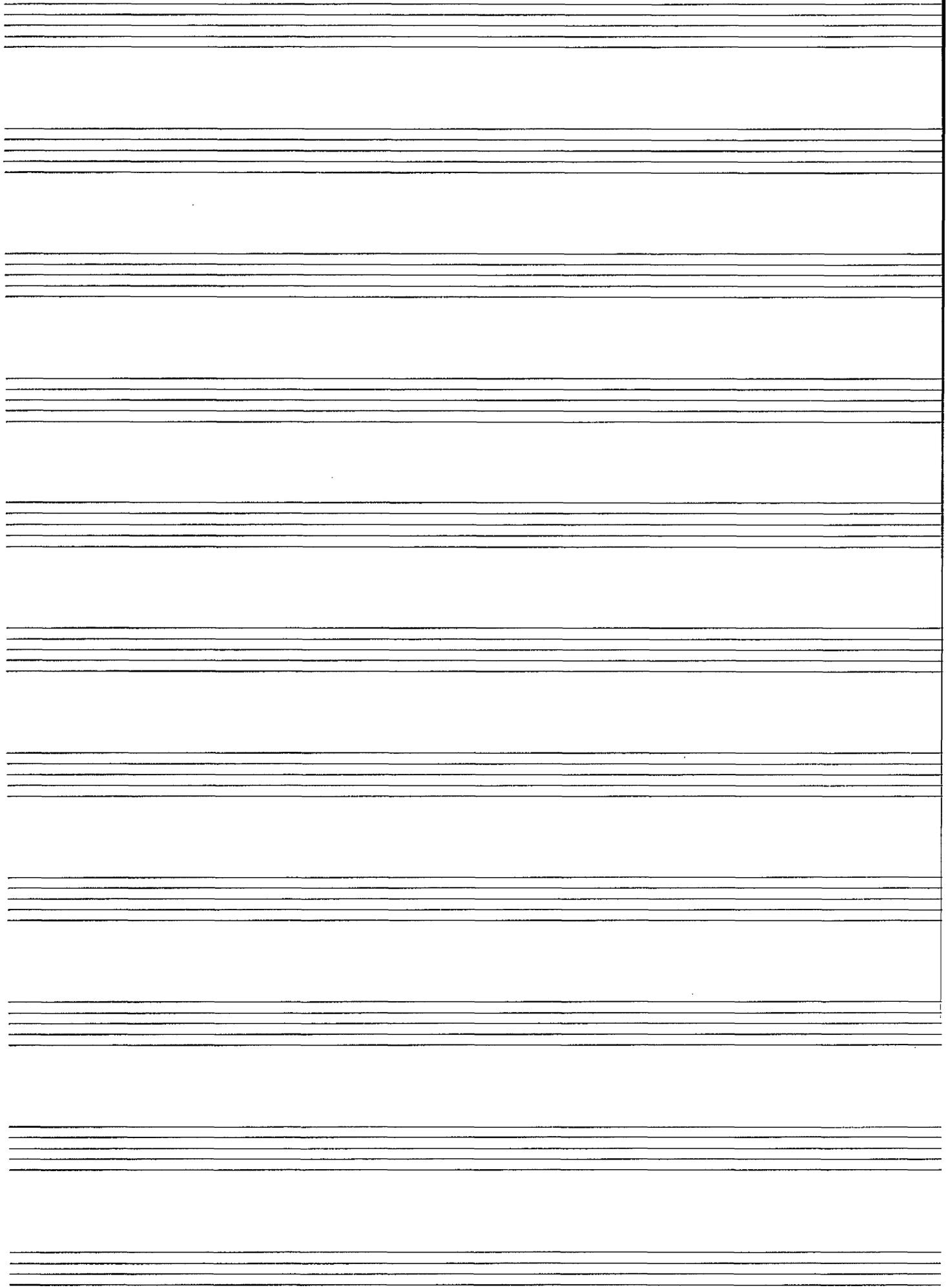
Musical notation for the Ārṣabhī scale. The scale is shown as a sequence of notes: A, A, A, A, A. A special form is also shown, starting with A and followed by A, A.

p. 70

Musical notation for the Ārṣabhī scale. The scale is shown as a sequence of notes: A, A, A, A, A.

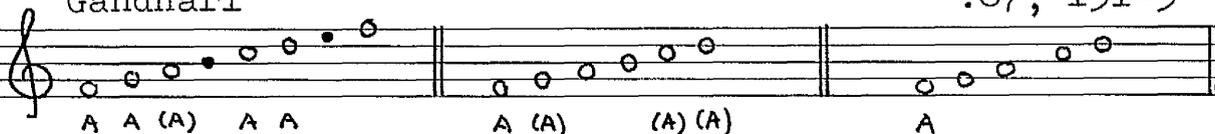
: 64-5

Musical notation for the Ārṣabhī scale. The scale is shown as a sequence of notes: A, A, A, A, A.

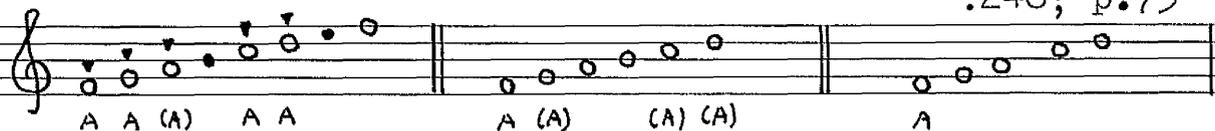


Gāndhārī

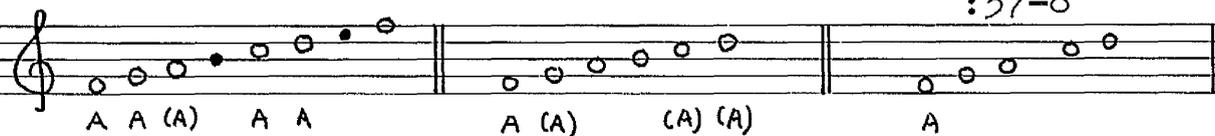
:67; 131-3



:246; p.73

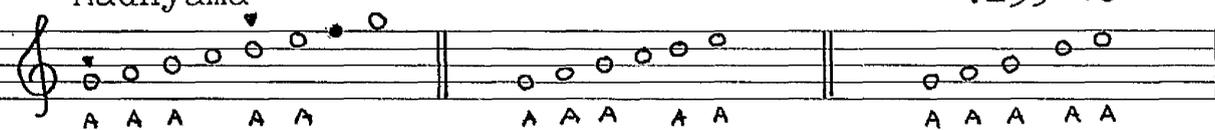


:37-8

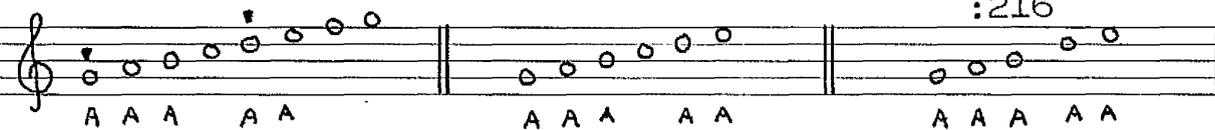


Madhyamā

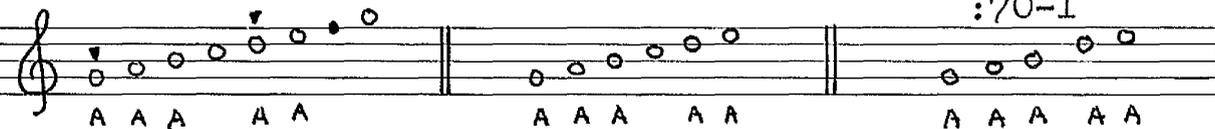
:139-40

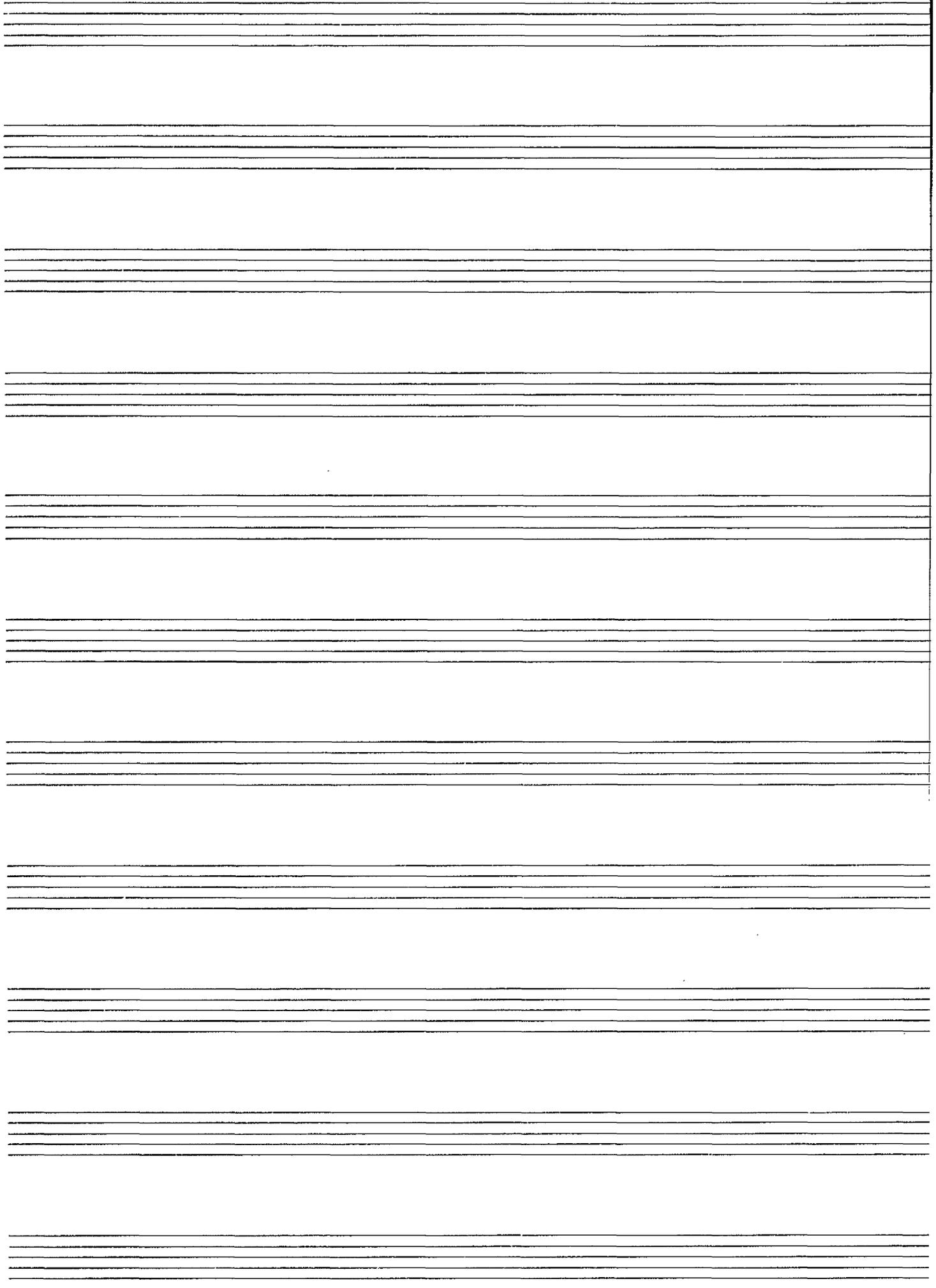


:216

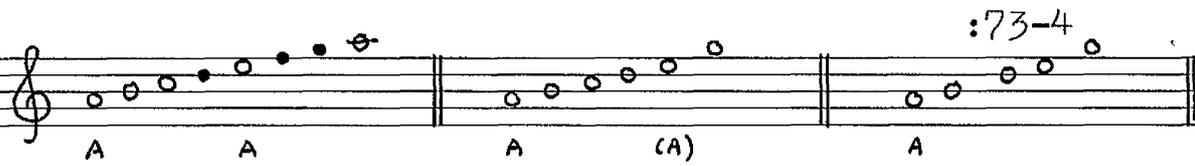
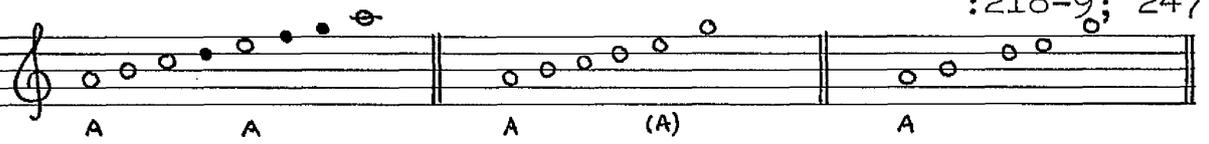
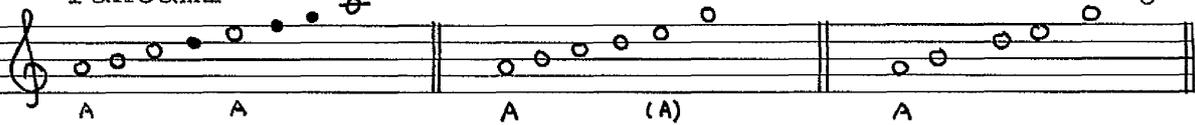


:70-1

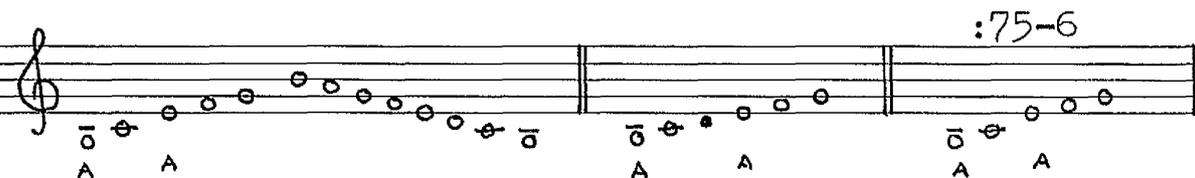
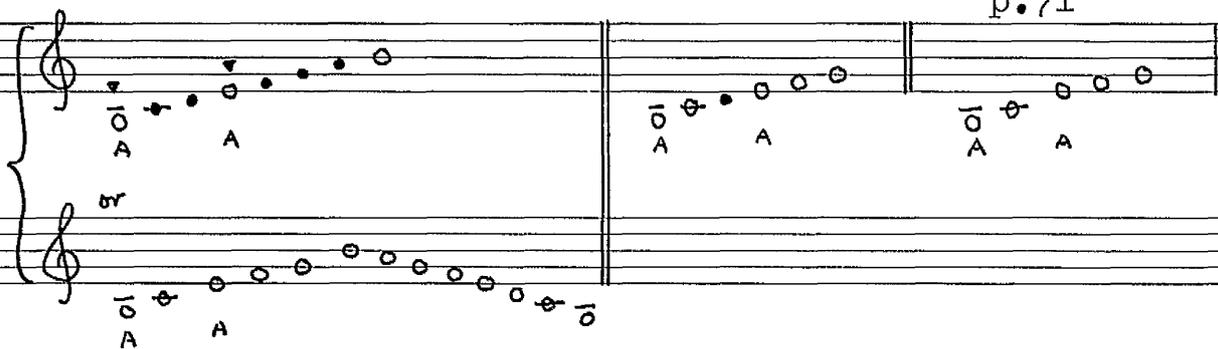
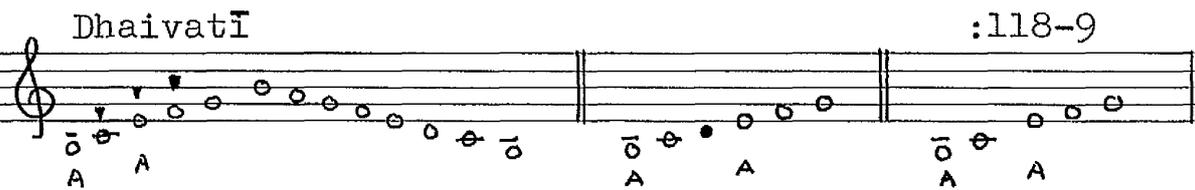




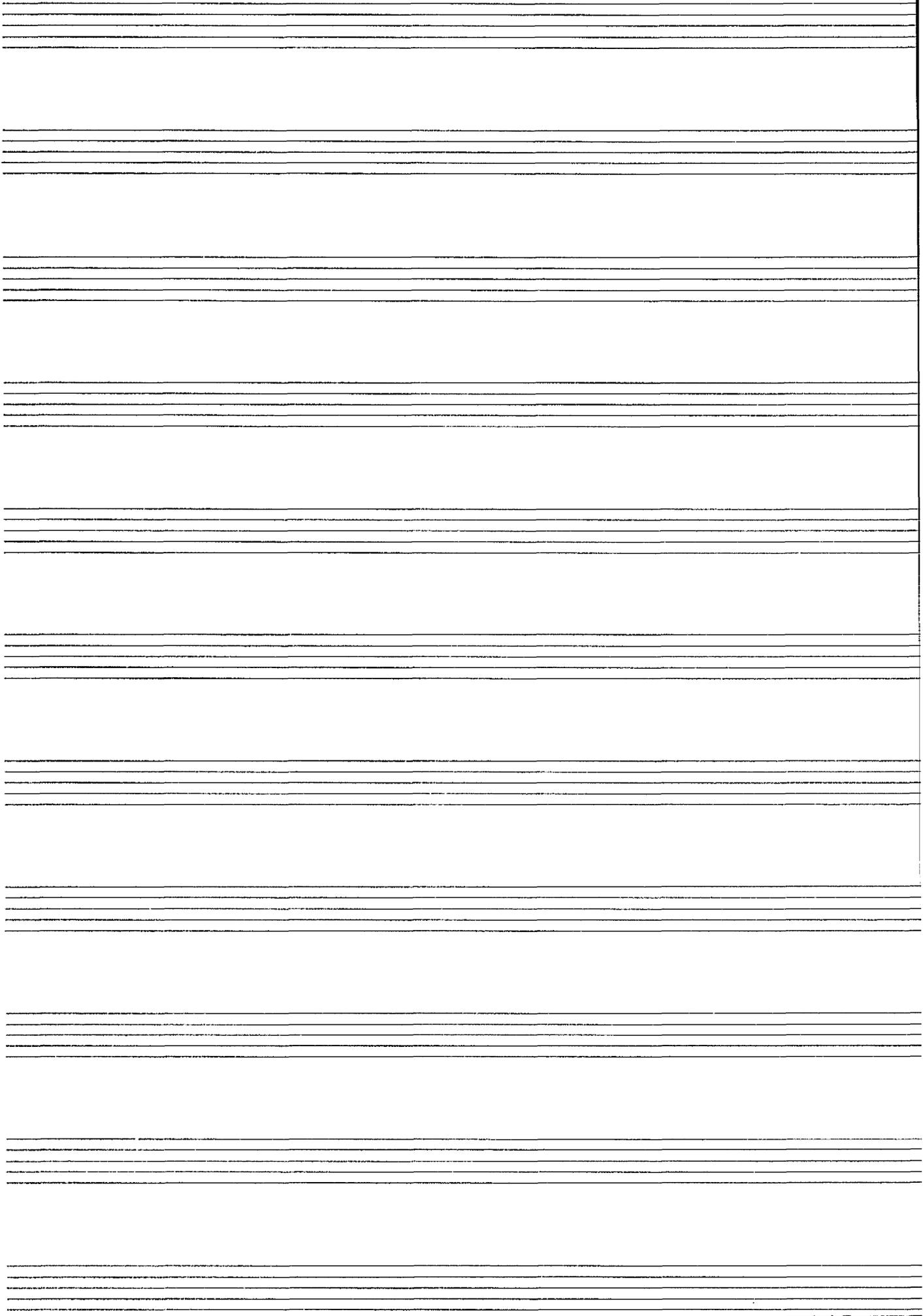
Pañcamī



Dhaivatī



§ This is the reading from the Ghosh ed. (28:132-4) and the Gaekwad ed. (28:124-6). The Kāvyaṃālā ed. has tonic Pa as one of the weak notes (28:143-4).



Niṣādī

:121-2

Musical staff for Niṣādī, first line. Treble clef, notes with stems and flags, and 'A' markings below. The staff contains three measures separated by double bar lines.

p.71

Musical staff for Niṣādī, second line. Treble clef, notes with stems and flags, and 'A' markings below. The staff contains three measures separated by double bar lines.

:77

Musical staff for Niṣādī, third line. Treble clef, notes with stems and flags, and 'A' markings below. The staff contains three measures separated by double bar lines.

Ṣaḍjakaiśikī

:123-4

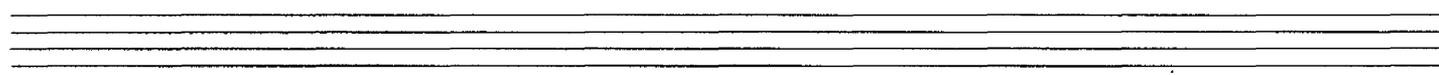
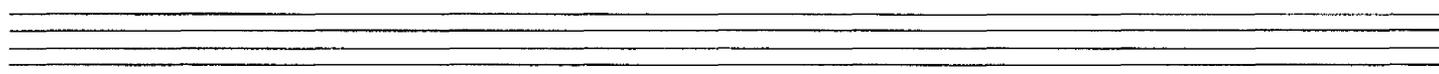
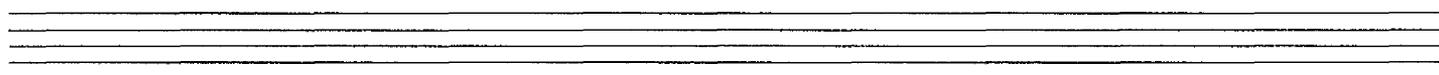
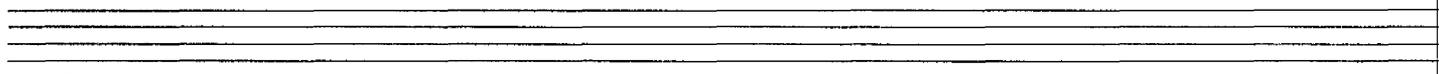
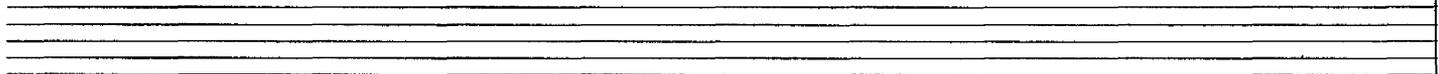
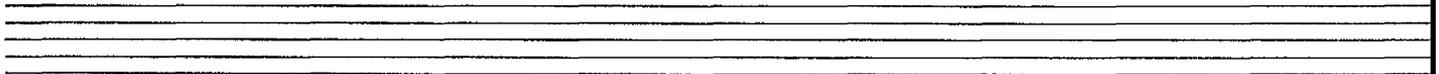
Musical staff for Ṣaḍjakaiśikī, first line. Treble clef, notes with stems and flags, and 'A' markings below. The staff contains three measures separated by double bar lines.

p.72

Musical staff for Ṣaḍjakaiśikī, second line. Treble clef, notes with stems and flags, and 'A' markings below. The staff contains three measures separated by double bar lines.

:79

Musical staff for Ṣaḍjakaiśikī, third line. Treble clef, notes with stems and flags, and 'A' markings below. The staff contains three measures separated by double bar lines.



Ṣaḍjodīcyavā

:68; 126-7

A (A) A A

A (A) A A

:245; p.72

A (A) A A

:81-2

Ṣaḍjamadhyamā

:70; 128-9

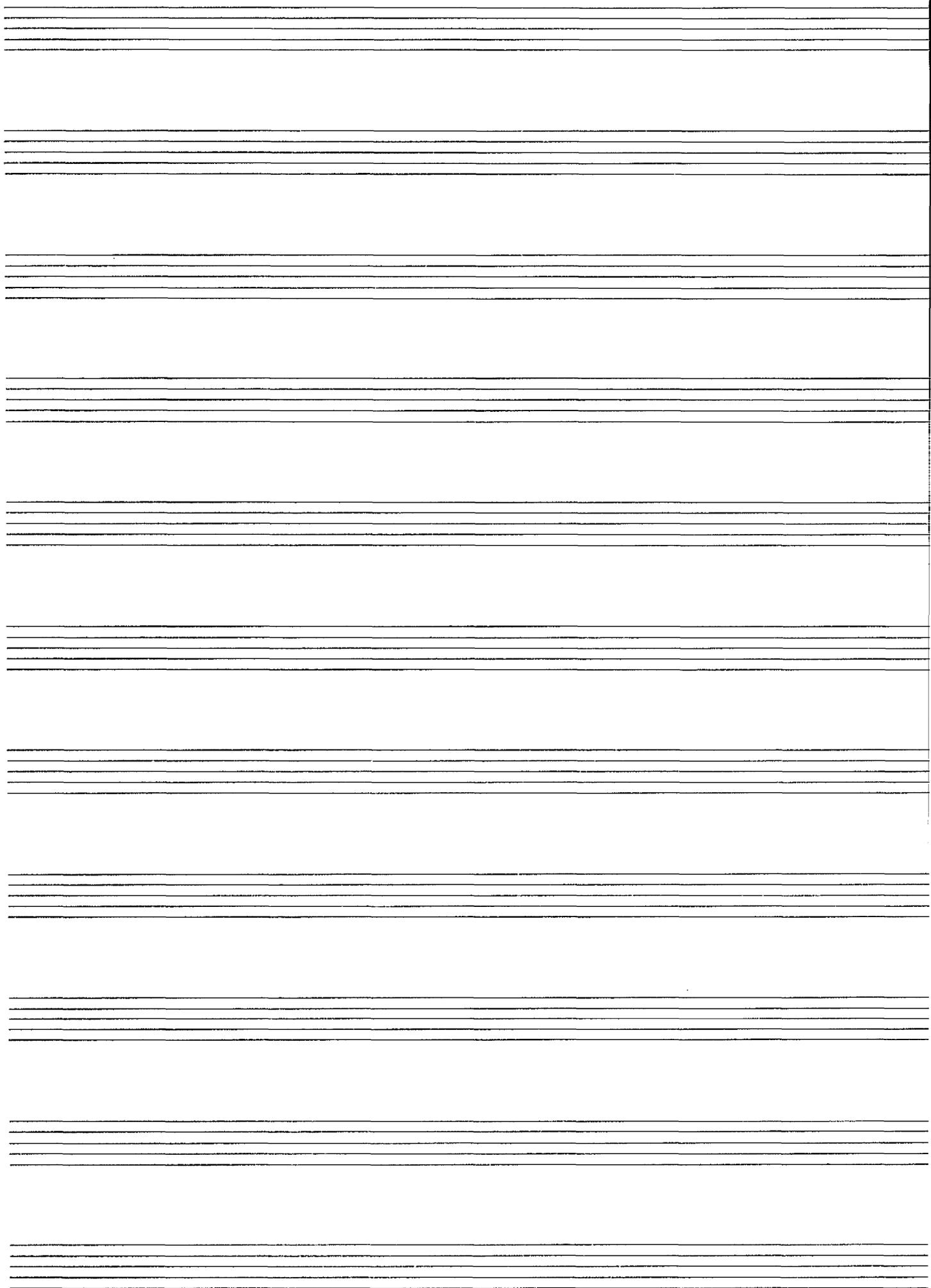
A A (A) A A A (A)

A A (A) A A A (A)

:247; p.72

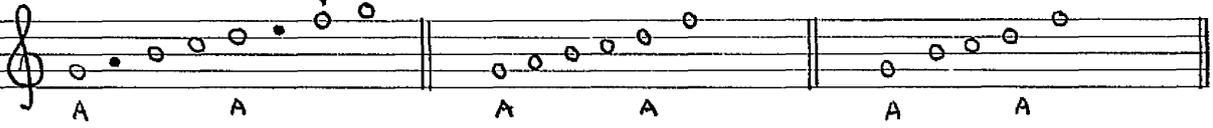
A A (A) A A A (A)

:85-6

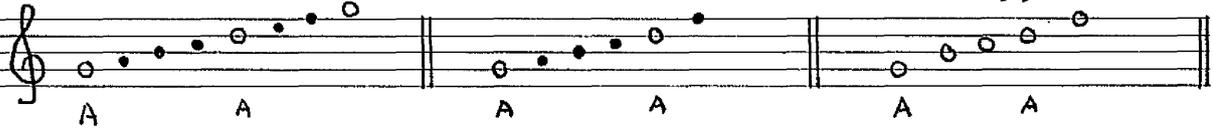


Gāndhārodīcyavā

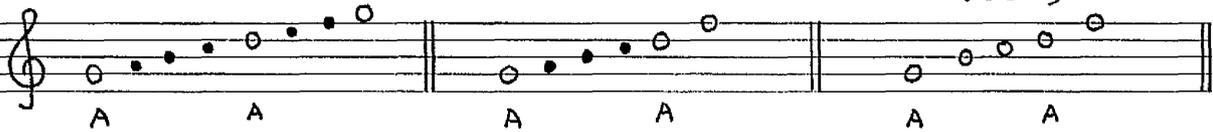
:137-8



:255-6

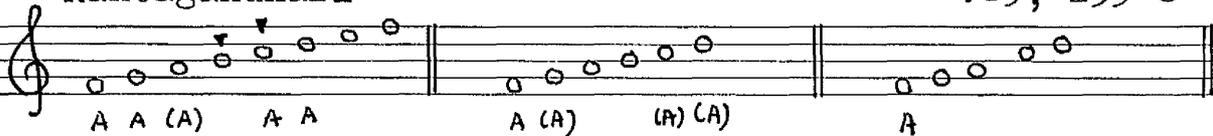


:88-9

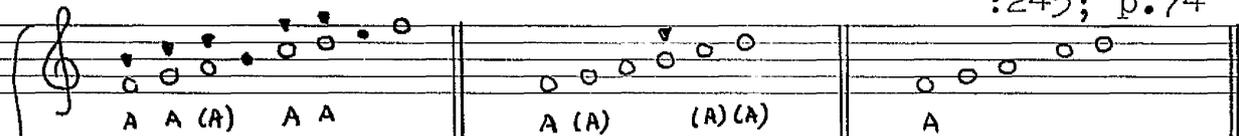


Raktagāndhārī

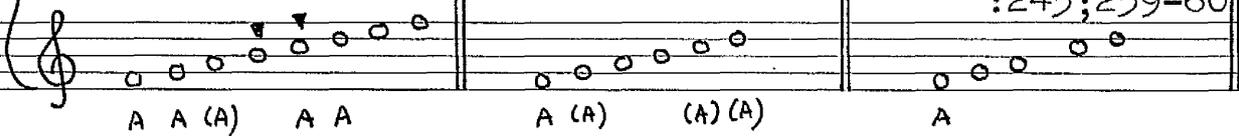
:69; 135-6



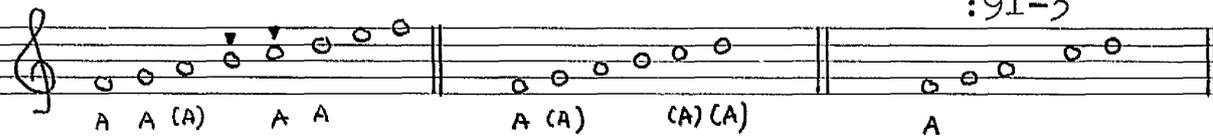
:245; p.74



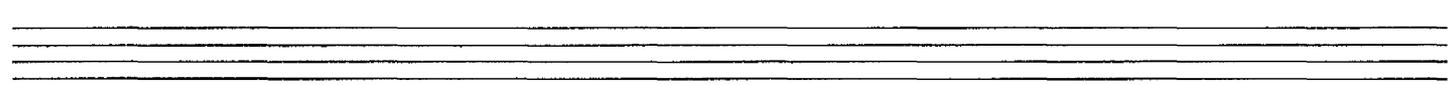
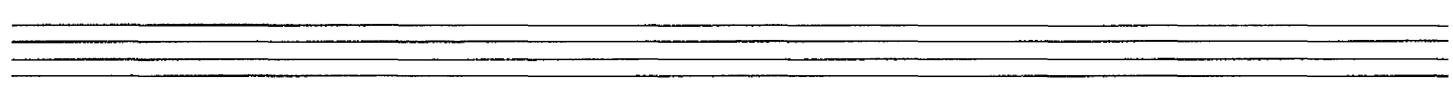
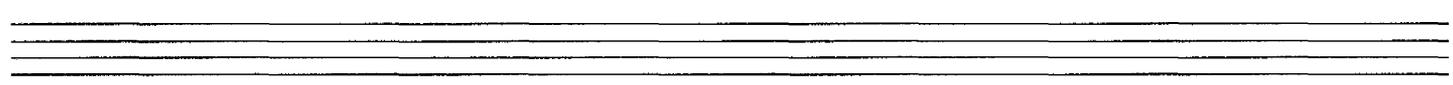
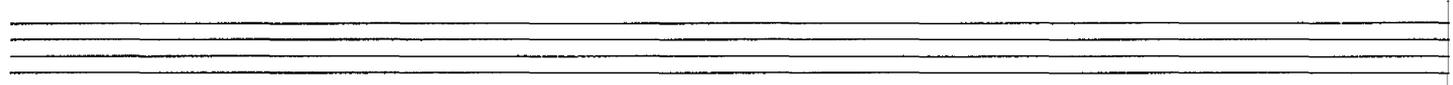
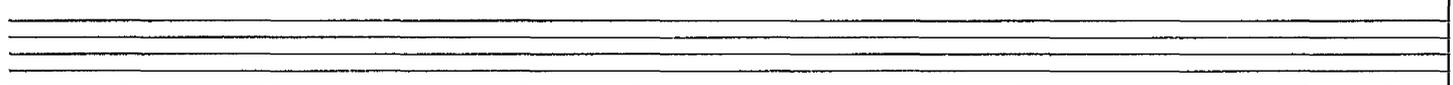
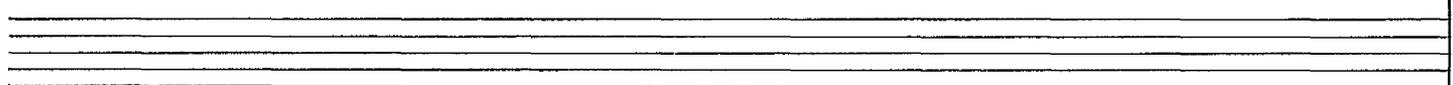
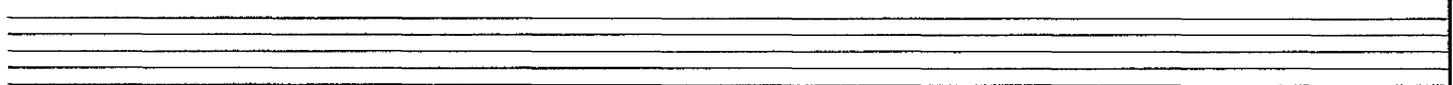
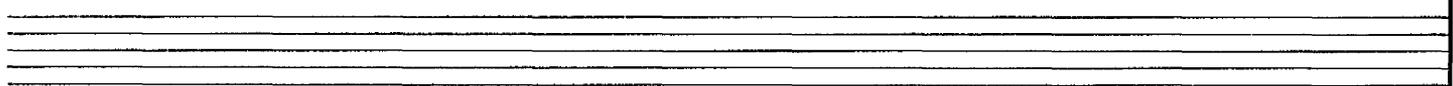
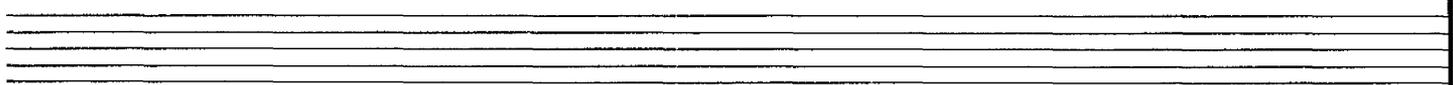
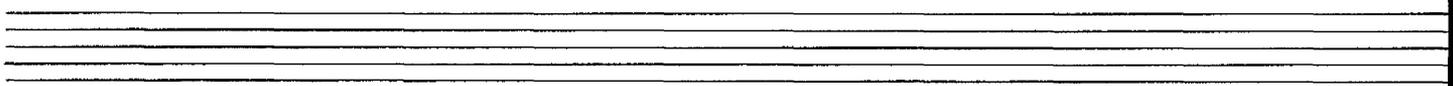
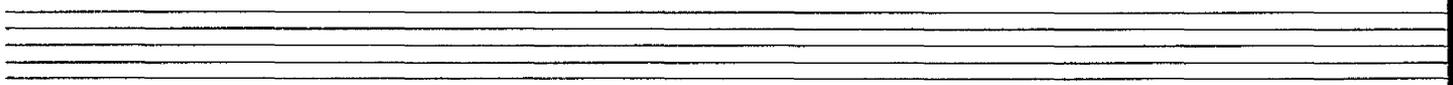
:245; 259-60



:91-3



§ Note the differences in Raktagāndhārī's two descriptions in the BD.



Kaiśikī

:67;70;156-9

A A (A) A A A A A (A) A A A A A A

:245;247;262-4

A A (A) A A A A A (A) A A A A A A

:95-7

A A (A) A A A A A (A) A A A A A A

Madhyamodīcyavā

:142

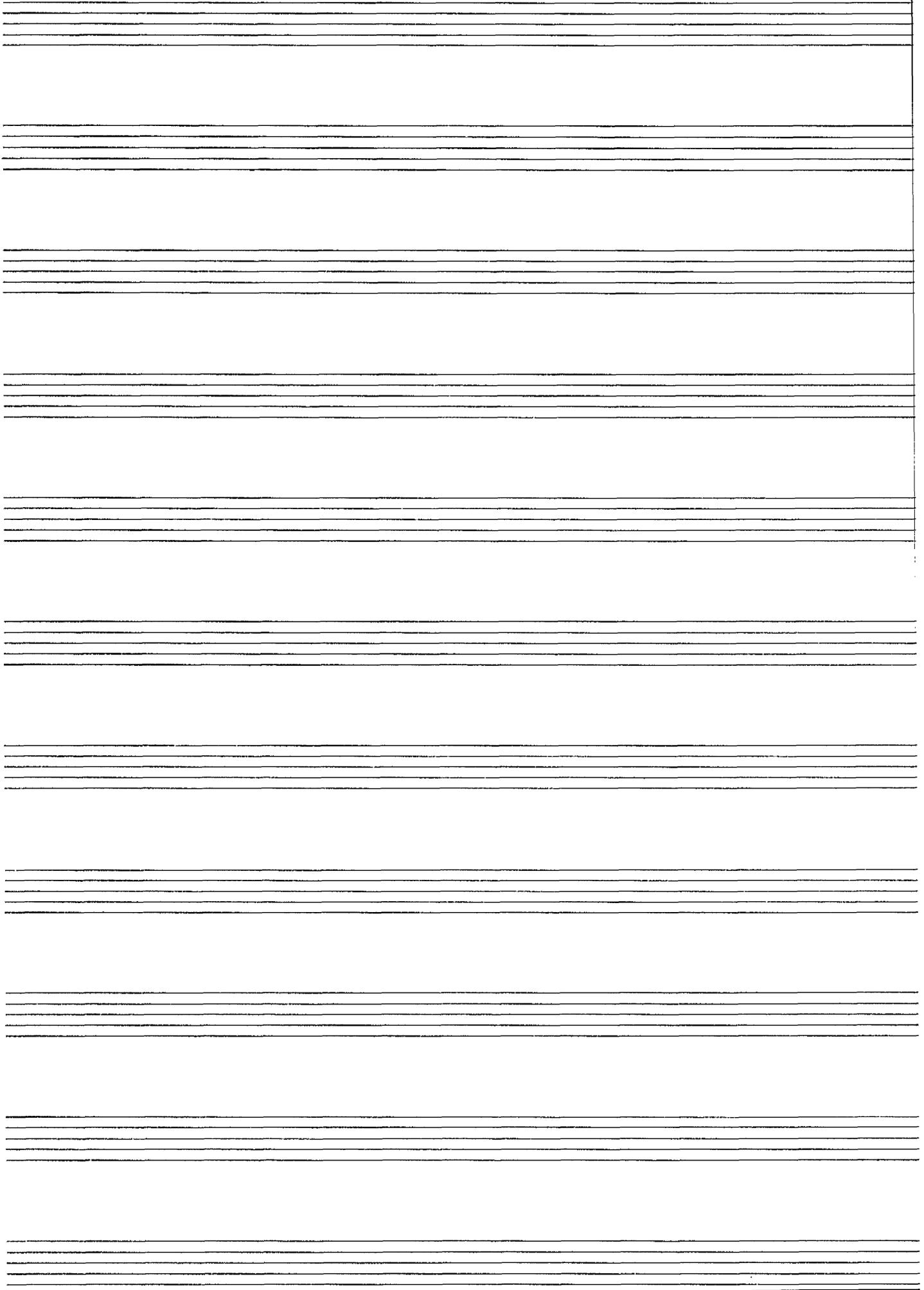
A

:266

A

:99

A



Karmāravī

:154



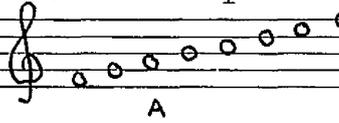
:268-9



:101-2

Gāndhārapañcamī

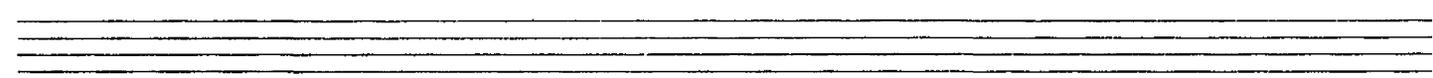
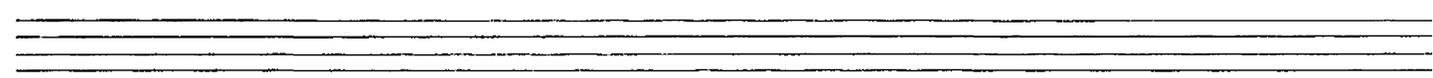
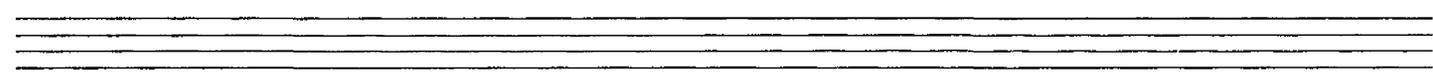
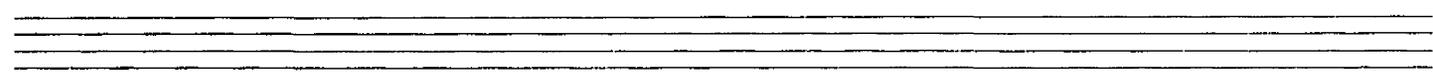
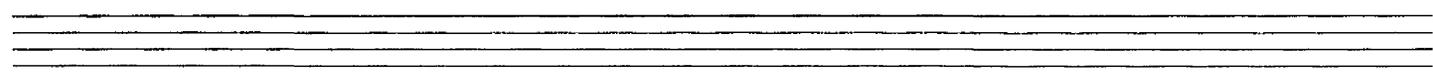
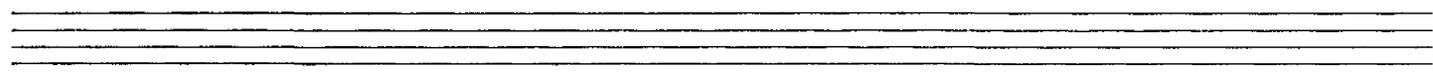
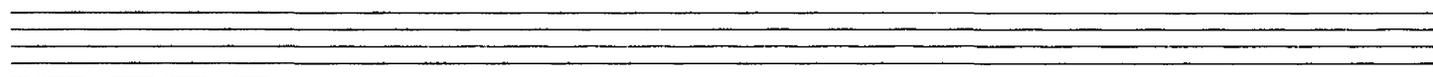
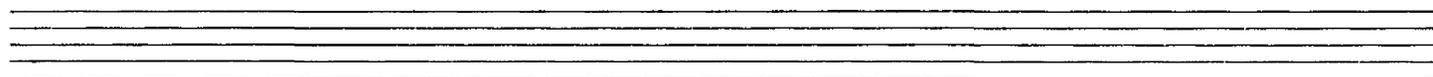
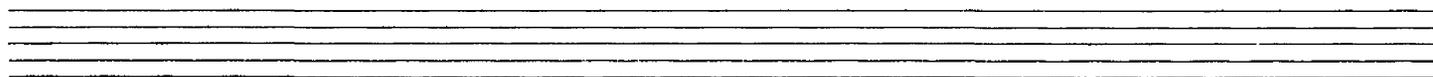
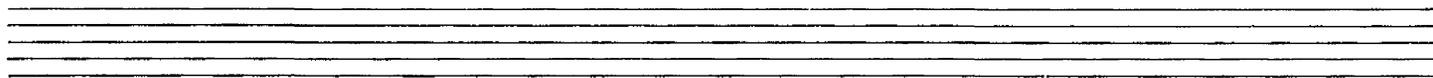
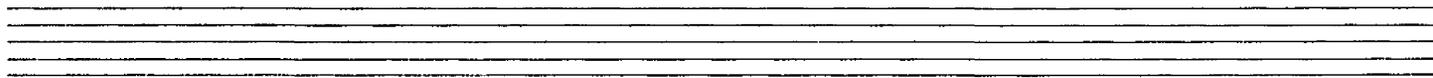
:146



:270

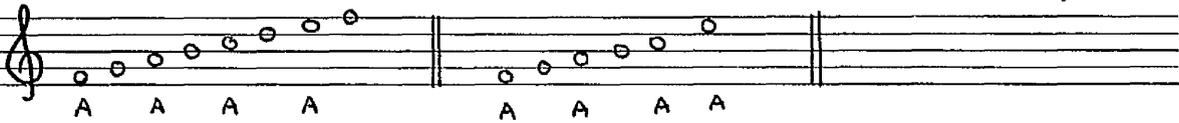


:103

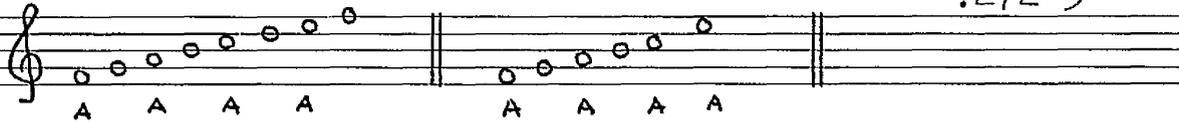


Andhrī

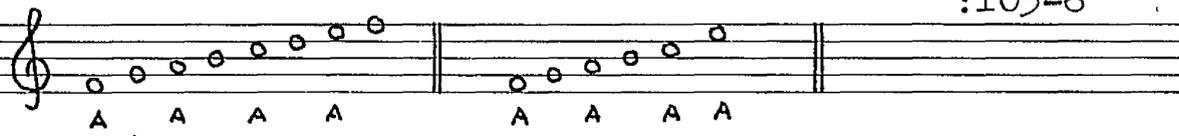
:148-50



:272-3



:105-6

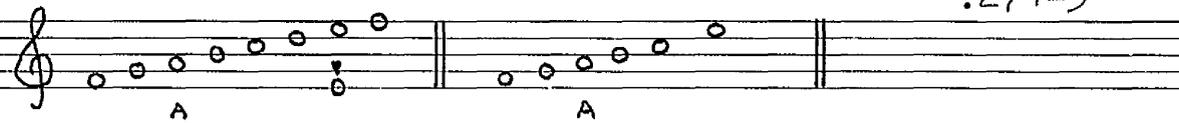


Nandayantī

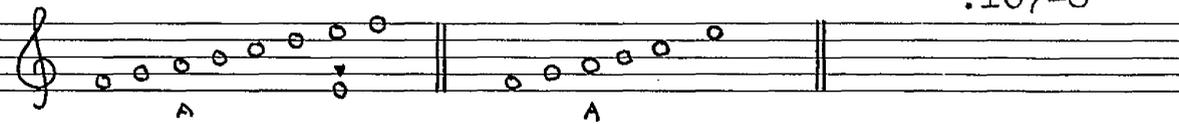
:151-2

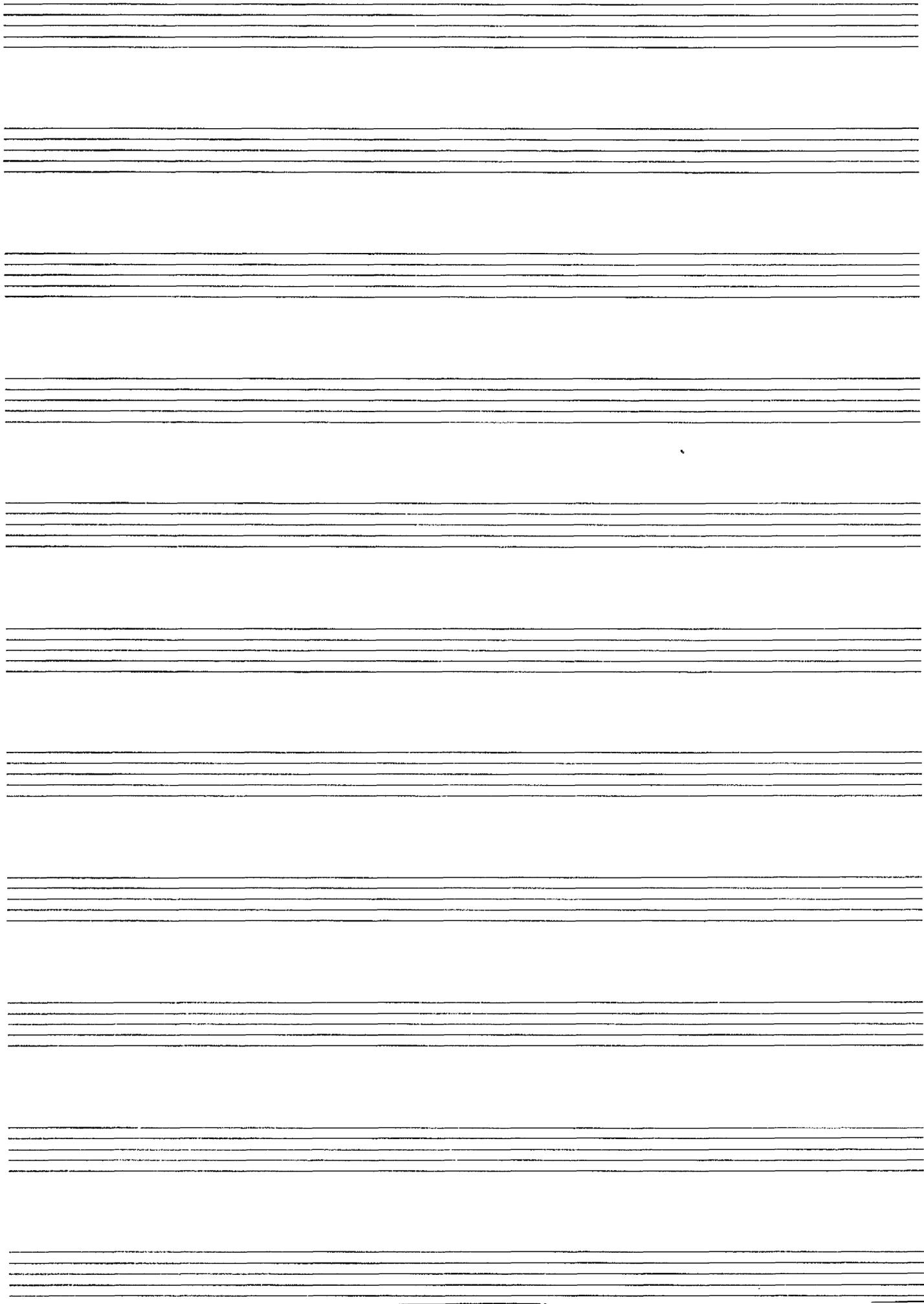


:274-5



:107-8





The weak or alpa notes bring to mind the pièn-tones of Chinese music. The pièn-tone theory suggests that "in every mode two tones were subordinate in nature to the other five."¹ In this analogy the alpa notes would be subordinate to the bahu or strong notes. It is also said that the pièn-tone is represented by the quilisma in Gregorian melodies² or the Kylisma in the Byzantine chant.³ As an ornamental note the quilisma serves to fill the gaps that occur in a pentatonic mode. Further, the pièn-tone reduces the possibility of a tritone in the tritus tonality where the gap can be filled by a b-flat instead of the b-natural.⁴ Now, while it is possible that, like the quilisma, the alpa notes may function as ornamental notes and while pièn-tones and alpa svaras may be called subordinate tones, any other similarity between them ends here.

¹Reese, op. cit., 160

²Ibid.

³Apel, op. cit., 114.

⁴Reese, loc. cit.

As the table of scales above shows, it is usually the weak or alpa note that is dropped from the full scale to form a smaller scale; at times this dropping of the alpa note does away with the tritone. The quilisma, on the other hand, presupposes, as do the pièn-tones, a pentatonic structure. The ultimate outcome of gap filling would be the formation of either a hexatonic or a heptatonic structure. In the jāti system, however, it is the presence of alpatva in a sampūrṇa modal scale that brings about the gapped ṣāḍava and auḍava forms. We might conclude then that while the pièn-tones or the quilisma and the alpa svaras resemble each other in certain respects, they operate from diametrically opposite premises.

APANYĀSA, SAMNYĀSA AND VINYĀSA

The jāti has four types of end-notes according to their location in the musical composition. These are the Nyāsa, Apanyāsa, Saṃnyāsa and Vinyāsa. The Nyāsa has been discussed in connection with Graha and Aṃśa for reasons stated in that chapter. References to the nyāsa will, however, be made in this chapter.

While these pausal types may be distinguished by their location in a piece, it might be useful to touch upon the connotation of the prefixes, Apa-, Sam-, and Vi- to the word, nyāsa. According to Monier-Williams, apa- "as a prefix to nouns and verbs expresses away, off, back . . ."; sam-, "together with, along with"; and vi- expresses division, distinction, or opposition. The ensuing discussion will show that where these prefixes are concerned, the terminology for end-notes has been aptly chosen.

The NS includes only the Apanyāsa in the lakṣaṇa¹ category and defines it. The text, however, mentions Saṃnyāsa and Vinyāsa as being governed by the aṃśa but

¹NS, 28:74.

in the chapter which mentions the lakṣaṇa, no further reference is made to them.¹ Instead, these ancillary end-types are mentioned in the chapter dealing with time-measure,² thus implying that the Saṃnyāsa and Vinyāsa are elements bound to measured pieces rather than lakṣaṇa typical of the jāti as a whole.

By way of inference, Apanyāsa's definition says where in a piece the Apanyāsa may not be found:

"The Apanyāsa, which numbers fifty-six in all, should only be within the song-piece."³

Thus, the apanyāsa can be any one of the cadence end-notes except the final one, nyāsa. But we shall find that the apanyāsa svāra may coincide not only with the nyāsa but also with the saṃnyāsa and the vinyāsa. At this stage we may consider all end-notes in a piece its apanyāsas, except the final one, until we can pinpoint the whereabouts of the saṃnyāsa and the vinyāsa. In a sense the prefix, apa-, which expresses 'away or off' might also be taken to mean, 'other than'.

¹Ibid.:78

²NS,31

³ṣaṭpañcāśatsaṃkhyo 'ṅgamadhye 'panyāsa eva syāt // 81

Thus, the note that ends a cadence other than the final is an apanyāsa, unless further qualified by location or function. All inner cadences then may be said to end on an apanyāsa svāra. However, it is not unlikely that the cadential ending may turn out to be an unprescribed apanyāsa svāra.

In the following correlation table, it will be seen that many of the jāti's aṃśas are also its apanyāsas. Some jātis assign non-aṃśa svāras as additional apanyāsas. The apanyāsa is indicated by two lines underneath it when the svāra is also an aṃśa; by one line and separated by a semicolon when the svāra is a non-aṃśa.

The fifty-six apanyāsas are distributed among the eighteen jātis as follows:¹

¹Ibid.:112-157.

<u>Jāti</u>	<u>Aṃśa and Apanyāsa</u>	<u>Nyāsa</u>
Ṣāḍjī	Sa <u>Ga</u> Ma <u>Pa</u> Dha	Sa
Ārṣabhī	<u>Ri</u> <u>Dha</u> <u>Ni</u>	Ri
Gāndhārī	<u>Sa</u> Ga Ma <u>Pa</u> Ni	Ga
Madhyamā	<u>Sa</u> <u>Ri</u> <u>Ma</u> <u>Pa</u> <u>Dha</u>	Ma
Pañcamī	<u>Ri</u> <u>Pa</u> ; <u>Ni</u>	Pa
Dhāivatī	<u>Ri</u> <u>Dha</u> ; <u>Ma</u>	Dha
Niṣādī	<u>Ri</u> <u>Ga</u> <u>Ni</u>	Ni
Ṣaḍjakaiśikī	<u>Sa</u> Ga <u>Pa</u> ; <u>Ni</u>	Ga
Ṣaḍjodīcyavā	<u>Sa</u> Ma <u>Dha</u> Ni	Ma
Ṣaḍjamadhyamā	<u>Sa</u> <u>Ri</u> <u>Ga</u> <u>Ma</u> <u>Pa</u> <u>Dha</u> <u>Ni</u>	Sa Ma
Gāndhārodīcyavā	<u>Sa</u> Ma; <u>Dha</u>	Ma
Raktagāndhārī	Sa Ga <u>Ma</u> Pa Ni	Ga
Kaiśikī	<u>Sa</u> <u>Ga</u> <u>Ma</u> <u>Pa</u> <u>Dha</u> <u>Ni</u>	Ga Ni Pa
Madhyamodīcyavā	Pa; <u>Sa</u> <u>Dha</u>	Ma
Karmāravī	<u>Ri</u> <u>Pa</u> <u>Dha</u> <u>Ni</u>	Pa
Gāndhārapañcamī	<u>Pa</u> ; <u>Ri</u>	Ga
Āndhrī	<u>Ri</u> <u>Ga</u> <u>Pa</u> <u>Ni</u>	Ga
Nandayantī	<u>Pa</u> ; <u>Ma</u>	Ga

That the apanyāsa svaras are chosen from among the aṃśas is understandable since it follows that a pause in a song-piece should occur on a strong note. Eleven, that is, more than half of the jātis employ their full quota of aṃśas as apanyāsas. Nine jātis assign other than their final note as apanyāsa. The apanyāsas when not in unison with nyāsa are usually a third, a fourth or a fifth away. Exceptions to this, aside from the multi-aṃśa-ed jātis, are Raktagāndhārī whose cadence end-note of Ma assumes a supertonic cadential position in relation to its nyāsa, Ga (one could think of the imperfect cadence on the sixth in Western music as being a supertonic to the dominant); Gāndhārapañcamī's second apanyāsa of Ri which would act as a tonal leading note suspension to its nyāsa of Ga; and Nandayantī's second apanyāsa, Ma, a powerful note of suspension since it stands between the jāti's principal note of Pa and its final, Ga. Non-aṃśa apanyāsas are added to jātis that have less than four aṃśas, the non-aṃśa apanyāsa being a third or a fourth from the nyāsa. Although we cannot say when the drone came into ubiquitous existence, this harmonic or intervallic relationship between the inner pauses and the final should perhaps be considered.

The apanyāsa table also reveals how Raktagāndhārī differs from its parent, Gāndhārī. The two have up to now been sharing the same lakṣaṇa. Gāndhārī pauses on Sa and Pa, Raktagāndhārī on Ma. From their pause they shall be recognized indeed. Having pointed this out, however, we find three jātis with a common nyāsa, Ma, whose pauses are, similarly, Sa and Dha. These are the "udīcyava" jātis, Ṣaḍjodīcyavā, Gāndhārodīcyavā and Madhyamodīcyavā. Although the three have lakṣaṇa differences which tell them apart, it might be interesting to compare their cadences here.

Ṣaḍjodīcyavā

SR, I, 7, p. 229-30

na-vi-no - - - dam ta-va ru-ci-ram - -
(final cadence)

Gāndhārodīcyavā

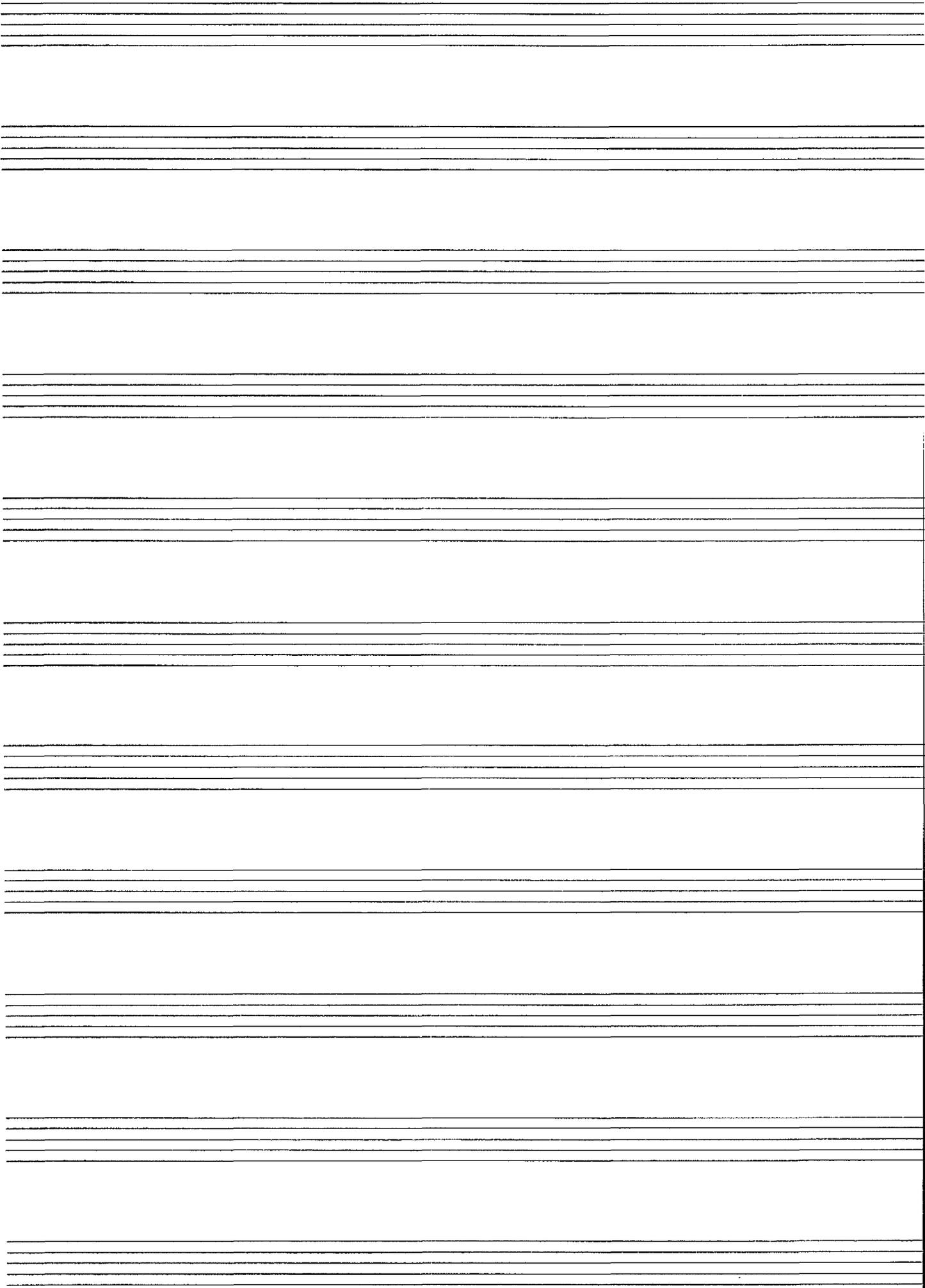
Ibid., p. 237-8

-mya - - - - - tā-su-pā - - dam - -
ka-ma-la-ni - bham - tā - - da - nam - -
-mam - - - - -
(final cadence)

Madhyamodīcyavā

Ibid., p. 249-50

ku-mu-da-ni - bham - - - tam-a-je - yam - -
a-ti hā - sam ca-mū ma-tha - nam - - -
ha-ta ca-ra-nam - -
(final cadence)



It is the BD that provides the clue to the fact that apanyāsas are end-notes of cadences. Mataṅga states: "Wherever there is a gīta ending, there an apanyāsa is found. All cadences (vidārī) are within [the song-piece]. There are two kinds of cadences: the gīta cadence and the pada (textual) cadence. What is meant by the word, vidārī? By vidārī is meant a fragment; thus, a gīta hair-tip (a tapering off?) is [but] a fragment of the gīta."¹

The NS mentions the vidārī in connection with the padavarṇas (note-patterns accompanied with text) of the vastu, a vocal type of composition.

"Where the padavarṇa comes to a close, that is known as vidārī."²

It might be argued that this concept of the vidārī includes not only the idea of a falling-off in a melody passage but also the whole of the section of varṇas to which a particular vidārī, as cadence, belongs. However,

¹yatra gītam iti samāptir iti sambhāvyate so 'panyāsaḥ/ sarvavidārī madhyamo bhavati/ sā ca vidārī dvividhā - gītavidārī padavidārī ceti/ nanuḥ vidārīśabdēna kim ucyate/ pādānāṃ syād ity ādi vidāraṇā khaṇḍanam iti yāvat/ gītakeśī gītakhaṇḍam iti yāvat/ BD,p.57.

²padavarṇasamāptas tu vidārīty abhisamjñitā / (203) NS,31.
(Ghosh)

its juxtaposition to the nyāsa and apanyāsa in the śloka, "the vidārī is known to be uneven (i.e., may occur anywhere in the composition), just as the nyāsa and apanyāsa are"¹ seems to establish the meaning of vidārī as cadence sufficiently. In subsequent eras we find the concept of vidārī broadening and by the 17th century the term applies to specific sections of a rāga-piece.

That a gīta cadence usually coincides with a pada cadence can be seen in the SR prastāras (measured pieces)[§] illustrating the jātis.² There are also instances when a break in the music interrupts the flow of the verse. The NS has a name for this type of vidārī, 'guruvarṇānukāriṇī', literally, imitating a long vowel.³ The

¹vidārī viṣamā jēyā nyāsāpanyāsa eva ca / (216)

NS, 31 (Ghosh)

This also proves that the nyāsa svāra may end inner cadences as well as the final cadence.

²SR, I, 7, pp. 199-267.

³vidārayati yasmāddhi padamādhyaśvarā yadā /
tadā vidārī vijñeyā guruvarṇānukāriṇī // 204

NS, 31 (Ghosh)

"When the svāra brings about a break in the middle of a pada, then the vidārī is known as guruvarṇānukāriṇī."

[§]In the SR but not in later examples.

prastāras also show that at times a short cadenza follows the end of a verse (not quite comparable to the melisma of a jubilus). Examples of these types of cadences are given below later.

The reason for the two types of vidārī in the BD presents itself when Mataṅga defines Saṃnyāsa and Vinyāsa.¹

Saṃnyāsa is so-called, he states, if it occurs at the end of the first vidārī and is not dissonant to the aṃśa.²

¹The NS states that the saṃnyāsa and vinyāsa are found in that order (i.e., the vinyāsa comes after the saṃnyāsa) within the song-piece but the vinyāsa has been known [to appear] in the middle vidārī (31:218 Ghosh).

References to the vidārī, saṃnyāsa and vinyāsa in other NS editions are found as footnote insertions, as follows:

Kāvya ed., 31:176 fn.4 and 183 fn.8;
Gaekwad ed., 31:192 fn.2 and 200 fn.2.

²saṃnyāsaḥ so 'bhidhīyate/ aṃśasya vivādī yathā na bhavati prathamavidāryānter yādi[sic] pravṛtto yadā bhavati, tadāsau saṃnyāsa ity arthaḥ/ BD,p.57.

Siṃhabhūpāla's quotation of Mataṅga's definition of saṃnyāsa is clearer:

"aṃśasya vivādī yo na bhavati sa prathamavidāryām ante yadi prayukto bhavati tadā saṃnyāsa ity ucyate"

It would appear then that the first cadence and the final close of a gīta carry definite nomenclatures. Quite often, as the SR prastāras show, the saṃnyāsa note is a prescribed apanyāsa note. It is perhaps in this sense that the first cadence is called the saṃnyāsa since, as its prefix suggests, it shares the function of the apanyāsa albeit confined to the first cadence.

On the Vinyāsa Mataṅga says:

"[When] this saṃnyāsa svāra takes place at the end of a pada, then it is called a vinyāsa. This, likewise, is to be consonant to the aṃśa."¹

This definition raises a few questions. Is the saṃnyāsa then only a cadence of an instrumental piece of music? Is the pada end mentioned in the definition the end of a verse or an interruption in the line?

¹idānīṃ vinyāsam āha - eṣa eva tu saṃnyāsasvaraḥ padānte vinyasyate tadā vinyāsaḥ/ eta eva tad uktaṃ bhavati/ aṃśasya saṃvādī vā bhavati yasmāc caiva pravartate/

BD, pp. 57-8.

Siṃhabhūpāla's quotation of this definition:

"eṣa eva tu saṃnyāsasvarō yadā padānte vinyasyate tadā vinyāsaḥ; ata evāṃśasya saṃvādyānuvādī vā pada-vidāryante bhavatīty uktam"

SR, ibid.

Śārṅgadeva's definition helps to clarify the matter.

"The vinyāsa which, like the saṃnyāsa, is said to be non-dissonant to the aṃśa, is situated at the point (prānte) where a breaking-off (vidārī) of a part (bhāga) of the verse-form (rūpapada) [occurs]."¹

Here it makes it clear that the break in the verse is a non-mensural break and that the vinyāsa is not a qualified saṃnyāsa. The implications of Śārṅgadeva's definition are that the vinyāsa may be found at any cadence point in the gīta, even at the first cadence if this cadence cuts the verse line, and that the saṃnyāsa is not necessarily an instrumental cadence so long as verse and music come to a close at the first vidārī. Provided, therefore, that verse ends and music cadences coincide, the cadential structure of a composition would be something like this:

Saṃnyāsa	_____	Apanyāsas	_____	Nyāsa
(First cadence)		(All inner cadences)		(Final cadence)

¹saṃnyāso 'ṃśāvivādy eva vinyāsaḥ sa tu kathyate /
yo vidārībhāgarūpapadaprānte 'vatiṣṭhate // 48

A study of the jāti prastāras in the SR show that the jāti's inner cadences end either on a prescribed apanyāsa svāra, on an aṃśa or one of the aṃśas if the jāti has several, or on the nyāsa svāra. (We shall recall that three jātis have bases, i.e., nyāsas, that are neither aṃśas nor apanyāsas.) The saṃnyāsa, then, is only another name for the apanyāsa of the first cadence while the vinyāsa indicates there is a break in the verse, although this, too, ends on either an aṃśa or on an apanyāsa svāra. The nyāsa note, itself an aṃśa in most jātis, is also used quite often to end inner cadences. All this proves that the saṃnyāsa and vinyāsa are merely nominal types of cadence endings depending on their location in the composition. In the final analysis, the pauses fall on aṃśas or on apanyāsas when these are not aṃśas as well.

We have chosen the SR prastāra of Raktagāndhārī to illustrate the apanyāsa, appearing here as a saṃnyāsa, a short cadenza ending on one of the jāti's aṃśas, a vinyāsa on an aṃśa svāra, and, finally, the jāti's nyāsa.

Raktagāndhārī (Prastāra)

SR, I, 7, pp. 242-3

tam bā-la-ra-ja-ni ka-ra-ti-la-ka bhū-ṣa - ṇa vi-bhu -

tim
(saṁnyāsa - Ma) (cadenza ending on Pa)

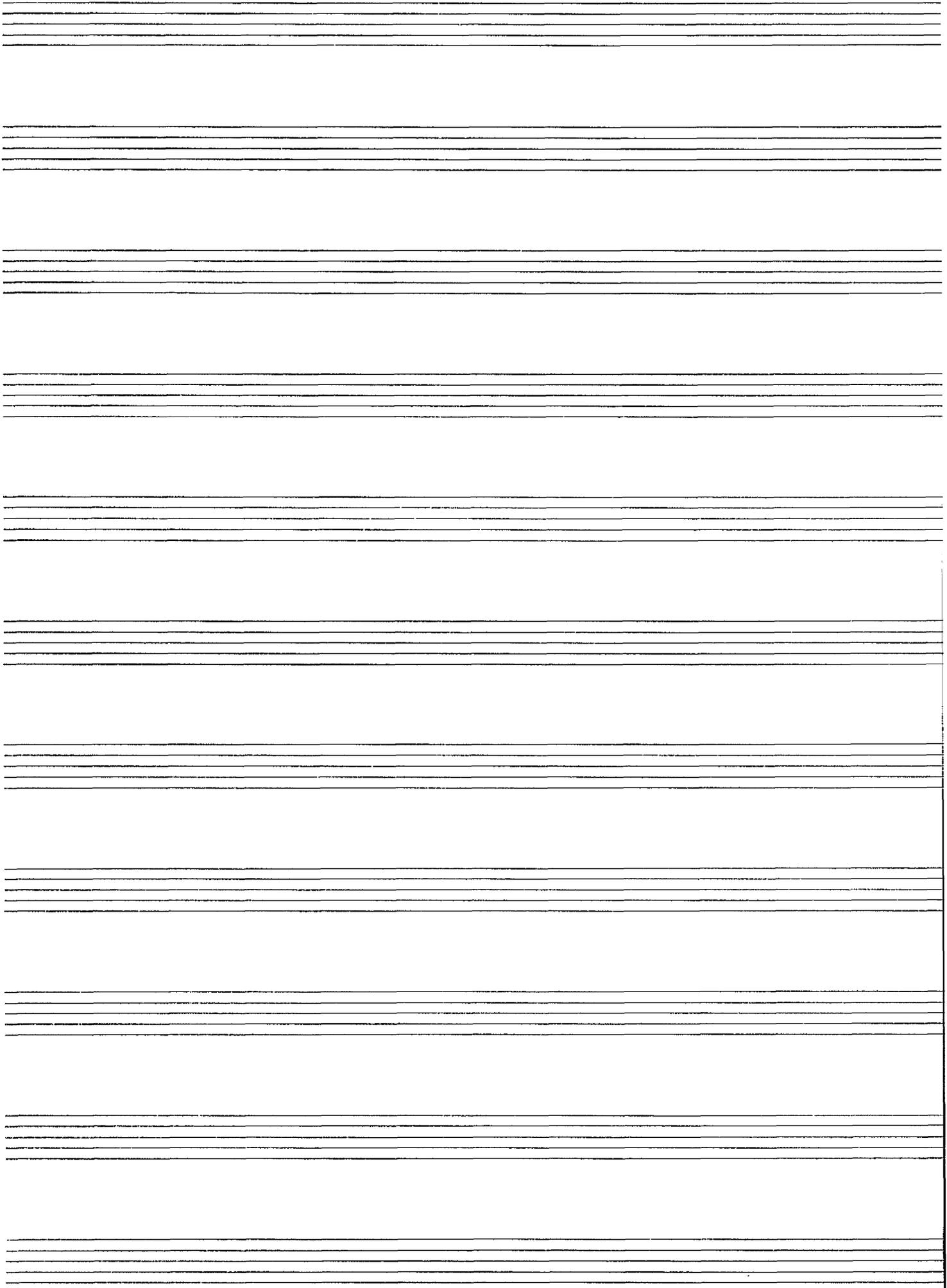
pra-ṇa-mā-mi gau-ri vada-nā ra-vin - da
(vinyāsa - Pa)

pri-ti-ka-ram (extended nyāsa cadence to nyāsa, Ga)

Aṁśas: Sa, Ga, Mā, Pa, Ni

Apanyāsa: Ma

Nyāsa: Ga



The SR prastāras also show that the vinyāsa is more apt to be found in the song's opening bars rather than farther in the piece. Five jātis in the prastāra set begin in this manner¹ and as such, the vinyāsa cadence, notwithstanding the text, might be said to act as an introduction (reminiscent of Haydn's symphonies, albeit shorter) to the piece.

Three of the five jātis are given below, showing the opening bars of their prastāra and on up to the first apanyāsa pause.

¹Gāndhārī, Ṣaḍjakaiśikī, Gāndhārodīcyavā, Gāndhārapañcamī, and Nandayantī.

- Prastāra opening bars with vinyāsa pause -

Gāndhārodīcyavā

SR, I, 7, p. 237

sau - mya gau - ri mu-khāmbu-
ru-ha di- vya ti-la-ka pa-ri cum - bi-tār - ci - ta su-pa - dam

Gāndhārapañcamī

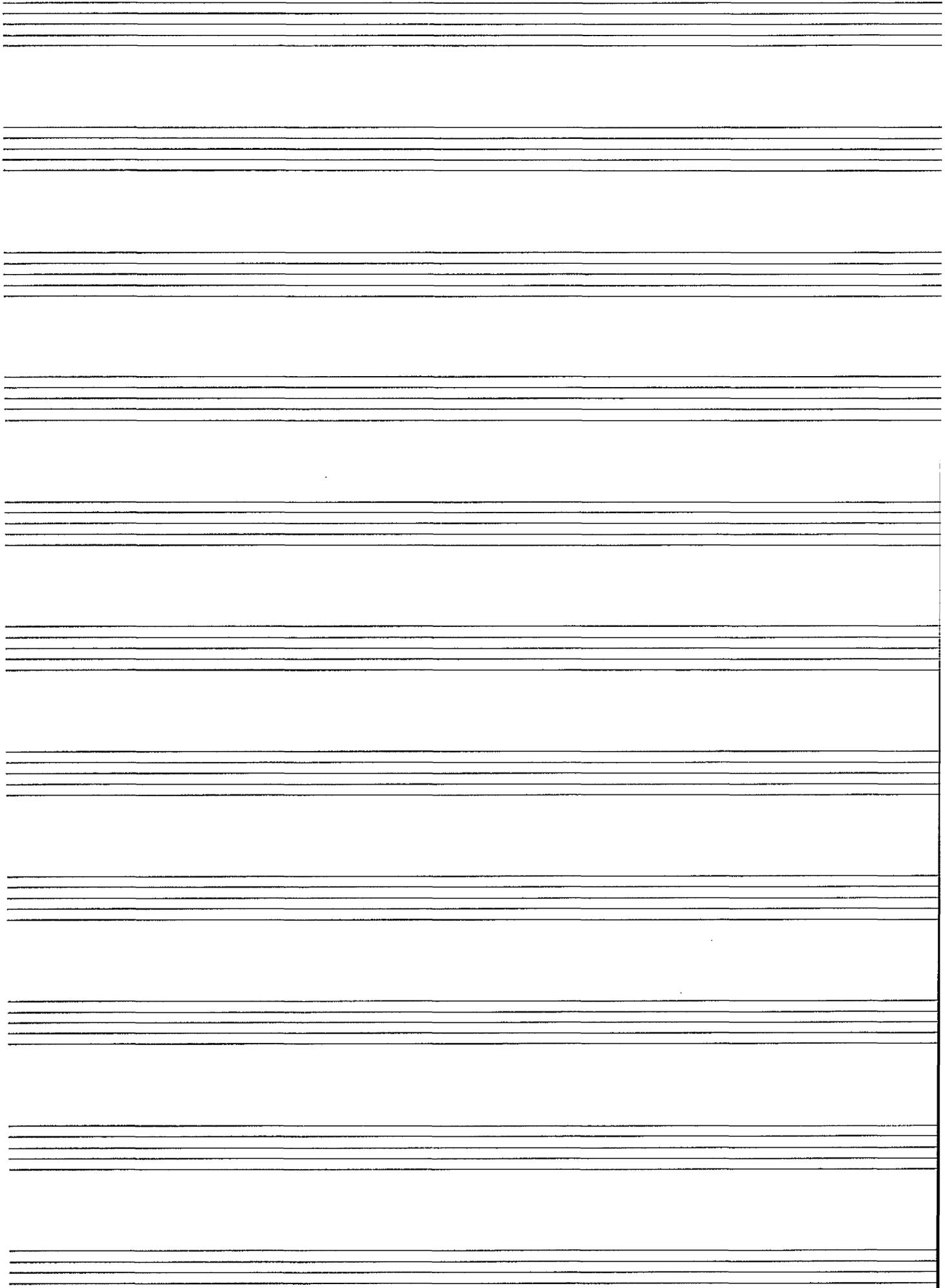
Ibid., p. 257

kān - tam vā mai-ka de - śa
preñ-kho la-mā - na ka-ma-la ni - bham

Nandayanti

Ibid., p. 264-5

sau - myam
ve - dai-ga ve-da ka-ra kamala yo-nim tamora jo vi-var -
ji - tam ha-ram



Finally, it might be interesting to compare the final cadences of jāti prastāras in the Ga mode, the mode which has the biggest representation in the jāti system.

Please see following page.

Note how five of the six derivative jātis end in almost a similar manner as the parent, Gāndhārī. The lone exception, Kaiśikī, is, we may recall, one of two jātis that have two finals (authentic-plagal). In fact, Kaiśikī has a third final, Pa, when Dha and Ni are the jāti's principal notes.

- Final Cadence of Ga Modes -

Gāndhārī

SR, I, 7, p. 208



Ṣaḍjakaiśikī

Ibid., p. 226



Raktaḡāndhārī

Ibid., p. 243



Gāndhārapañcamī

Ibid., p. 258



Kaiśikī

Ibid., p. 246



Āndhrī

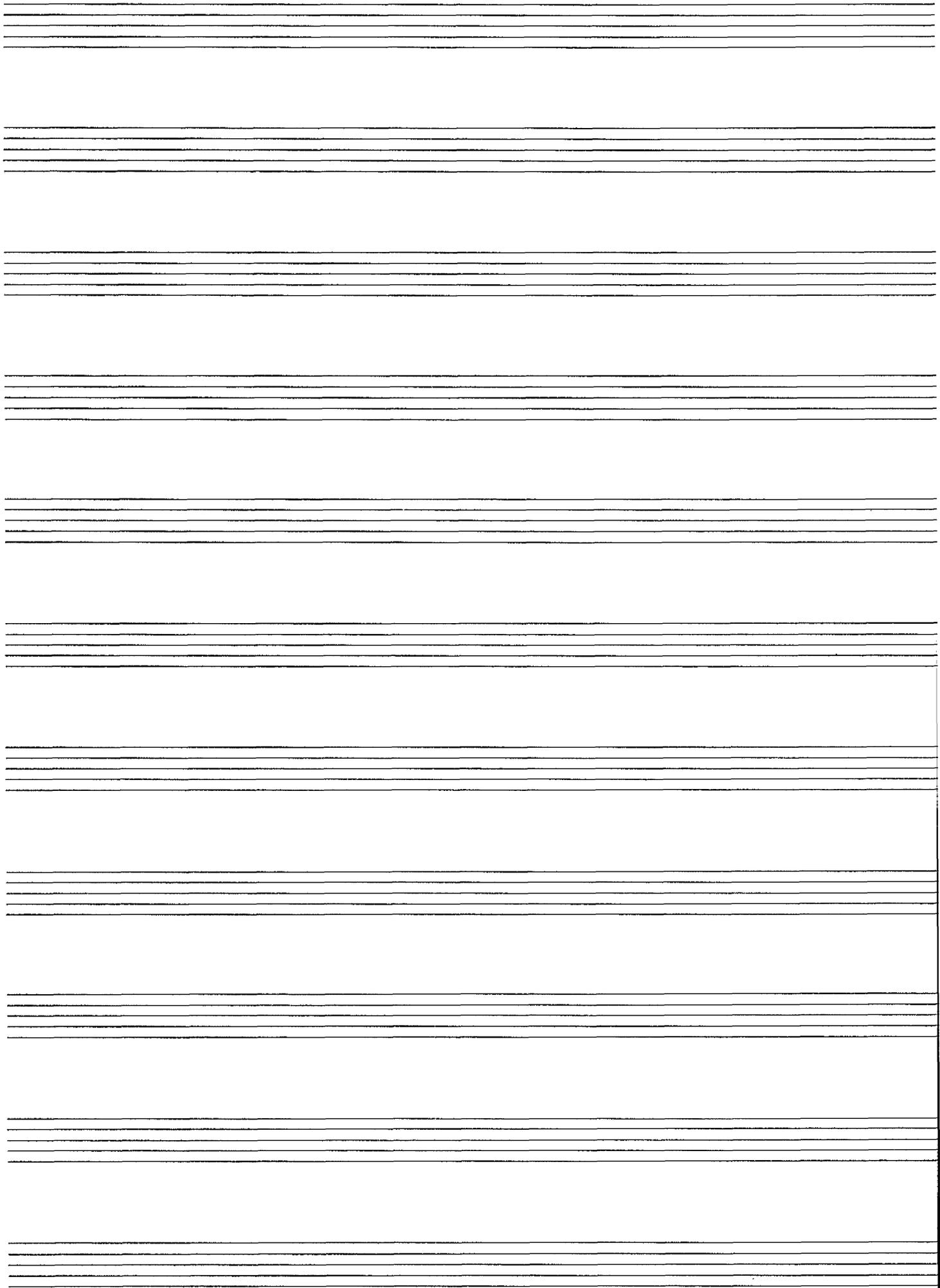
Ibid., p. 262



Nandayantī

Ibid., p. 267





Śārṅgadeva's Theory of Vikṛta Svaras

There is reason to believe that during the period between the BD and the SR the old modal system based on the seven mūrchanās was slowly being replaced by a system which integrated the seven svara progressions into the first of these progressions, the Sa-series. This Sa-series synthesis of the seven mūrchanās would be brought about by means of vikṛta (modified) svaras to allow for the intervallic relationships or śruti distribution inherent in the seven modes. It is quite likely that a transition involving basic theory such as this might have been due to the steady development of the stringed instrument in India, particularly, of the lute and vīṇā types.¹ Śārṅgadeva's theory of the modification of śuddha svaras into twelve vikṛta svaras seems to offer proof that an attempt toward synthesis as described above was being made in the 13th century. But the fact that Śārṅgadeva fails to apply these vikṛta svaras to his rāgas might indicate the difficulty of fitting theory to practice at a time when the heavy influence of the ancient theory of modes based on the

¹Marcel-Dubois, C. Les instruments de musique d l'Inde ancienne (Paris, 1941), 72-80; 87-93.

mūrcchanā still pervaded the musical scene.

There are twelve modified pitch positions (vikṛtāvasthā), according to the SR,¹ distributed as follows: Sa, two varieties; Ri, one variety; Ga, Ma, and Pa, two varieties each; Dha, one variety; and Ni, two varieties. Of these twelve vikṛta svaras, four come from the past, namely, the three-śruti Pa of Ma-grāma and the resulting four-śruti Dha, antara Ga and kākali Ni. By making the Ma-grāma Pa a vikṛta svara Śārṅgadeva thereby considers the Sa-grāma the fundamental grāma of his day.

Śārṅgadeva's theory in translation follows:

"Sa which is two-fold [in modification] as cyuta and acyuta, becomes modified by two śrutis when seen in the state of sādharmaṇa and in kākali Ni.

"Ri when extended to a Sa śruti in sādharmaṇa then arrives at four-śruti-ness which is its sole variant.

"Ga, as described by Niḥśaṅka,² is of two kinds, namely, the three-śruti kind in sādharmaṇa and the four-śruti kind in antara.

¹ta eva vikṛtāvasthā dvādaśa pratipāditāḥ // 39

SR, I, 3

²Another name for Śārṅgadeva.

"Ma, like Sa, is two-fold [as cyuta and acyuta] depending on antara [Ga] and on sādharmaṇa.

"Pa, which is three śrutis in Ma-grāma, is again in modification when it reaches toward a śruti of Ma, thus becoming four śrutis, its second variety.

"Dha as vikṛta is four śrutis in the Ma-grāma.

"Ni obtains two variant types: as the three-śruti kaiśika and the four-śruti kākali."¹

¹cyuto 'cyuto dvidhā ṣaḍjo dviśrutir vikṛto bhavet /
 sādharmaṇe kākalītve niṣādasya ca dr̥ṣyate // 40
 sādharmaṇe śrutiṃ ṣaḍjīm ṛṣabhaḥ saṃśrito yadā /
 catuḥśrutitvam āyāti tadaiko vikṛto bhavet // 41
 sādharmaṇe triśrutiḥ syād antaratve catuḥśrutiḥ /
 gāndhāra iti tad bhedaḥ dvau niḥśaṅkena kīrtitau // 42
 madhyamaḥ ṣaḍjavad dvedhā 'ntarasādharmaṇāśrayāt /
 pañcamo madhyamagrāme triśrutiḥ kaiśike punaḥ // 43
 madhyamasya śrutiṃ prāpya catuḥśrutir iti dvidhā /
 dhaivato madhyamagrāme vikṛtaḥ syāc catuḥśrutiḥ // 44
 kaiśike kākalītve ca niṣādas tricatuḥśrutiḥ /
 prāpnoti vikṛtau bhedaḥ dvāv iti . . . // 45

Sādhāraṇa is the key to the modification of svaras in the SR as it has been in the NS. Sādhāraṇa is the sharing of śrutis by one svāra with its neighbouring svāra as a means of modifying one or the other's original pitch position in the śruti scale. This modification is determined in terms of deviations from the original śruti level occupied by the śuddha svaras in the scale of twenty-two śrutis.

We already know that it was sādhāraṇa that led to Ga's first variant pitch, antara Ga, and to Ni's first variant pitch, kākali Ni, by sharing two śrutis each of Ma and Sa. In the SR Ga and Ni obtain their second variant pitch by sharing a śruti each from the four-śruti antara Ga and kākali Ni. As three-śruti svaras they are now known as sādhāraṇa Ga and kaiśika Ni.¹

When Sa and Ma share two of their śrutis each toward the shaping of kākali Ni and antara Ga, their original śruti quantum consequently undergoes change. In this "reduced" śruti state they are known as acyuta Sa and acyuta Ma; acyuta, meaning unmoved. Unmoved because

¹ Descriptive nomenclature is essential in Indian music as a means of distinguishing one element or concept from another.

their śruti limit remains the same.¹ When, however, they share their boundary śruti to their neighbours, Ri and Pa, they are now called cyuta Sa and cyuta Ma; cyuta, meaning moved. Moved because Sa and Ma literally move or fall back one degree in the śruti scale, thus allowing Ri and Pa to enlarge their intervallic dimension to four śrutis each. As either cyuta or acyuta, Sa and Ma are two śrutis each. These śrutis are, however, at two different levels in the scale, as the diagram below will show.

Ri and Dha are the only svaras with a single variant pitch, the remaining svaras having two each. Ri attains its vikṛta form as a result of cyuta Sa, as noted above. Dha's variant pitch is the result of Pa's three-śruti position in the Ma-grāma. As vikṛta svaras Ri and Dha carry no special names.

The SR makes the Ma-grāma Pa its first vikṛta Pa. In a sense this vikṛta Pa might also be called cyuta Pa since in the Ma-grāma Pa is moved one śruti down the scale.² By virtue of cyuta Ma, Pa regains its four-śruti

¹We shall recall that in early śruti theory the śrutis precede the svāra.

²We find the term, cyuta Pa, appearing in later texts.

dimension and, as such, is known as kaiśika Pa. This four-śruti vikṛta Pa occupies a different level as the four-śruti śuddha Pa.

Our diagram below shows the three tuning systems, Śuddha, Acyuta and Cyuta, in terms of śruti-levels. The basic or śuddha system is presented in the form of the two equal disjunct tetrachords, Sa to Ma and Pa to Sa, of the Sa-grāma.¹ Any deviation from the Sa-grāma śruti-levels of its śuddha svaras leads to a vikṛta shape as a result of sādharmaṇa of the acyuta type or sādharmaṇa of the cyuta type. For chronological reasons and more facile comparison Pa's first vikṛta, Pa₁, which, strictly speaking, is of the cyuta type, and the resulting four-śruti Dha, Dha₁, have been included in the Acyuta tuning system.

¹The first tetrachord has been extended to include Pa, for the sake of continuity.

The Śruti-level of Śuddha and Vikṛta
Svaras According to the SR

Cyuta	Sa ₂	Ri ₁	Ga ₂	Ma ₂	Pa ₂
Acyuta	Sa ₁	Ri	Ga ₁	Ma ₁	Pa ₁
Śuddha	Sa	Ri	Ga	Ma	Pa
Śrutis	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border-top: 1px solid black; width: 100%;"></div> <div style="margin-top: 5px;"> 4 7 9 13 </div> </div>				
Śuddha	Pa	Dha	Ni	Sa	
Acyuta	Pa ₁	Dha ₁	Ni ₁	Sa ₁	
Cyuta	Pa ₂	Dha ₁	Ni ₂	Sa ₂	

Assuming that four śrutis make a whole tone and two śrutis a semitone, and with C corresponding to Sa, we might notate the three tuning systems and include at a second column the semitonal possibilities of each.¹ (A dash between two notes indicates a three-śruti interval.)

Śuddha

Acyuta

Cyuta

¹We are making Sa and Pa immutable, that is, no sharpening or flattening of either, in order to relate to present-day precept.

The arrangement of tones and possible semitones of each system allows the following relation between mode and tuning system:

<u>Mode</u>	<u>Tuning System</u>	<u>Approximate Western mode</u>
Sa	Śuddha and Acyuta	D
Ri	Cyuta	E
Ga	Śuddha and Cyuta	F
Ma	Śuddha and Acyuta	G
Pa	Acyuta	A
Dha	?	B
Ni	Śuddha, Acyuta and Cyuta	C

This relation presupposes an integrated mūrccchanā system which makes Sa the tonic of all the modes. With regard to the Dha mode no transposition seems to be possible if the arrangement of tones and semitones of each tuning system is strictly observed. The modes obtainable in each tuning system are:

Śuddha - Sa, Ga, Ma and Ni

Acyuta - Sa, Ma, Pa and Ni

Cyuta - Ri, Ga and Ni

Besides acting as leading notes to the Ma and Sa tonal centers, antara Ga and kākali Ni serve to introduce a mode's two plagal versions. These plagals which when untransposed are a successive fourth above the tonic, are derived by using, first, antara Ga, and then kākali Ni, and not vice-versa. Ga and Ni appear as different degrees in the seven modes. Thus, the Pa mode will produce the Sa plagal when its sixth degree, Ga, is raised, and the Ma plagal when its third degree, Ni, is raised as well. The Dha mode which finds Ga and Ni on the fifth and second degrees respectively, will produce the Ri plagal when its fifth degree is raised, and the Pa plagal when its second degree is raised as well. In like manner the Ma mode will produce the Ni and Ga plagals when its seventh and fourth degrees are raised successively. Theoretically, all the modes should be derivable in this manner but since this method of deriving a mode's plagals by means of antara Ga and kākali Ni is a transposed one, it becomes unworkable when Ga and Ni themselves are the tonic. Notwithstanding this, we venture to submit this explanation of how the vikṛta svaras, antara Ga and kākali Ni, bring about the so-called sādharmaṇa of

jātis,¹ a sādharmaṇa which allows a jāti to "share" two other jātis with itself through the media of antara Ga and kākali Ni.

¹NS,28, prose following śl.36. The BD calls it sādharmaṇa of mūrchanās (prose following śl.117), while the SR describes it as a class of jātis with common features (SR,I,5:10).

In the 13th century we find Śārṅgadeva's rāgas still bound to the mūrccchanā, although the introduction in the SR of more vikṛta svaras might be interpreted to mean an attempt at synthesizing the seven mūrccchanās into a single series system.¹

The rāgas mentioned in the SR might be put into two lists: List I, consisting of the rāgas attributed to Yāṣṭika, Mataṅga and Kāśyapa, such as the Uparāgas, Rāgas, and Bhāṣājanaka rāgas, and the Pūrvaprasiddha (formerly popular) rāgas; List II, consisting of the Adhunāprasiddha (currently popular) rāgas, their Grāma or parent rāgas, and the Adhunāprasiddhadeśī (currently popular regional) rāgas.² None of the rāgas in List I is described in the text. Fifty-four of these rāgas, however, are also found in List II which consists of rāgas that are described in the SR.

¹The practice of composing kūṛtatānas (elaborate permutations of note progressions numbering tens of thousands), a favourite activity of the early musician, judging from the detailed discussion of the kūṛtatānas in both the BD and the SR, might have led to the application of transposition itself toward modal synthesis.

²Gangoly's appendices of rāgas list only four groups of rāgas in the SR. As a result he attributes to later writers the inclusion of early rāgas such as Madhyamādi and Śaṅkarābharana which are mentioned in the SR. Op. cit., appendix 9, pp.185-7 and p.36.

As an aid to the student of the SR, who might find its arrangement of rāgas rather confusing and frustrating, we give below a resumé of the SR rāgas grouped according to class into List I and List II. This is followed by an enumeration of the rāgas themselves. The resumé will show that there are indeed 264 rāgas in the SR as Śārṅga-deva claims,¹ a fact which had not been easy to ascertain. In addition we have arranged the current rāgas in List II according to the grāma rāga assigned to them. This should make for easy reference and comparison with the rāgas of later Sanskrit theorists regarding their corresponding scales and lakṣaṇa.

¹sarveṣāṃ api rāgāṇāṃ militānāṃ śatadvayam /
catuṣṣaṣṭy adhikaṃ brūte śārṅgī śrīkaraṇāgraṇīḥ // 19

Resumé of Rāgas in the SRList I

(rāgas not described in the SR)

<u>Group</u>	<u>Number</u>	<u>Less those found in List II</u>	<u>Balance</u>
Uparāgas ¹	8	2 (1)	7
Rāgas ²	20	12	8
Bhāṣājanaka rāgas ³	15	15	-
Bhāṣā rāgas	96	22	74
Vibhāṣā "	20	4	16
Antarabhāṣā "	4	-	4
Pūrvaprasiddha rāgas:			
Rāgāṅgas	8	-	8
Bhāṣāṅgas	11	-	11
Kriyāṅgas	12	-	12
Upāṅgas	<u>3</u>	<u>-</u>	<u>3</u>
Total	197	54	<u>143</u>

¹One of the Uparāgas, Pañcamaṣāḍava, appears also among the Bhāṣājanaka rāgas; it is, however, counted once only.

²Kallinātha calls these rāgas, Nirupapada rāgas (SR, II, 2, p.144) which could mean either non-subordinate rāgas or rāgas without category.

³As bhāṣā-bearing rāgas, these are, therefore, parent rāgas.

Resumé of Rāgas in the SR

List II

(rāgas described in the SR)

<u>Group</u>	<u>Number</u>
Grāma rāgas ¹	32
Adhunāprasiddha rāgas:	
Rāgāṅgas	13
Bhāṣāṅgas	9
Krīyāṅgas	3
Upāṅgas	27
Bhāṣā and Vibhāṣā rāgas ²	11
Adhunāprasiddhadeśī rāgas ²	<u>26</u>
Total	121
Net total of List I	<u>143</u>
Grand total	<u>264</u>

¹The grāma rāgas number only 30 in the SR listing at the beginning of the volume (II,1:8-14) but two more are added, Pañcamaṣāḍava and Revagūpta, in the main body of the text (II,2:86-8; 100-1).

²These rāgas are not given any listing as are the others.

List IUparāgas

Śakatilaka
 Ṭakkasaindhava
 Kokilapañcama
 Revagupta[§]
 Pañcamaṣāḍava^{§1}
 Nāgagāndhāra
 Bhāvanāpañcama
 Nāgapañcama

Rāgas

Śrīrāga[§]
 Naṭṭa[§]
 Baṅgāla (1)[§]
 Baṅgāla (2)[§]
 Bhāsa
 Madhyamaṣāḍava[§]
 Raktahaṃsa
 Kolhahāsa
 Prasava
 Bhairava[§]

Dhvani
 Megharāga[§]
 Somarāga[§]
 Kāmōda (1)[§]
 Kāmōda (2)[§]
 Āmrapañcama[§]
 Kandarpa
 Deśākhyā[§]
 Kaiśikakakubha
 Naṭṭanārāyaṇa

Bhāṣājanaka rāgas[§]

Sauvīra
 Kakubha
 Ṭakka
 Pañcama (śuddha)
 Bhinnapañcama
 Ṭakkakaiśika
 Hindola
 Boṭṭa
 Mālavakaiśika
 Gāndhārapañcama
 Bhinnaṣāḍja
 Vesaraṣāḍava
 Mālavapañcama
 Tāna
 Pañcamaṣāḍava^{§1}

[§]Rāgas found in List II.

^{§1}This rāga appears twice
 in this list but it is
 counted once only.

List I (cont'd)

Bhāṣā, vibhāṣā and antarabhāṣā rāgas are listed under their parent rāga. Only those with similar parentage as in List II are marked §.

Sauvīra: 4 bhāṣās

<u>Bhāṣās</u> : Sauvīrī [§]	Sādhāritā
Vegamadhyaṃā	Gāndhārī

Kakubha: 6 bhāṣās, 3 vibhāṣās, 1 antarabhāṣā

<u>Bhāṣās</u> : Bhinnapañcamī	Ragantī [§]
Kāmbhojī	Madhurī
Madhyamagrāmā	Śakamīsrā

<u>Vibhāṣās</u> : Bhogavardhanī [§]	
Ābhīrikā	
Madhukarī	

<u>Antarabhāṣā</u> :	
Śalavāhanikā	

Ṭakka: 21 bhāṣās, 4 vibhāṣās

<u>Bhāṣās</u> : Travaṇā [§]	Pañcamī
Travaṇodbhavā	Vegarañjī [§]
Vairañjī	Gāndhārapañcamī
Madhyamagrāmādehā	Mālavī
Mālavavesarī	Tānavalitā
Chevāṭī	Lalitā [§]
Saindhavī [§]	Ravicandrikā
Kolāhalā [§]	Tānā
Pañcamalakṣitā	Āmbaherikā
Saurāṣṭrī	Dohyā

Vesarī

<u>Vibhāṣās</u> : Devāravardhanī	Gūrjarī
Āndhrī	Bhāvanī

- Cont'd -

List I (cont'd)

Pañcama: 10 bhāṣās, 2 vibhāṣās

<u>Bhāṣās</u> : Kaiśikī [§]	Saindhavī [§]
Trāvaṇī	Dākṣiṇātyā [§]
Tānodbhavā	Āndhrī
Ābhīrī	Māṅgalī
Gūrjarī	Bhāvanī
<u>Vibhāṣās</u> : Bhammāṇī [§]	
Āndhālikā [§]	

Bhinnapañcama: 4 bhāṣās, 1 vibhāṣā

<u>Bhāṣās</u> : Dhairvatabhūṣitā	Vārāṭī
Śuddhabhinnā	Viśālā
<u>Vibhāṣā</u> : Kauśalī	

Ṭakkakaiśika: 2 bhāṣās, 1 vibhāṣā

<u>Bhāṣās</u> : Mālavā [§]	<u>Vibhāṣā</u> : Drāviḍī [§]
Bhinnavalitā	

Preñkhaka (Hindola): 9 bhāṣās

<u>Bhāṣās</u> : Vesarī	Bhinnapaurālī
Cūtamañjarī	Gauḍī [§]
Ṣaḍjamadhyamā	Mālavavesarī
Madhurī	Chevāṭī [§]
Piñjarī [§]	

Boṭṭa: 1 bhāṣā

<u>Bhāṣā</u> : Māṅgalī

List I (cont'd)

Mālavakaiśika: 13 bhāṣās, 2 vibhāṣās

<u>Bhāṣās</u> : Bāṅgālī	Gauḍī [§]
Māṅgalī	Paurālī
Harṣapurī [§]	Ardhavesarī
Mālavavesarī ^{§¹}	Śuddha[mālavakaiśikā]
Khañjanī	Mālavarūpā
Gūrjarī	Saindhavī [§]

Ābhīrikā

Vibhāṣās: Kāmbhojī
Devāravardhanī

Gāndhārapañcama: 1 bhāṣā

Bhāṣā: Gāndhārī

Bhinnaṣaḍja: 17 bhāṣās, 4 vibhāṣās

<u>Bhāṣās</u> : Gāndhāravallī	Pulindakā
Kacchellī	Tumburā
Svaravallī	Ṣaḍjabhāṣā
Niṣādinī	Kālindī
Travaṇā [§]	Lalitā [§]
Madhyamā	Śrīkaṇṭhikā
Śuddha[bhinnaṣaḍjā]	Bāṅgālī [§]
Dākṣiṇātyā	Gāndhārī
Saindhavī [§]	

Vibhāṣās: Paurālī
Mālavā
Kālindī
Devāravardhanī

- Cont'd -

^{§¹} Appears as Mālavaśrī in List II.

List I (cont'd)

Vesaraṣāḍava: 2 bhāṣās, 2 vibhāṣās

Bhāṣās: Nādyā

Bāhyaṣāḍava

Vibhāṣās: Pārvatī

Śrīkaṇṭhī

Mālavapañcama: 3 bhāṣās

Bhāṣās: Vedavatī

Bhāvanī

Vibhāvanī

Tāna: 1 bhāṣā

Bhāṣā: Tānodbhavā

Pañcamaṣāḍava: 1 bhāṣā

Bhāṣā: Potā

Revagupta: 1 bhāṣā, 1 vibhāṣā, 3 antarabhāṣās

Bhāṣā: Śakā

Vibhāṣā: Pallavī

Antarabhāṣās: Bhāsavalitā

Kiraṇāvalī

Śakavalitā

List I (cont'd)Pūrvaprasiddha rāgas

<u>Rāgāṅgas:</u>	Śaṅkarābharāṇa	Rīti
	Ghaṅṭārava	Karṇāṭikā
	Haṃsaka	Lāṭī
	Dīpaka	Pāñcālī
<u>Bhāṣāṅgas:</u>	Gāmbhīrī	Nādāntarī
	Vehārī	Nīlotpalī
	Śvasitā	Chāyā
	Utpalī	Taraṅgiṇī
	Gaulī	Gāndhāragatikā
	Vairaṅjī	
<u>Krīyāṅgas:</u>	Bhāvakrī	Danukriya
	Svabhāvakrī	Ojakrī
	Śivakriya	Indrakriya
	Makarakrī	Nāgakṛti
	Trinetrakrī	Dhanyakṛti
	Kumudakrī	Vijayakrī
<u>Upāṅgas:</u>	Pūrṇāṭī	
	Devāla	
	Guruṅjikā	

List II

<u>Grāma rāgas</u> ¹	<u>Sa-grāma</u>	<u>Ma-grāma</u>
Śuddhas :	Kaiśikamadhyama Sādhārīta Ṣaḍjagrāma	Pañcama Madhyamagrāma Ṣāḍava Kaiśika
Bhinnas :	Kaiśikamadhyama Bhinnaṣaḍja	Tāna Kaiśika Pañcama
Gauḍas :	Kaiśikamadhyama Pañcama	Kaiśika
Vesaras :	Ṭakka Vesaraṣāḍava Sauvīra	Boṭṭa Mālavakaiśika Mālavapañcama
<u>Duo-grāma</u>		
Ṭakkakaiśika Hindola		
Sādhāraṇas :	Rūpasādhārīta Śaka Bhammāṇapañcama Revagupta ²	Narta Gāndhārapañcama Ṣaḍjakaiśika Pañcamaṣāḍava ²
<u>Duo-grāma</u>		
Kakubha		

- Cont'd -

¹Illustrated in the SR by either an ālāpa or ākṣiptikā.

²Not in the list given in SR, II, 1:8-14 but found in the main body of the text, II, 2:86-8; 100-1.

List II (cont'd)Adhunāprasiddha rāgas

Rāgāṅgas :	Madhyamādi	Gurjarī
	Mālavaśrī	Gauḍa
	Toḍī	Kolāhala
	Baṅgāla	Vasanta
	Bhairava	Dhanyasī
	Varāṭī	Deśī
	Deśākhyā	
Bhāṣāṅgas :	Ḍombakrī	Ādikāmodikā
	Sāvarī	Nāgadhvani
	Velāvalī	Śuddhavarāṭī
	Prathamamañjarī	Naṭṭā
	Karṇāṭabaṅgāla	
Krīyāṅgas :	Rāmakṛti	Gauḍakṛti
	Devakṛti	
Upāṅgas :	Kauntalīvarāṭī	Stambatīrthikā
	Drāviḍīvarāṭī	Chāyāvelāvalī
	Saindhavīvarāṭī	Pratāpavelāvalī
	Upasthānavarāṭī	Bhairavī
	Hatasvaravarāṭī	Siṃhalīkāmōdā
	Pratāpavarāṭī	Chāyānaṭṭā
	Chāyātoḍī	Rāmakṛti
	Turuṣkatoḍī	Bhallātikā
	Mahārāṣṭragurjarī	Malhārī
	Saurāṣṭragurjarī	Malhāra
	Dakṣiṇagurjarī	Karṇāṭagaḍa
	Drāviḍagurjarī	Deśavālagauḍa
	Bhuñjikā	Turuṣkagaḍa
	Drāviḍagaḍa	

List II (cont'd)Bhāṣās and Vibhāṣās¹

Travaṇā	Sauvīrī
Ragantī	Piñjarī
Bhogavardhanī	Kolāhalā
Bāṅgālī	Chevāṭī
Vegarañjī	Dākṣiṇātyā
Āndhālikā	

Adhunāprasiddhadeśī rāgas²

Śrīrāga	Prathamalalitā
Prathamabaṅgāla	Dvitīyalalitā
Dvitīyabaṅgāla	Prathamasaindhavī
Madhyamaṣāḍava	Dvitīyasaindhavī
Śuddhabhairava	Tr̥tīyasaindhavī
Megharāga	Caturthasaindhavī
Somarāga	Prathamagaḍī
Prathamakāmoda	Dvitīyagaḍī
Dvitīyakāmoda	Trāvaṇī
Āmrapañcama	Harṣapurī
Kaiśikī	Bhammāṇī
Prathamasaaurāṣṭrī	Mālavā
Dvitīyasaaurāṣṭrī	Drāviḍī

¹These rāgas do not appear in a separate listing as do the above but are interspersed among the current rāgas.

²With no separate listing either; their description follows that of the Upāṅga rāgas in sequence.

Adhunāprasiddha and Deśī Rāgas
Arranged according to their Grāma rāga¹

Madhyamagrāma rāga

Madhyamādi

Mālavakaiśika

Mālavaśrī

Harṣapurī

Dvitiyagauḍī

Tṛtīyasaindhavī

Bhinnaṣaḍja

Bhairava

Travaṇā

Ḍombakṛti

Bāṅgālī

Ādikāmoda

Bhairavī

Dvitiyalalitā

Caturthasaindhavī

Ṣaḍava

Toḍī

Chāyātoḍī

Turuṣkatodī

Baṅgāla

Bhinnapañcama

Varāṭī

Kauntalīvarāṭī

Drāviḍī "

Saindhavī "

Apasthāna "

Hatasvara "

Pratāpa "

- Cont'd -

¹Only fifteen grāma rāgas have derivative rāgas. The parentage of the Kriyāṅgas, four Upāṅgas, and three Deśī rāgas is not given. Seven Deśī rāgas are said to derive from the jātis.

Pañcamaṣāḍava

Gurjarī
 Mahārāṣṭragurjarī
 Saurāṣṭra "
 Dakṣiṇa "
 Drāviḍa "

Takka

Gauḍa
 Karṇāṭtagauḍa
 Deśavāla "
 Turuṣka "
 Drāviḍā "
 Kolāhala
 Kolāhalā
 Vegarañjī
 Nāgadhvani
 Karṇāṭabaṅgāla
 Dvitīyasaurāṣṭrī
 Prathamalalitā
 Prathamasaindhavī

Hindola

Vasanta
 Piñjarī
 Naṭṭa
 Chāyānaṭṭā
 Chevāṭī
 Vallātā¹
 Prathamagauḍī

Śuddhakaiśikamadyama

Dhanyāsī

Revagupta
 Deśī

Gāndhārapañcama

Deśākhyā

Kakubha

Ragantī
 Sāvarī
 Bhogavardhanī
 Velāvalī
 Chāyāvelāvalī
 Pratāpa "
 Prathamamañjarī

Sauvīra

Sauvīrī
 Śuddhavarāṭī

Takkakaiśika

Mālavā
 Drāviḍī

- Cont'd -

¹Appears as Bhallātikā in the list, SR,II,2:17.

Śuddhapañcama

Dākṣiṇātyā	Kaiśikī
Āndhālikā	Prathamasaaurāṣṭrī
Malhārī	Dvitīyasaindhavī
Malhāra	Trāvaṇī
Bhammāṇī	

Jāti-based rāgasṢāḍjī

Śrīrāga
Somarāga
Dvitīyakāmoda

Ṣaḍjamadhyamā

Prathamabaṅgāla
Prathamakāmoda

Dhaivatī

Megharāga

Kaiśikī

Dvitīyabaṅgāla

Derivation Unknown

Krīyāṅgas:

Rāmakṛti
Gauḍakṛti
Devakṛti

Upāṅgas:

Bhūcchī¹
Khambhāiti²
Siṃhalīkāmōda
Rāmakṛti

Deśī rāgas:

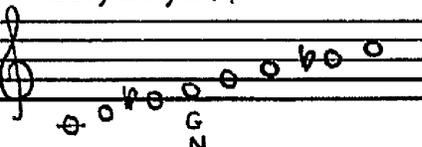
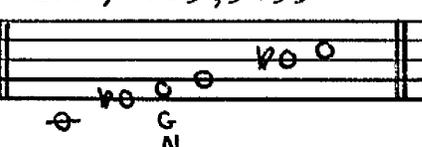
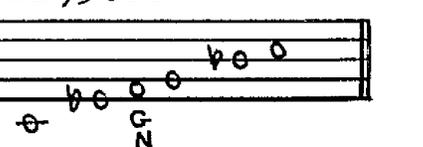
Madhyamaṣāḍava
Śuddhabhairava
Āmrapañcama

¹Appears as Bhuñjikā in the list, SR,II,2:16.

²Appears as Stambatīrthikā in the list, Ibid.

It might be possible to determine Śārṅgadeva's scale-types by transposing to the Sa progression the mūrchanā on which his parent rāgas are based. With the svara system extended to admit of twelve vikṛta svaras, the SR rāga system may have even by the 13th century been reduced to the Sa scale progression, a system which took a further three hundred years to be codified in writing. By using this method in analyzing Śārṅgadeva's main rāgas we might arrive at scales comparable to those of later centuries where particular rāgas are concerned. In line, then, with subsequent practice in Indian music, and, to facilitate comparison here and in succeeding discussions, we are reducing the rāga's scale to Sa, here arbitrarily notated as C. This analysis will include only Śārṅgadeva's rāgāṅgas. Comparisons will be made with rāgas of the same name in the Svaramelakalānidhi (SMK), the Rāgavibodha (RV), the Caturdaṇḍiprakāśika (CDP), the Saṅgītapārijāta (SP), and the Saṅgrahacūḍāmaṇī (SC). Reference will also be made to the Saṅgītadarpaṇa (SD), the Rāgamāla, to Tyāgarāja's kriti, and to the Kramikapustakamālikā (KPM).

Madhyamādi, the first rāgāṅga in the SR list of current rāgas, has what appears to be the equivalent of an authentic scale to that of its plagal parent, the Ma-mūrcchanā based Madhyamagrāma rāga. Both rāgas end on the tonic, Ma, but the parent rāga begins on Sa, a fourth below.¹ Although Madhyamādi heads the list of rāgāṅgas, its description in the SR is less than cursory; it appears as a mere sequel to the śloka describing Madhyamagrāma rāga from "which Madhyamādi is derived, with Ma as graha and aṃśa."² If we compare this Madhyamādi to the rāga of the same name in the SMK and the CDP we find that the rāga of the latter sources is a pentatonic one but that its scale coincides with the SR's Madhyamādi. (G: Graha; N: Nyāsa)

SR, II, 2:70	SMK, 4:19; 5:55	CDP, 5:86
		

Madhyamādi

¹ma nyāso mandraṣaḍjāṃśagrahaḥ sauvīramūrchanah / 68

SR, II, 2

². . . tad udbhavā /

madhyamādir ma grahāṃśā . . . // 70

Ibid.

The use of kākali Ni is prescribed in Madhyamādi's parent rāga but if we go by the later Madhyamādi as it appears in the SMK and the CDP, then it would seem that the application of a parent's vikṛta svāra to a derivative rāga need not necessarily follow. The same could be said of Mālavaśrī.

Mālavaśrī, a derivative of Mālavakaiśika which is based on the Sa mūrchanā, has its parent's graha and nyāsa, Sa.¹ It is a hexatonic rāga in the SMK and the CDP with Ri omitted, but in the RV it is described as heptatonic with little use of Ri and Dha. It is also found in the 18th century texts, Saṅgītasārāmṛta and Saṅgrahacūḍāmaṇī which assign to Mālavaśrī the parent mela of the same scale with Ri omitted.² It would seem, therefore, that the rāga has retained its relationship to the original heptatonic scale since mediaeval times.³ Again our scale for the SR Mālavaśrī seems to agree.

¹samasvarā tāramandraṣaḍjāṃśanyāsaṣaḍjabhāk // 73

Ibid.

²SS,p.76; SC,3,p.109:2.

³In the earlier text, BD, a rāga named Mālavesarī appears to have this same scale but it is Pa (note its relationship to Ri) that is said to be weak (BD,p.109).

SR, II, 2:73

SMK, 4:16-9; 5:33 RV, 3:48-9; 4:30 CDP, 5:67

Mālavaśrī

Toḍī and Baṅgāla derive from the same parent rāga, Śāḍava,¹ which is based on Ma mūrchanā. The vikṛta svaras, kākali Ni and antara Ga are prescribed in the parent rāga. An interesting coincidence occurs with regard to these rāgas. In the SMK and the RV there are two rāgas with the names, Turuṣkatoḍī² and Śuddhabaṅgāla,³

¹śukrapriyaḥ pūrvayāme toḍikā syāt tad udbhavā // 76

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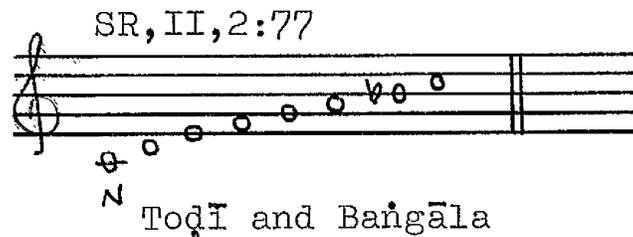
śāḍavād eva baṅgālo grahāṃśanyāsamadhyamaḥ / (78)

SR, II, 2

²A Toḍī subtype in the SR (Ibid.:134).

³Śuddha, besides meaning pure or basic, also connotes a primitive or early form.

that also derive from a common parent scale. Moreover, Ma is the final of these rāgas, according to the RV. Their scale has its second degree sharpened, however, as compared to that of Toḍī and Baṅgāla. If Turuṣkatoḍī and Śuddhabaṅgāla have any link at all with the SR Toḍī and Baṅgāla, our guess would be that in the older SR rāgas, śuddha Ga and antara Ga might have both been applied on the third degree of the rāgas' transposed scale. Later, in assigning melas to existing rāgas, this śuddha Ga became the sharpened Ri of the SMK and the RV. Then there is the fact that Ma is also the nyāsa of Turuṣkatoḍī and Śuddhabaṅgāla as it is of Toḍī and Baṅgāla. Tonic Ma transposed would be Sa in the scale but it almost seems possible that the rāgas' traditionally prescribed lakṣaṇa remained unrevised or unadjusted even after the transposition of the mūrcchanās into the integrated Sa progression had taken place.



Bhairava is mentioned in at least eight other treatises after the SR and before the advent of the 18th century.¹ Four sources available to us show that the rāga bears some resemblance to the SR one where Bhairava is a fourth degree version of the Dha mūrccchanā scale of its parent rāga, Bhinnaṣaḍja.² The rāga thus surmounts the possibility of a false fifth under this form. Moreover, it follows its parent's pentatonic structure, with Ri and Pa dropped. Antara Ga and kākali Ni are prescribed in the parent rāga. The question again arises as to whether these are fixed pitches or accidentals. Until some kind of evidence proving them one way or the other can be unearthed we are inclined to believe that the early antara Ga and kākali Ni are accidentals, but their use in ascent or descent is fixed depending upon conventional practice, much as the rāga is learned today.

The SD also gives Bhairava's mode as the Dha

¹See Gangoly's appendices of rāgas. Op. cit., p.173-224.

²ṣaḍjodīcyavatījāto bhinnaṣaḍjo ripojjhitaḥ /
dhāṃśagraho madhyamānta uttarāyatayā yutaḥ // 79

.

sārvabhaumotsave geyo bhairavas tat samudbhavaḥ // 81

mūrcchanā with Ri and Pa dropped. Puṇḍarīka Viṭṭhala puts Bhairava at the head of his list of principal rāgas in his Rāgamāla. His Ga and Ni for the rāga are described as "ekagati", indicating a sharpening of these svaras by one śruti.¹ The RV of the 17th century makes Bhairava's Ga an antara Ga and in this form the rāga is only one step removed from the present North Indian Bhairava² in what one might call its evolutionary process. Finally, in the SP, the North Indian Bhairava type emerges. It is these subsequent variations in the pitch of Ga and Ni that make us surmise that the antara Ga and kākali Ni of the SR Bhairava are accidental rather than fixed.

Ri and Pa in the untransposed Dha mūrcchanā would be the mode's fourth and seventh degrees. As it is quite unlikely that the fourth degree or Ri tonal center of the Dha mode would be dropped, there is some reason to believe that the Ri and Pa to be omitted in Bhairava are degrees in the Sa progression rather than the fourth

¹From Bhātkanḍe, V.N. A comparative study of some of the leading music systems of the 15th, 16th, 17th and 18th centuries, p.55.

²Bhairava is essentially a North Indian rāga. The South Indian treatises, SMK and CDP do not mention the rāga and in the RV Bhairava is a sampūrṇa rāga.

and seventh degrees of the ancestral mode. This thesis is corroborated by the fact that even after the svara and modal system was finally codified in the 16th century, Ri and Pa remained the omitted notes of Bhairava. This in turn gives weight to our hypothesis earlier that the lakṣaṇa as prescribed to the rāgas in the SR are applicable to their Sa-transposed mode, not to their untransposed parent mūrchanā.

SR, II, 2:81 SD:197

Rāgamāla¹ RV, 3:37; 4:11 SP:378

Bhairava

¹Loc. cit.

²Note that, like the SR, Ma is the rāga's final. Yet the prastāra example given in the text for Bhairava ends on Sa (following the Hindi commentary).

Varāṭī is a saṃpūrṇa rāga in all our sources. As a derivative of another Dha mode-based parent rāga, Bhinnapañcama,¹ its peculiar feature is the diminished fifth. The rāga,² if it continues in the same tradition, assumes a modified scalar form in later texts, perhaps after the drone had established itself as an indispensable adjunct to Indian classical music. We suggest that Varāṭī's diminished fifth is none other than the augmented fourth in the scales of later texts. The singular character of this rāga and others like it is preserved when the diminished fifth appears in later texts in the guise of the augmented fourth.³ The consequent addition of a proper fifth maintains balance

¹grīṣme prākprahare geyo varāṭī syāt tad udbhavā /
dhāṃsā ṣaḍjagrahanyāsā mamandrā tārādhaivatā // 85

SR,II,2

²Pārśvadeva, a 14th century North Indian writer, in his treatise, Saṅgītasamayasāra (Trivandrum Sanskrit Series no.78, 1925), considers Varāṭī as derived from Śuddha, not Bhinna, Pañcama (3:23-4). This makes the rāga's mode a Pa, not a Dha mode. Otherwise, his description of Varāṭī and its variant types agrees for the most part with the SR (3:49-55).

³There may have been a period of "musica ficta" where the flattened Pa is concerned.

between drone and melody. As to the original Ma, some North Indian rāgas with the augmented fourth today also use the perfect fourth¹ (sometimes the two fourths are used in succession) even if, in theory, their ṭhāṭ or scale admits of only one kind of Ma.²

The name of the rāga appears as Varāṭī or Varālī and even Barārī depending on the regional translation of the retroflex. Often it is qualified by 'Śuddha'. In the SP Ahobala differentiates between Varāṭī and Śuddhavarāṭī (both given below). We find three types of Ga and two of Ni, which is kākali in the SR Varāṭī's parent rāga, in the Varāṭī scales below. Curiously, today's South Indian scale of Varālī is that of the 16th century SMK Śuddhavarālī.³

¹Thus suggesting that the augmented fourth was once a flattened fifth.

²In his forthcoming book, Rāg and scale in North Indian classical music, N.A. Jairazbhoy suggests that the Ma-sharp in the rāgas, Lalit and Ahīrlalit, is a diminished fifth, "which would, perhaps, have been Pa-flat were it not that Pa is considered an immovable note" (ṭhāṭ chapter).

³See Tyāgarāja's kriti, Marakatamaṇi (I,170).

SR, II, 2:85 SP:390

Varāṭī

SMK, 4:43-4; RV, 3:46; CDP, 4:155-7 SP:391[§]
5:21 4:27

Śuddhavarāṭī

[§]The śloka line beginning with "ga tīvrataro" should read "ma tīvrataro", Ga having already been described in the previous line as being of the pūrva kind.

Gurjarī's parent rāga, Pañcamaṣāḍava which is based on the Ri mūrchanā, is characterized by a "gleaming kākali"¹, that is to say, a conspicuous kākali Ni. As the parent rāga occasionally takes Ma for an ending,¹ Ma being Gurjarī's final, this raising of the seventh degree creates a tritone with Ma. This could well be Gurjarī's distinguishing feature. When the Ri mode is

¹madhyamagrāmasaṃbandho dhaiваты āṛṣabhikodbhavaḥ // 86
ri nyāsāṃśagrahaḥ kvāpi māntaḥ pañcamaṣāḍavaḥ /
vilasat kākaliḥ 'pi kalopanatayānvitaḥ // 87

transposed to the Sa progression, the former Ni becomes Dha and it is this Dha that should be raised to conform to the pattern of the parent scale. But a scrutiny of the Gurjarī rāga in other texts reveals that the minor sixth is very much a part of its scale as is the tritone, Ma to Kākali Ni. Here again is evidence for our hypothesis that the rāga descriptions in the SR are premised on the Sa transposed scale.

Gurjarī is hexatonic with Pa dropped in the SMK and RV and Dha omitted in descent in the CDP. The SP names two kinds of Gurjarī: dākṣiṇātyā (southern) and auttarā (northern). It is the auttarā variety that is closest to the SR Gurjarī. As to the Ga variant of the other Gurjarī scales, it is quite possible that, in the course of time, Ga was also raised to bring about some consonancy with the raised Ni. In present-day North Indian Gurjarī it is the sharpened version of Ma that acts as a balance to the raised or tīvra Ni.¹

¹See Gurjarītoḍī (KPM, VI, 451). Because it is Pa that is omitted in this similarly hexatonic rāga, the original tritone characteristic of the SR Gurjarī is preserved in Gurjarītoḍī's own tritone of Sa to Ma-sharp.

SR, II, 2:89 SMK, 4:11-4; 5:34-5 RV, 3:40-2; 4:23

CDP, 5:77 SP:415 (southern) SP:416 (northern)

Gurjarī

Gauḍa and Kolāhala are derivatives of the Sa mūrccchanā-based parent rāga, Ṭakka.¹ Gauḍa, a hexatonic, with Pa, its parent's weak note, omitted, takes a final of Ni, however, This Ni final indicates a subtonal shift from the parent's tonic, Sa. Kolāhala, on the other hand, is said to be "like Ṭakka".¹ Ṭakka

¹gauḍas tad (Ṭakka) aṅgaṃ ninyāsagrahāṃśaḥ pañcamoj-
jhitaḥ // 92
ṭakkāṅgaṃ ṭakkavat tārāiḥ svaraiḥ kolāhalo 'khilaiḥ /

has Ga and Ni raised¹ which makes this parent scale akin to the C major scale, while Gauḍa's subtonal shift produces a scale that bears affinity to the B-flat major scale. In scalar structure, therefore, Gauḍa and Kolāhala are apparently similar. The moods they would evoke may differ, however. Moreover, Kolāhala continues to observe its parent's high tessiture.²

In later texts the only rāga that bears any resemblance to the SR Gauḍa is the RV Pūrvagauḍa (early Gauḍa). As its name suggests, there might well be some modal connection between them. As for Kolāhala, the SC has a rāga of that name in a similar scale (mela 29). The SC Kolāhala omits Ri in ascent and approaches Ma obliquely (vakra); in descent the rāga is heptatonic.³

¹ṣaḍjamadhyamayā sṛṣṭo dhaivatyā cālpañcamah /
ṭakkaḥ sāmśagrahanyāsaḥ kākaly antara rājitaḥ // 90

Ibid.

²Loc. cit.

³ri varjyavakra mārōhe 'py avarohe samagrakam /

SC, I, 3:29/5

SR, II, 2:92 RV, 3:52-3; 4:35

N (subtonal shift) N

Gauḍa Pūrvagauḍa

SR, II, 2:(93) SC, I, 3:29/5

N (given) N

Kolāhala

Vasanta is the deśī name for Hindola, its parent rāga, whose features it is said to have.¹ Since Vasanta has no further description in the SR we shall have to refer to its parent, Hindola, for details concerning its scale and lakṣaṇa. Based on the Sa mūrccchanā, Hindola is pentatonic by omitting Ri and Dha. Its seventh

¹pūrṇas tal lakṣaṇo deśīhindolo 'py eṣa kathyate // 96
iti vasantaḥ /

degree is raised to kākali Ni.¹ In later texts Hindola's Ni is described as kaiśika in the SMK and tisra in the CDP. Both kaiśika Ni and tisra Ni are of the three-śruti type. This type is sharper than śuddha Ni but flatter than the kākali Ni prescribed for the SR Hindola. The sixth degree is also flat in the SMK and CDP Hindola scale but as this note is omitted in the rāga's pentatonic structure, the resulting scale may compare fairly well with the SR Hindola, assuming that its kākali Ni is only an accidental.

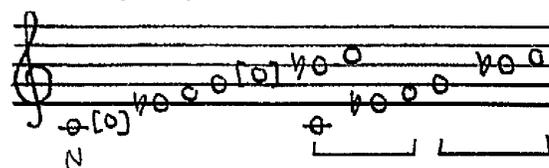
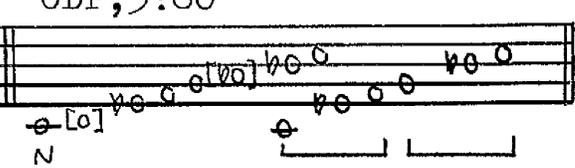
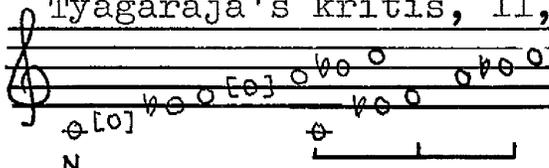
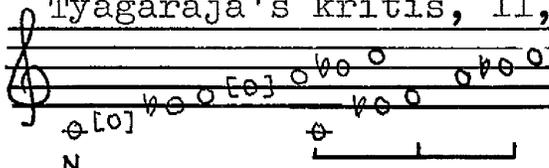
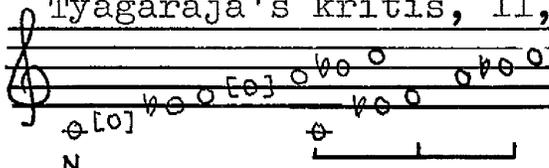
The second volume of Tyāgarāja's kritiś includes a Hindolavasanta rāga of the 22nd mela (roughly, D mode) as well as a Hindola per se in the same mela. The difference between the two lies in the notes omitted: Ri and Pa in Hindola,² Ri and Ni in ascent, only Ri in descent in Hindolavasanta. One might say then that with regard to scale the SR Hindola and therefore Vasanta, too, find similitude with Tyāgarāja's rāgas of the same names,

¹hindolako ridhatyaktah ṣaḍjanyāsagrahāṃśakaḥ /
ārohiṇi prasannādye śuddhamadhyākhyamūrchanah // 94
kākaliikalito geyo . . .

Ibid.

²Hindola in the RV also omits these same notes but the rāga appears to have a different scale altogether.

while in pentatonic shape they agree with the Hindola rāga in the SMK and the CDP.

<p>SR, II, 2:93-5</p>  <p style="text-align: center;">Hindola and Vasanta</p>	<p>SMK, 4:25-6; 5:37 CDP, 5:60</p>  <p style="text-align: center;">Hindola</p>		
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Tyāgarāja's kritis, II, 47</p>  <p style="text-align: center;">Hindola</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Ibid., 45</p>  <p style="text-align: center;">Hindolavasanta</p> </td> </tr> </table>		<p>Tyāgarāja's kritis, II, 47</p>  <p style="text-align: center;">Hindola</p>	<p>Ibid., 45</p>  <p style="text-align: center;">Hindolavasanta</p>
<p>Tyāgarāja's kritis, II, 47</p>  <p style="text-align: center;">Hindola</p>	<p>Ibid., 45</p>  <p style="text-align: center;">Hindolavasanta</p>		

Dhanyāsī appears to have undergone little change in scale up to and including the 17th century. In the SR the rāga,¹ like its parent, Śuddhakaiśikamadhya, is in the D mode with its tonic or nyāsa on the fourth degree, Ma. It is hexatonic, with Ri dropped. Ga and

¹The name appears as Dhanyāsī in the SR rāga listing (II, 2:11) but as Dhannāsī in its description (loc. cit., infra).

Pa are said to be weak.¹ Later, Dhanyāsī is declared pentatonic in the SMK and CDP with Ri and Dha dropped. The RV sampūrṇa Dhanyāsī makes Ri and Dha merely transitory, however. In his commentary Somanātha states that another name for the rāga is Dhanāśrī.² Under this name the rāga is found in North Indian texts. As Dhanāśrī the rāga has three types of descending scale in the SP: heptatonic, hexatonic (minus Dha), and pentatonic (minus Dha and Ri) to its pentatonic ascending pattern (minus Ri and Dha).³ Like the SR Dhanyāsī the SP Dhanāśrī ends on Ma. The modern day Dhanāśrī drops either Ri or Dha in ascent and it is Ma that is weak now that the tonic is Sa.⁴ The South Indian variety of Dhanyāsī at present is still pentatonic in ascent but its Ri and Dha are now flat.⁵ In addition to the South Indian type

¹tajjā dhannāsikā ṣaḍjagrahāṃśanyāsamadhyamā // 99
ri varjitā gapālpā ca vīre dhīraiḥ prayujyate /

SR, II, 2

²RV, 4, seq.: 31.

³ārohe ridhahīnā syāt pūrṇā śuddhasvarair yutā /
gāndhārasvarapūrvā syād dhanāśrīr madhyamāntakā // 358
dhanāśrīś ca dhahīnā sā ridhahīnāpi sammatā // 359

SP

⁴KPM, VI, 144.

⁵SC, I, 3: 8/9 and Tyāgarāja's kritis, I, 139 and II, 18.

the 18th century text, SC, includes a Śuddhadhanyāsī rāga which is in the D mode and which also omits Ri and Dha in ascent and descent. This śuddha or early type of Dhanyāsī is apparently a duplicate of the rāga in the SMK and CDP.

SMK, 4:16-8; 5:39
SR, II, 2:99 CDP, 5:58 RV, 3:48-9; 4:31

Dhanyāsī

Śuddhadhanyāsī

Dhanāśrī

¹Opening phrase

Deśī represents the E mode as a derivative of the Ri mūrchanā-based parent rāga, Revagupta. It is hexatonic with the fifth degree dropped. Ma, Ni and Sa are said to be in abundance (bahutva). A similar description of Deśī is found in the SD. The SR Deśī is evidently a North Indian rāga because it is not mentioned in the

SMK nor the CDP. Where the rāga of this name appears in the RV its scale differs considerably. The only text of the later period that includes Deśī of the SR type is the SP. The SP Deśī omits Ga and Ni in ascent, however. Today, Deśī (also spelled Desī) in North India is in the A mode, that is, its second degree is no longer flat. But Bhātkhaṇḍe speaks of an Utarī Deśī, meaning flattened Deśī, which uses the Ri-flat as well as the Ri-natural.¹

SR, II, 2:102 SD:241 SP:429

Deśī

Loc. cit.

(given) N

Utarī Deśī

¹Bhātkhaṇḍe, V.N. Saṅgītaśāstra (<Hindusthānī saṅgīta paddhātī> 2d ed., Saṅgīta Kāryālaya) IV, 504.

Deśākhyā as a derivative of the Ga mūrccchanā-based parent rāga, Gāndhārapañcama, represents the F mode. It is hexatonic by omitting Ri. The parent rāga raises Ni to kākali. On the untransposed mūrccchanā Ni is Ga's fifth. When Ni is raised the interval between them becomes an augmented fifth. On the Sa transposed scale Ni is already of the kākali type. In this instance, the application of an accidental from a parent mūrccchanā to its Sa transposed scale presents difficulties. The lack of a Deśākhyā rāga in the later texts does not improve matters either.

Pārśvadeva mentions a Deśākhyā among his principal rāgas. Its scale is similar to that of the SR rāga.¹ The SD also describes its Deśākhyā along similar lines. As noted above, Deśākhyā does not appear in the later texts of South Indian music theory. The SP has a rāga by this name but it is in the C mode apparently. The

¹gāndhārapañcamāj jātā ṛṣabheṇa vivarjitā /
 grahāṃśanyāśasambandhagāndhārā ca samasvarā // 31
 niṣādāmandrā gāndhārasphuritena virājitā /
 ṣāḍavā yadi rāgāṅgaṃ vaṃśe pūrṇe ca drśyate // 32
 deśākhyāḥ . . .

Some conclusions may be drawn from our attempt to correlate the SR rāgāṅgas with similarly named rāgas of later texts.

As early as the 13th century it would seem that, in practice if not in theory, the mūrccchanās were being replaced by the Sa transposed scale. This is shown by the increase of the vikṛta svaras from two to twelve. That the SR svara system, as it is, proves inadequate to render total transposition of the mūrccchanās to the Sa integrated system possible does not detract from the contribution it has made toward modal synthesis. We have tried to show by our rāga comparisons that the application of the rāga's lakṣaṇa seems to have been leveled not so much at the mūrccchanā of the parent rāga as at the rāga's Sa transposed mode. At this early stage of modal integration, however, certain inconsistencies in correlating the derivative rāga with the properties and features of its parent rāga are bound to arise.

Śārṅgadeva attempts to establish a genus-species classification for his rāgas which, he says, can be traced to the jātis "by those who know".¹ All but two

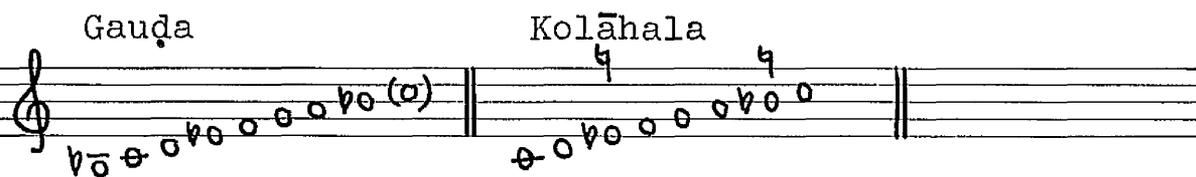
¹dr̥śyante janyarāgāṅśās taj jñair janakajātiṣu / (113)

of the seven mūrccchanās are represented by his rāgāṅgas, the exceptions being the Pa and Ni mūrccchanās.¹ It is perhaps in the SR that the last link between the mūrccchanā-based grāma rāgas and the "modern" rāga can be seen. Other writers after Śārṅgadeva merely duplicate the SR theory before the mela system of Karnatic music is introduced.

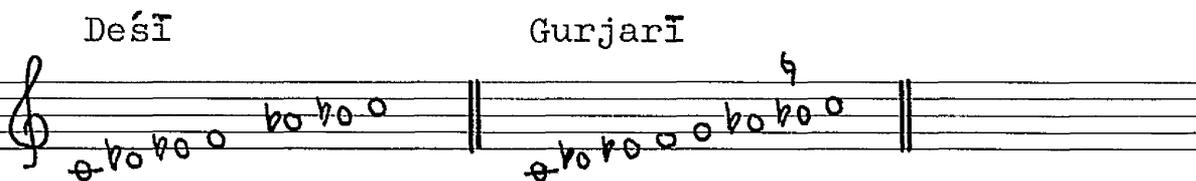
¹These mūrccchanās find indirect representation as a result of structural modifications in the parent modes. The Pa mūrccchanā can be seen in the pentatonic rāgāṅga, Bhairava, which omits the flat second and flat fifth of its parent mode. The Ni mūrccchanā becomes represented when Gauḍa shifts from its parent Sa tonic down by a tone to its own tonic, Ni, and when Kolāhala's use of its parent's vikṛta svaras, antara Ga and kākali Ni, (see our discussion supra) allows Kolāhala thus to fit into the Ni mūrccchanā intervallic framework.

Scales of the SR Rāgāṅgas

Based on the Sa mūrchanā:



Based on the Ri mūrchanā:

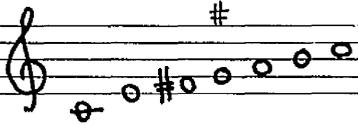


¹Prescribed in parent rāga.

Blank musical staff

Based on the Ga mūrchanā:

Deśākhyā

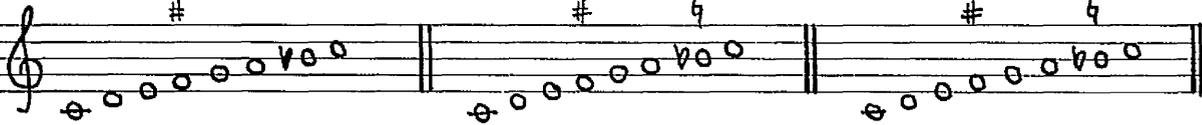


Based on the Ma mūrchanā:

Madhyamādi

Toḍī

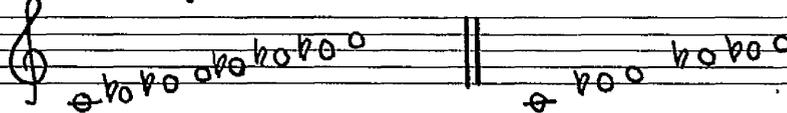
Baṅgāli



Based on the Dha mūrchanā:

Varāṭī

Bhairava



Svara System in the SMK, RV, and CDP

The change from the mūrccchanā system in which every first degree might be thought of as a movable Sa, to the Sa transposed system, hereafter to be called the fixed Sa-Pa system, necessitated the codification of a svara system that would include all the step relations within the mūrccchanās. In the process all the svaras, except Sa and Pa, acquired variant pitches in relation to the svara above or below them. To what extent the variant scale degrees might have affected the rāga's lakṣaṇa in the 16th and 17th centuries might be determined by an investigation of the svara system in the SMK, RV and CDP.

In the SMK the vikṛta svaras number seven, five less than in the SR because svaras that do not move from their original śruti level are not considered vikṛtas. The latter refer to acyuta Sa, acyuta Ma, and the four-śruti svaras, Ri, Dha, and Pa that result from cyuta Sa, the lowering of Pa to three śrutis, and cyuta Ma respectively.¹ Since the lakṣaṇa-bound deśī rāgas are said in the SMK to have come from the Sa-grāma,² the method of tuning a vīṇā

¹See our discussion on the SR theory of vikṛta svaras.

²deśīrāgās ca sakalāḥ ṣaḍjagrāmasamudbhavāḥ /
grahāṃśanyāsamandrādiṣāḍavauduvapūrṇakāḥ // 17

in which six frets establish twelve pitch levels on two strings¹ attempts to reproduce a scale series which would fit into the ancient Sa-grāma śruti-series. Of the fourteen svaras in the SMK (seven śuddha and seven vikṛta), therefore, two do not have frets set for them.

The twelve pitch levels are obtained in the SMK śuddhamela vīṇā in the following manner:

On the low Sa string, six frets produce śuddha Ri, śuddha Ga, sādharāṇa Ga, cyutamadhyama Ga, śuddha Ma, and cyutapañcama Ma. On the Pa string of the same register, the six frets produce śuddha Dha, śuddha Ni, kaiśika Ni, cyutaṣaḍja Ni, śuddha Sa, and śuddha Ri.²

Enharmonic notes are the five-śruti Ri and the six-śruti Ri which are said to identify themselves with śuddha Ga and sādharāṇa Ga, respectively. Similarly, the five-śruti Dha and the six-śruti Dha identify with śuddha Ni and kaiśika Ni.³

¹The first two strings, from left to right, of the SMK four-string śuddhamela vīṇā are tuned Sa and Pa, and the two other strings, Sa and Ma an octave higher, SMK, 3:21-3.

²Ibid.:27-34.

³Ibid., 2:53-7.

The two svaras with no assigned frets are antara Ga and kākali Ni which, if provided with frets, would give rise to a "mixed quality in sound", according to the SMK. (This probably refers to "beats".) In their place, the sharper cyutamadyama Ga [and cyutaṣaḍja Ni are] to be sounded instead.¹

Thus the SMK svara system gives three variants each of Ga and Ni and one of Ma. Ri and Dha attain variance by enharmony.

Somanātha in the RV fifty years later, adds four other vikṛta svaras to Rāmāmātya's system. Ri and Dha now each have a four-śruti variety, Ga reaches a six-śruti level as Ma's enharmonic, and Ma is sharpened a further two śrutis to become a six-śruti svara from śuddha Ga.² At their maximum pitch level Ga, Ma and

¹utpatty arthaṃ kathaṃ nokte sārīke dve tad ucyate /
 kākaly antarayor vyaktyau sthāpīte sārīke yadi // 66
 tadā saṅkīrṇabhāvena vādane nānukūlatā /
 tasmān nokte pṛthak sārīyau tad utpattis tu kathyate // 67
 cyutamadyamagāndhārasārīyām eva śrutir yathā /
 kākalyāḥ syāt tathotpattir iti gānavidāṃ matam // 68

SMK, 3

²RV, 1:29

Ni are now more realistically labelled mṛḍu Ma, mṛḍu Pa and mṛḍu Sa, respectively. But Somanātha is careful to point out that they are called these because they take the third śruti of Ma, Pa and Sa,¹ the implication being that mṛḍu Pa and mṛḍu Sa are not variants of the immutable svaras, Pa and Sa.

The RV śuddhamela vīṇā is tuned and fretted in like manner as its counterpart in the SMK. The four-śruti Ri and Dha, the six-śruti Ma, antara Ga and kākali Ni are sounded by deflecting the wire at the fret preceding them. While in the SMK it is the succeeding fret that substitutes for the unfretted antara Ga and kākali Ni, in the RV, it is quite clearly stated that "when the wire is deflected at sādharmaṇa Ga and at the other frets (i.e., the frets of śuddha Ma, śuddha Dha, kaiśika Ni and śuddha Ri), then the other five svaras (antara Ga, the six-śruti Ma, the four-śruti Dha, kākali Ni, and the four-śruti Ri) can be obtained. Therefore, no separate mention is made of them."²

¹RV,1:24

²sādharmaṇādi sārīṣv apakarṣād adhikitā yadā śrutayaḥ / pañca tadāntaramukhyā iha syur iti tāḥ pṛthañ noktāḥ // 39

Thus far we have traced the svvara system from the SR system of seven śuddha and twelve vikṛta svaras to the SMK system of seven śuddha and seven vikṛta svaras including four enharmonic ones, to the RV system of seven śuddha and ten vikṛta svaras including five enharmonic ones.

In the CDP the svvara system is finally stabilized. This system consists of seven śuddha and five vikṛta svaras and include among them four enharmonic notes. Ga's variants are now only sād̄hāraṇa Ga and antara Ga but the latter is not the former unfretted one. Antara Ga now occupies the same śruti level and fret position as the SMK's cyutamadyama Ga and the RV's mṛdu Ma. Parallel to this, kākali Ni is now the fretted former cyutaṣaḍja Ni and mṛdu Sa. Ma's variant, now called varāli Ma, is on the same fret as that occupied by the SMK's cyutapañcama Ma and the RV's mṛdu Pa.¹ The vīṇā's frets have remained unaltered in their positions. Only the names of the tones sounded by the fourth and sixth frets have been changed.

The three systems from which the present Karnatic scale system directly stems may be tabulated as follows:

¹CDP, 1:21-5 (fret positions); 2:4-16 (śruti levels).

Svara Systems

	<u>SMK</u>	<u>RV</u>	<u>CDP</u>
<u>Śruti</u>	<u>Svara</u>	<u>Svara</u>	<u>Svara</u>
4	<u>Sa, śuddha</u>	<u>Sa, śuddha</u>	<u>Sa, śuddha</u>
5	-	-	-
6	-	-	-
7	<u>Ri, śuddha</u>	<u>Ri, śuddha</u>	<u>Ri, śuddha</u>
8	-	Ri, 4-śruti	-
9	<u>Ga, śuddha</u> (Ri, 5-śruti)	<u>Ga, śuddha</u> (Ri, 5-śruti)	<u>Ga, śuddha</u> (Ri, 5-śruti)
10	<u>Ga, sādharāna</u> (Ri, 6-śruti)	<u>Ga, sādharāna</u> (Ri, 6-śruti)	<u>Ga, sādharāna</u> (Ri, 6-śruti)
11	Ga, antara	Ga, antara	-
12	<u>Ga, cyutamādhyama</u>	<u>Ma, mṛdu</u>	<u>Ga, antara</u>
13	<u>Ma, śuddha</u>	<u>Ma, śuddha</u> (Ga, 6-śruti)	<u>Ma, śuddha</u>
14	-	-	-
15	-	Ma, 6-śruti	-
16	<u>Ma, cyutapañcama</u>	<u>Pa, mṛdu</u>	<u>Ma, varāli</u>
17	<u>Pa, śuddha</u>	<u>Pa, śuddha</u>	<u>Pa, śuddha</u>
18	-	-	-
19	-	-	-
20	<u>Dha, śuddha</u>	<u>Dha, śuddha</u>	<u>Dha, śuddha</u>
21	-	Dha, 4-śruti	-
22	<u>Ni, śuddha</u> (Dha, 5-śruti)	<u>Ni, śuddha</u> (Dha, 5-śruti)	<u>Ni, śuddha</u> (Dha, 5-śruti)
1	<u>Ni, kaiśika</u> (Dha, 6-śruti)	<u>Ni, kaiśika</u> (Dha, 6-śruti)	<u>Ni, kaiśika</u> (Dha, 6-śruti)
2	Ni, kākali	Ni, kākali	-
3	<u>Ni, cyutaśadja</u>	<u>Sa, mṛdu</u>	<u>Ni, kākali</u>

Enharmonic notes are bracketed.

Svaras underlined correspond to tuning of either open strings or stopped frets of vīṇā.

The three svara series may be notated as follows:

SMK

RV

CDP

A half-step larger or smaller than two śrutis is indicated by its number of śrutis.

Black notes have no open strings or frets provided for them in the vīṇā.

That an attempt is made to relate the svvara system to the ancient Sa-grāma śruti-series in terms of the vīṇā is seen in the śruti distribution of the SMK and RV svaras, which retains the old antara Ga and kākali Ni despite the usurpation of their role as leading notes by their fretted neighbour. Aspects of the SR cyuta tuning can also be seen in the fret position of sādharma Ga and kaiśika Ni as well as in the SMK cyuta-madhyama Ga, cyutapañcama Ma, and cyutaṣaḍja Ni later renamed mṛdu Ma, mṛdu Pa and mṛdu Sa in the RV. In fact, the SMK svvara system is a combination of the Sa-grāma series and the SR cyuta tuning. It is interesting to note how close the earlier SMK svvara system is to present-day theory.

The CDP reduces the several Ga and Ni variants to only two of each and ignores the RV four-śruti Ri and Dha and its six-śruti Ma, svaras for which no frets have been assigned. It is perhaps this wide variance among the Ga and Ni types in the SMK and RV that partly explains the scale differences and the resulting lakṣaṇa divergences among the rāgas of this era.

The one-śruti interval between leading note and tonic makes the 16th century leading note sharper, in theory at least, than the ancient two-śruti antara Ga

and kākali Ni. The symmetry of a one-śruti leading note is also found within the tetrachord itself and divides it into two parts, as it were. Thus we find tonal nuclei at sādharma Ga and kaiśika Ni, as well as at the tonal centres, Sa, Ma and Pa. The other svaras that might act as resting points would more likely attract a descending rather than an ascending note. Although it is conceivable that the six-śruti Ri may lead to antara Ga and the six-śruti Dha to kākali Ni, at best their power is subsidiary. Veṅkaṭa-makhin recognizes the old function of antara Ga and kākali Ni when he rescues these svaras from their previous role of unfretted, and therefore ambiguous notes, and restores them to that of their ancient birthright as leading notes. It is perhaps Somanātha's distinction between the six-śruti Ma and mṛdu Pa that formally establishes the scalar status of the sharp Ma. As the connecting svara between the disjunct tetrachords in the theoretical chromatic gamut, Ma-sharp fits into the movement in either tetrachord as leading note to Pa, diminished third to śuddha Dha, augmented third to śuddha Ri, or tritone to Sa, melodic intervals that contribute to the age-old essence of symmetry and asymmetry in a rāga.

RĀGALAKṢANA in the SMK, RV and CDP

The SMK melas (scale prototypes) show scales comparable to the D, A, and C modes, and other scales that have no Western equivalents, but none that might correspond to the E, F, and G modes. The RV, too, has no melas of the F and G modes as well as of the A mode. In the CDP, however, all the old mūrccchanā scales appear,¹ as do the other more sophisticated melas of the SMK and RV. Whether the exclusion of the F and G modes from the latter can be explained by apparent difficulties in accurate svāra identification of rāgas due, for instance, to the profusion of Ga and Ni variants in their svāra system, or, whether the F and G modes went out of fashion in the 16th century,² can only be surmised. However, there seems to be enough evidence to show that the use of several variant types of Ga and Ni and of Ri and Dha coupled with the tendency to correlate contemporary rāgas with their likely counterpart in the past, provide the authors of the SMK and the RV reason to "duplicate" some rāgas in their texts.

¹The Dha mūrccchanā appears, however, in a modified form on account of Pa's immutability.

²We recall that in the 13th century the A mode is not represented in the main rāgas of the SR.

The SMK names twenty melas, the last five of which consist of scales that make use of antara Ga and/or kākali Ni. The text differentiates between antara Ga and cyutamadhyama Ga and between kākali Ni and cyutaṣaḍja Ni in scales that are otherwise similar in every respect. In practice cyutamadhyama Ga and cyutaṣaḍja Ni can be substituted for the unfretted antara Ga and kākali Ni, according to the SMK,¹ yet Rāmāmātya makes certain pairs of otherwise duplicate melas, such as Mālavagaula and Hejjuji, Śuddhanāṭī and Sāmanta, Sāraṅganāṭa and Kāmbhoji (the latter rāga of each pair being the rāga that makes use of antara Ga and kākali Ni), appear as separate scales. He justifies the substitution by declaring that Śārṅgadeva has said that "everywhere antara Ga and kākali Ni are used sparingly."² It seems then that Rāmāmātya hesitates to drop antara Ga and kākali Ni from his system because orthodox theory very likely associates certain rāgas with these svaras.

¹SMK,3:70

²etaḍ evābhisaṃdhāya kathitaṃ śārṅgasūriṇā // 71
alpaprayerogaḥ sarvatra kākali cāntaraḥ svaraḥ /

Ibid.

The context of Śārṅgadeva's statement differs, however, from that of Rāmāmātya since the former speaks in connection with sādharāṇa, not with vīṇā frets, SR, I, 5:5-6.

The same differentiation between the two types of Ga and Ni above is made in the RV on the same three pairs of scales. The corresponding pairs of duplicate melas in the RV are, Mālavagaṇḍa and Vasanta, Śuddhanāṭa and Sāmanta, Mallāri and Kāmbhodi. To these Somanātha adds Vasantabhairavī and Bhairava. Since in the RV the unfretted antara Ga and kākali Ni may be sounded by deflecting the vīṇā string at the preceding fret,¹ this distinction between the rāgas above might be justified.

While the SMK gives to the Indian musical world its first mela system, the RV begins to put some order in this system by introducing its twenty-three melas of current rāgas to an increasing number of vikṛta svaras in the scales;² finally, in the CDP the idea of melas constructed on six permutations of the svara constituency in each tetrachord in accordance with the now synthesized svara system and their respective Ma alternative is introduced. Veṅkaṭamakhin arranges nineteen melas out of a

¹RV, 2:39

²From the fifteen varieties of Ri, Ga, Ma, Dha and Ni in the RV svara system, Somanātha arrives at a total of 960 possible melas (3:1-12).

possible 72, which he says are current in his day¹ according to this scheme. With the exception of one, the last five of these nineteen melas are the sharpened Ma version of their corresponding Ma (natural) types.

Although Veṅkaṭamakhin is severely critical of the svvara constituency of the SMK melas,² he manages to integrate his mela system with those of his immediate predecessors, Rāmāmātya and Somanātha.³ Faced as he must have been with the problem of classifying rāgas hitherto associated with antara Ga and kākali Ni at their ancient śruti levels, Veṅkaṭamakhin solves this by retaining as many of the names in the SMK and the RV either as melas or as rāgas in his system and relating them to scales which resemble their earlier form in one or the other tetrachord. Thus, despite the weaknesses

¹CDP, 4:100-1.

²Veṅkaṭamakhin criticizes Rāmāmātya for stating that his mēlas number 20 when two of them, Sāraṅganāṭa and Kedāragaula are identical; for what Veṅkaṭamakhin considers are wrong svvara constituency of mēlas, such as Kannaḍagaula and Nādarāmakriya; for classifying rāgas under the wrong melas, etc., (4:174-209).

³Veṅkaṭamakhin seems to have been unaware of the existence of the Rāgaṅibodha, however.

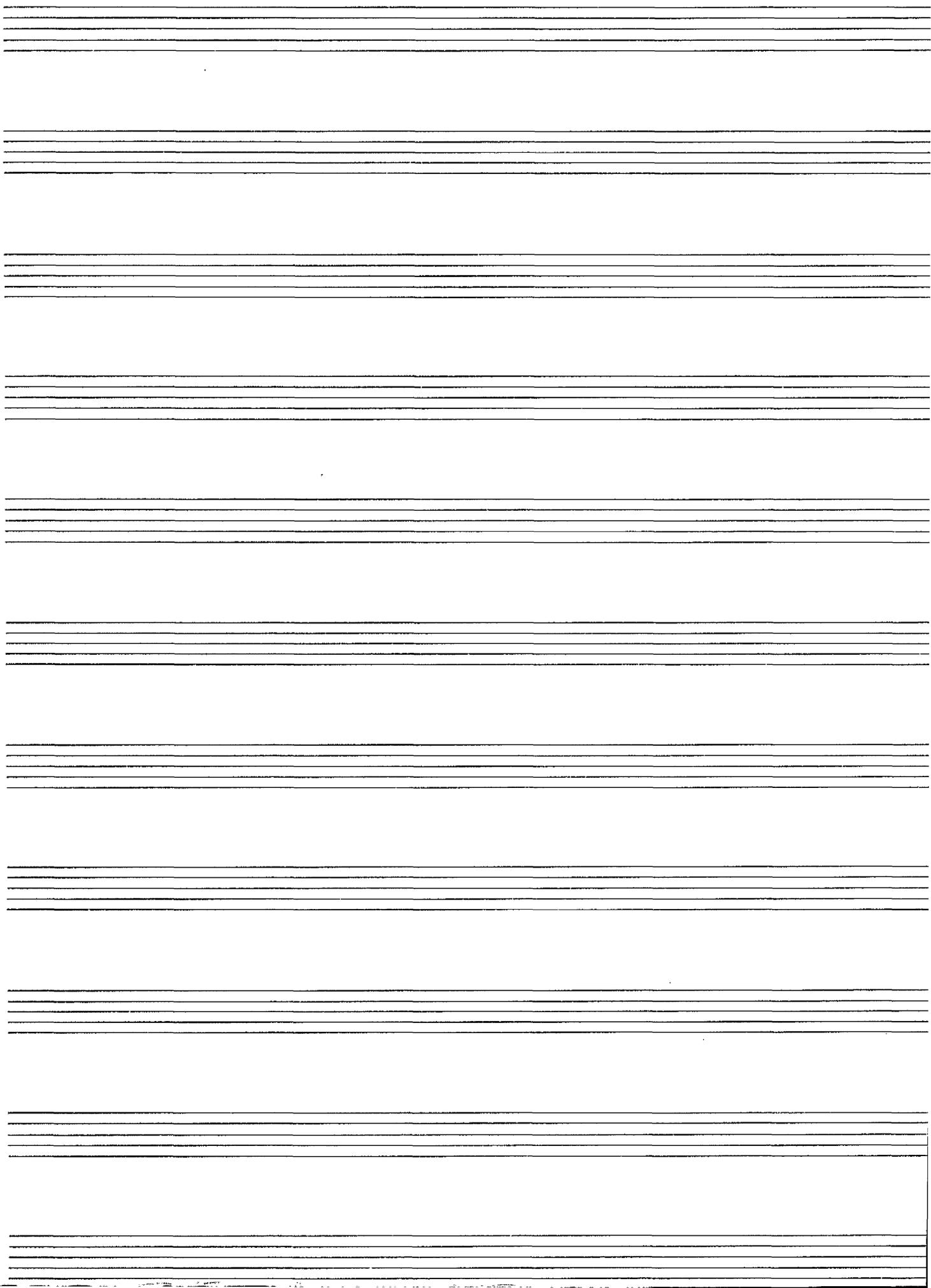
inherent in the SMK and RV svvara systems, the concordance of the rāgas in the three texts shows a fairly high degree of agreement.

For the sake of consistency in our notation of the SMK, RV and CDP scales, their various svaras are notated as follows:

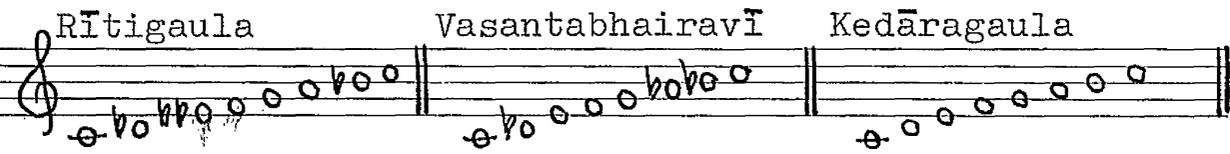
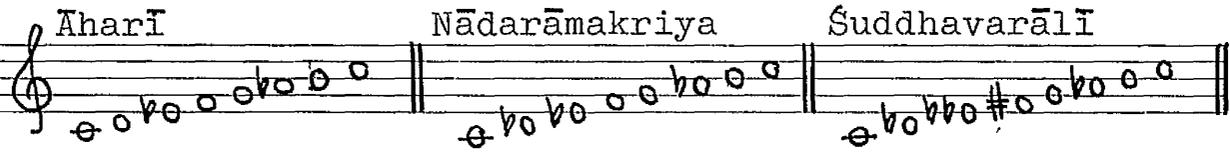
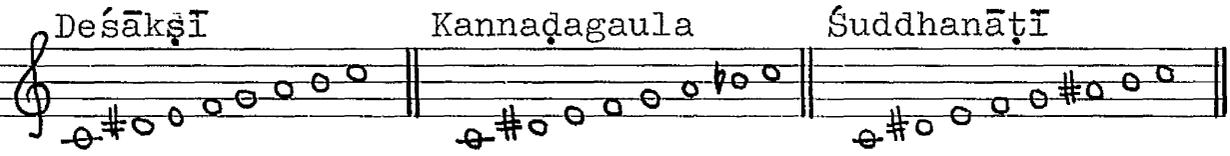
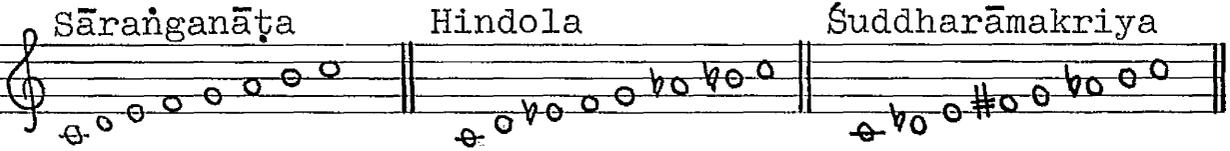
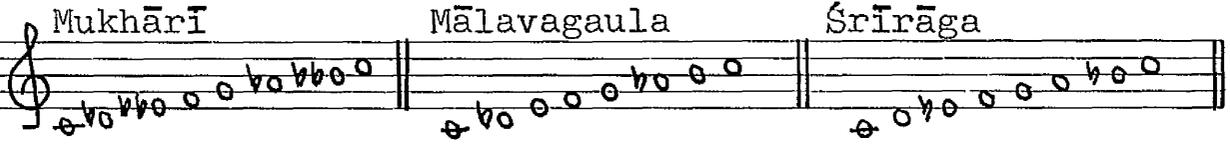
SMK, RV and CDP Svaras Notated

	Ga, cyutamadyama Ma, mṛḍu Ga, antara (CDP)	
Sa, śuddha		Dha, 4-śruti
Ri, śuddha	Ga, 6-śruti	Dha, 5-śruti
Ri, 4-śruti	Ma, śuddha	Dha, 6-śruti
Ri, 5-śruti	Ma, 6-śruti	Ni, śuddha
Ri, 6-śruti		Ni, kaiśika
Ga, śuddha	Ma, cyutapañcama Pa, mṛḍu Ma, varāli	Ni, kākali (SMK and RV)
Ga, sādharāṇa	Pa, śuddha	
Ga, antara (SMK and RV)	Dha, śuddha	Ni, cyutaṣaḍja Sa, mṛḍu Ni, kākali (CDP)

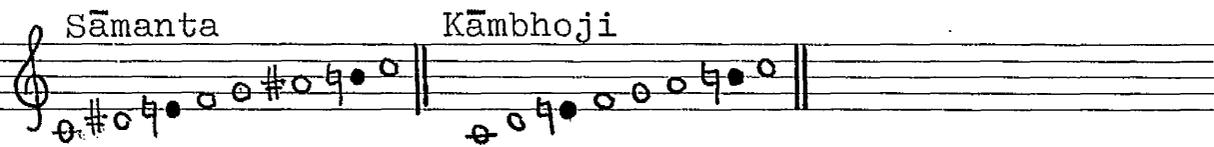
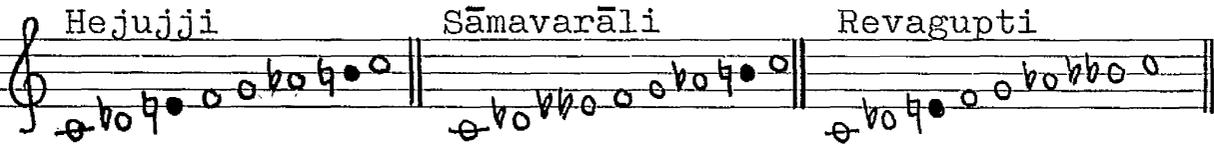
Blackened notes have no corresponding frets in the vīṇā.

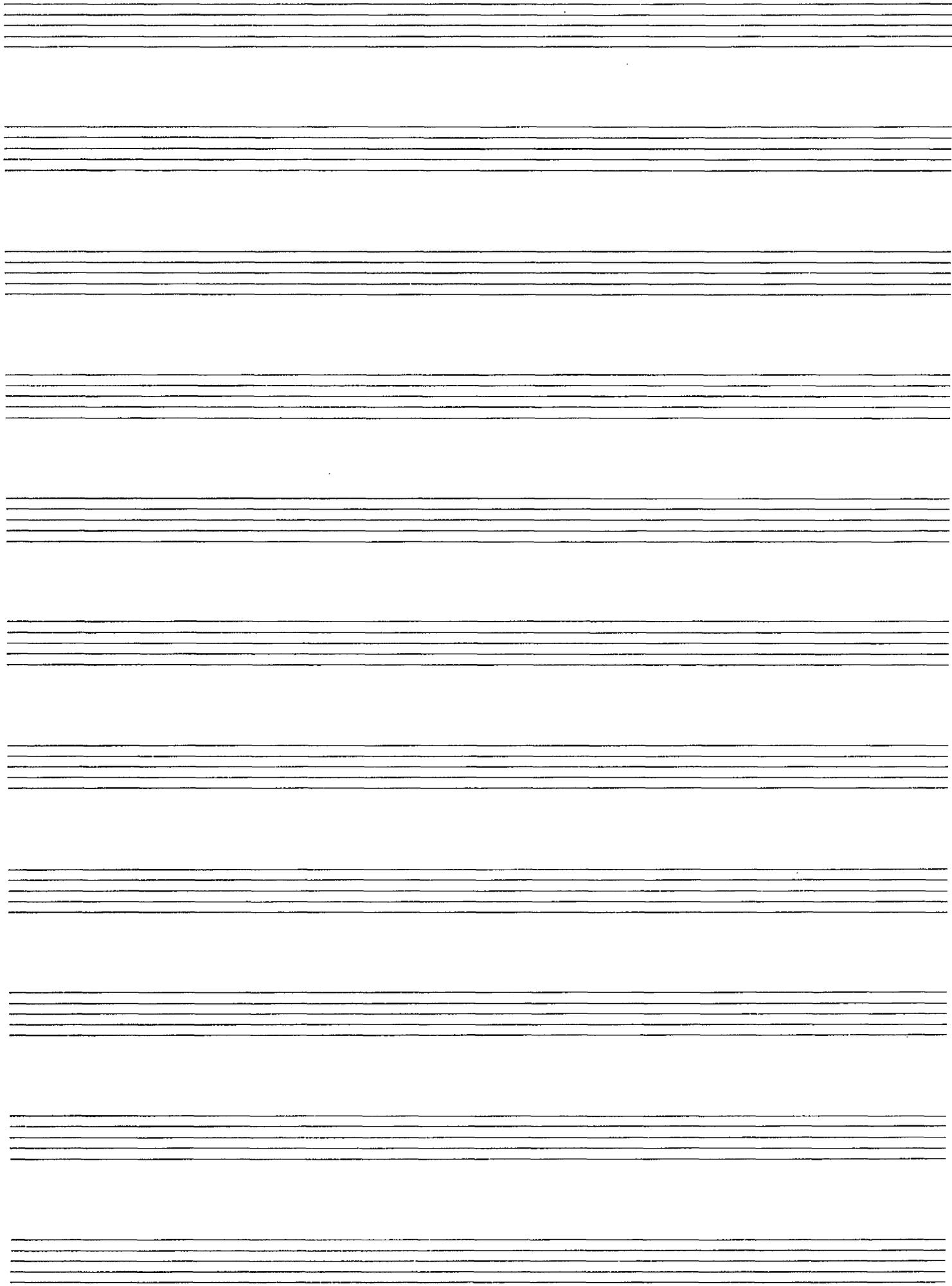


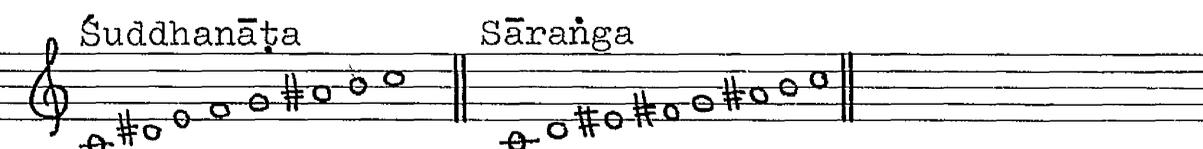
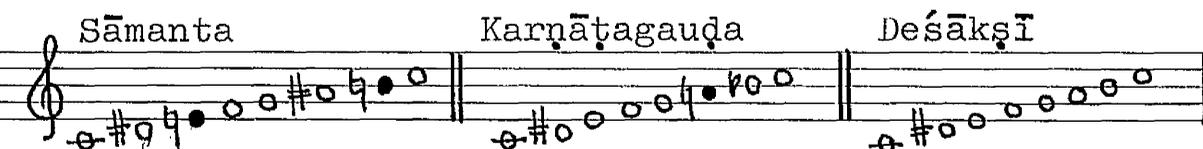
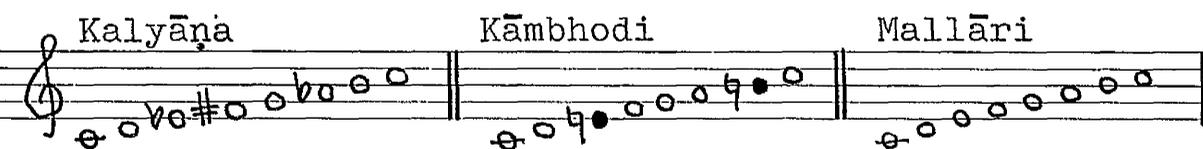
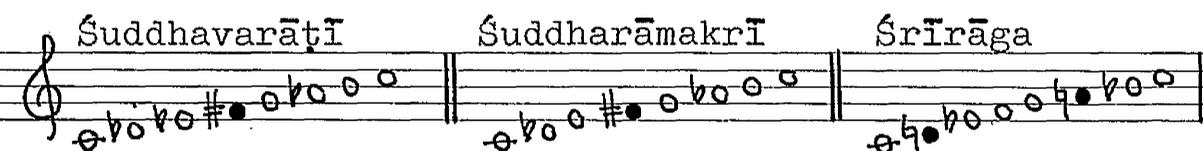
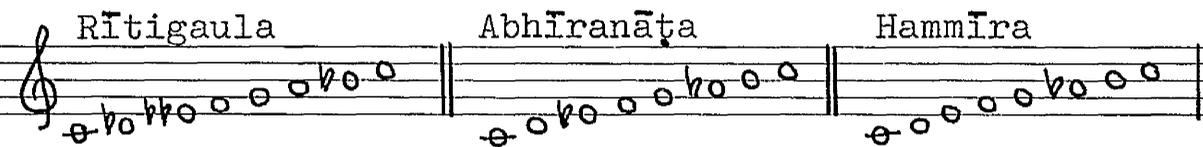
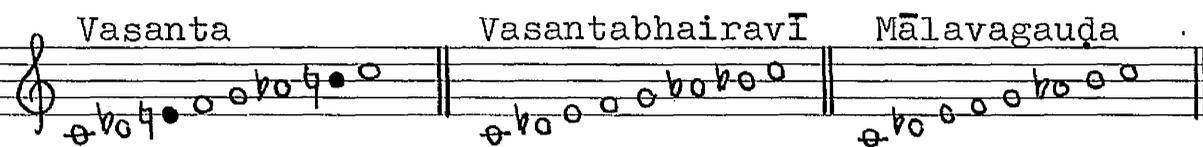
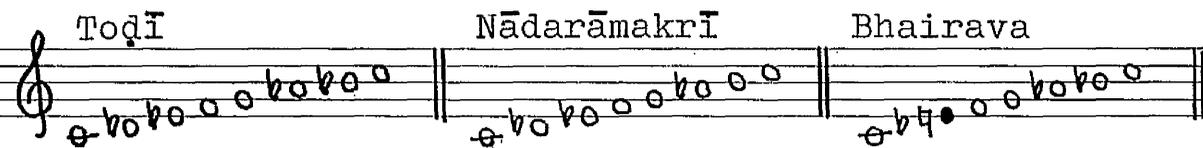
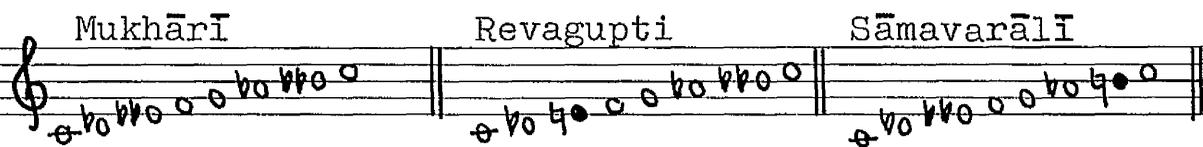
Melas of the SMK



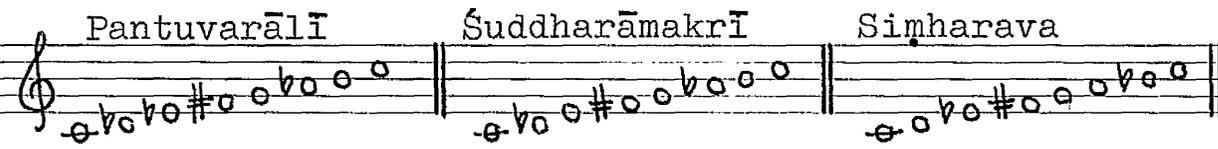
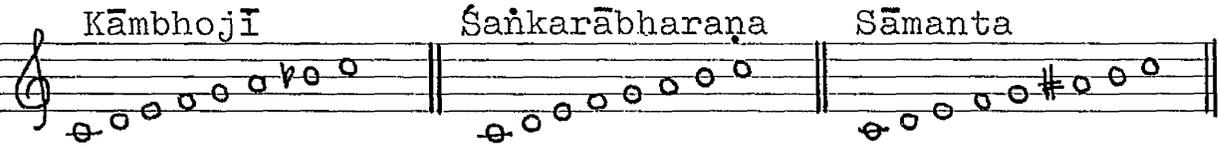
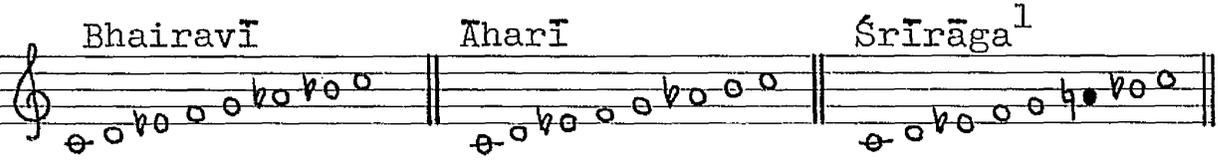
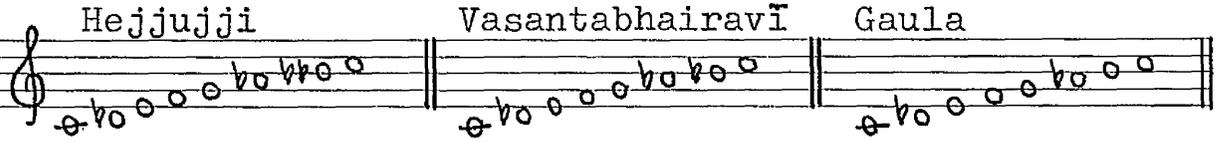
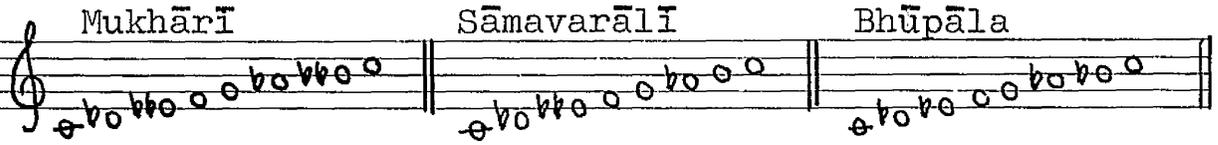
- With antara Ga and kākali -





Melas of the RV

Blank musical staff

Melas of the GDP

CDP, 4:105-173

¹Dha is said to be a four-śruti note (4:133) but the GDP has no such Dha in its system. Cf. RV Śrīrāga.

Blank musical staff

Mela Concordance

<u>SMK</u>	<u>RV</u>	<u>CDP</u>
Mukhārī	Mukhārī	Mukhārī
Mālavagaula	Mālavagaḍa	Gaula
Śrīrāga	Śrīrāga	Śrīrāga
Sāraṅganāṭa	Mallāri	Śaṅkarābharāṇa
Kedāragaula	"	"
Hindola	-	Bhairavī
Śuddharāmakriya	Śuddharāmakriya	Śuddharāmakrī
Deśākṣī	Deśākṣī	Deśākṣī
Kannaḍagaula	Karṇāṭtagauḍa	-
Śuddhanāṭī	Śuddhanāṭa	Nāṭa
Āharī	Abhīranāṭa	Āharī
Nādarāmakriya	Nādarāmakrī	-
Śuddhavarālī	-	Śuddhavarālī
Rītigaula	Rītigaula	-
Vasantabhairavī	Vasantabhairavī	Vasantabhairavī
Hejujji	Vasanta	<Cf. Gaula>
Sāmavarālī	Sāmavarālī	Sāmavarālī
Revagupti	Revagupti	Hejjujji
Sāmanta	Sāmanta	<Cf. Nāṭa>
Kāmbhoji	Kāmbhodi	<Cf. Śaṅkarābharāṇa>
-	Toḍī	Bhūpāla
-	Bhairava	<Cf. Vasantabhairavī>
-	Śuddhavarāṭī	Pantuvarālī
-	Hammīra	-
-	Kalyāṇa	-
-	Sāraṅga	-
-	-	Kāmbhojī
-	-	Sāmanta
-	-	Siṃharava
-	-	Kalyāṇī

The idea of reconciling traditional theory with current practice emanates from Śārṅgadeva who contends that whenever practice and theory do not come to terms in deśī rāgas, then theory must be reconciled with practice.¹ With this precedent Rāmāmātya in the SMK sets forth his principle that the lakṣaṇa of rāgas are determined by lakṣya (practice), not by theory. "Wherever there is a lapse in [theoretical] features is not seen as an offense, since what is important is practice, not theory."²

"Deśī rāgas," he continues, "originate from the Sa-grāma and are endowed with graha, aṃśa, nyāsa, mandra, and so forth, and are either śāḍava, auḍava or sampūrṇa. Whether or not [these lakṣaṇa] are in all the rāgas in accordance to deśī-hood, they (rāgas) are nonetheless [deśī], having had recourse to practice and having conformed to singing technique."³

¹SR, III, 6:335; 341-2.

²yatra lakṣmaparityāge pratyavāyo na vidyate /
tasmāl lakṣyapradhānaṃ tan na tu lakṣmapradhānakam // 10
SMK, 2

³deśīrāgās ca sakalāḥ śaḍjagrāma samudbhavāḥ /
grahāṃśa nyāsa mandrādi śāḍavaauḍava pūrṇakāḥ // 17
deśītvāt sarvarāgeṣu bhavanti na bhavanti vā /
tathāpi lakṣyam āsṛitya gānalakṣmānusṛitya ca // 18 SMK, 5

Since these lakṣaṇa can be found in any of the śāstras, according to Rāmāmātya,¹ he makes no attempt to define them.

In the RV eleven of the traditional rāgalakṣaṇa are mentioned, not, however, under one heading.

First, mandra and tāra are mentioned in connection with alaṅkāras (ornamentation), mandra being a low note and tāra a note with double pitch value.² Then terse definitions of graha, aṁśa and nyāsa which add nothing new to past definitions appear almost at the conclusion of the chapter on the śruti and svara.³ Somanātha comments on this verse, however, by saying that under the same category as graha, aṁśa and nyāsa are the cadence endings, apanyāsa, saṁnyāsa and vinyāsa. Apanyāsa is said to be somewhere in the vidārī, a gīta division. A more specific definition than this, he says, is not possible.⁴ Finally, in the rāga chapter, Somanātha classifies his rāgas into three categories, the third of which divides his rāgas according to their scale sizes, sampūrṇa, ṣāḍava and auḍava.⁵

¹SMK,2:14

²RV,1:58

³Ibid.:82

⁴Ibid., prose.

⁵Ibid.,4:5

Thus, it would appear, that the authors of the SMK and RV either take their rāgalakṣaṇa for granted or assume that their reader already understands the subject, or, much more likely, leave the definitive treatment of rāgalakṣaṇa to the earlier texts.

In the CDP, however, Veṅkaṭamakṣin is more formal about the topic of rāgalakṣaṇa and undertakes to define ten lakṣaṇa which he says have been set down by Mataṅga and others. These are: graha, aṃśa, mandra, tāra, nyāsa, apanyāsa, saṃnyāsa, vinyāsa, bahutva and alpatva.¹ As groups of Veṅkaṭamakṣin's lakṣaṇa are defined we shall compare the three texts in relation to these lakṣaṇa.

¹rañjayanti manāṃsīti rāgās te daśalakṣaṇāḥ /
bhavanti te mataṅgādyaiḥ prāpitās tāni ca kramāt // 2
lakṣaṇāni daśoktāni lakṣyante tāvad āditaḥ /
grahāṃśau mandratārau ca nyāsāpanyāsakau tathā // 3
atha saṃnyāsavinyāsau bahutvaṃ cālpatā tathā /

CDP,5

Although not in the list, the scale size of the rāga is included in its description. Like the jātis and rāgas of earlier days, a mela-rāga in the SMK, RV and CDP may be either sampūrṇa, śāḍava or auḍava. In more modern times, it becomes the practice in South Indian music to expect a rāga that is named after its mela to have all seven svaras of its scale used.

"That svāra which is sung in the beginning of a song is the graha.

"Aṃśa is said to be that svāra which is sung repeatedly. Such an aṃśa-svāra is thought of as the jīva (living) svāra.

"The nyāsa-svāra is said to be that by which a song is concluded."¹

Because Veṅkaṭamakhin is more conventional about the topic of rāgalakṣaṇa, we may assume that his rather short description of the aṃśa indicates that the aṃśa's role as the determinant of tāra, mandra, the cadential endings, etc., is now no longer significant (unless by some stretch of the imagination can the aṃśa's old power be said to be implied in the term, "jīva svāra"). The continuing development of instrumental music which tends to be less restrictive in range and less inhibited in experimentation may have contributed to the impoverishment of the aṃśa's authority. But for all that, the aṃśa

¹yenādaḥ gīyate gītaṃ svareṇa sa bhaved grahaḥ // 5
 bahuśo gīyate yena svareṇāṃśaḥ sa kathyate /
 aṃśasvaras tv asāv eva jīvasyāra iti smṛtaḥ // 6
 nyāsasvaraḥ sa kathito yena gītaṃ samāpyate /

is still a powerful note as we shall see. The appellation, "jīva svara", focuses attention to the aṃśa's more important function as the centrifugal force toward which the melody evolves.

The graha, aṃśa and nyāsa are all ascribed to the same note in the SMK and CDP rāgas. In the RV, the rāgas fall into two groups according to their graha, aṃśa and nyāsa. One group, like the two other texts, makes one note serve as graha, aṃśa and nyāsa. The other group of rāgas has various svaras assigned to graha and aṃśa but their nyāsa is always Sa.

A majority of the rāgas have Sa as their graha, aṃśa and nyāsa. Rāgas of this nature and derived from a common mela are differentiated by being either heptatonic, hexatonic or pentatonic. Where a few rāgas have similar scale and size, style and other internal subtleties may possibly constitute some means toward identification. Rāgas that have their graha, aṃśa and nyāsa on svaras other than Sa, are seen to be closely related nominally if not modally to the SR rāgas. For instance, Gūrjarī and Revagupti which are Ri graha-aṃśa-nyāsa rāgas in the SR¹, are similarly endowed in the SMK, RV and CDP. The SR has a

¹SR, II, 2:89 and 100.

Karṇāṭabaṅgāla whose aṁśa is Ga (but whose nyāsa is Sa, no graha is given)¹ and, correspondingly, there is a Kannaḍabaṅgāla in the SMK and a Karṇāṭabaṅgāla in the CDP whose graha, aṁśa and nyāsa are Ga. Madhyamādi, the traditional Ma graha-aṁśa-nyāsa rāga appears also as such in our three texts. As to the Pa-based rāgas, Āndolī in the SMK and Āndhālī in the CDP (the RV corresponding rāga is named after its ancient parent, Pañcama) recall the SR Āndhālikā.² Of the Dha-based rāgas, Malhārī in the SMK, Mallāri in the RV and Mallaharī in the CDP, as well as Velāvalī in all three, can also be seen to have Dha for their graha, aṁśa and nyāsa in the SR,³ while Sāverī of the SMK and RV (the CDP Sāverī is based on Pa) might be traced to the SR Sāverī whose graha and aṁśa are Ma but whose nyāsa is Dha.⁴ Ni as the setting of the "gaula" rāgas characterizes Mālavagaula, Rītigaula, Kannaḍagaula and Kedāragaula in the SMK and RV (the suffix, -gaula, is sometimes deleted in the RV), as well as the seven "gaula" rāgas in the CDP. The SR Gauḍa, we might recall, has Ni as its graha, aṁśa and nyāsa.⁵

¹SR,II,2:126

²Ibid.:152

³Ibid.:155 and 114

⁴Ibid.:111

⁵Ibid.:92

These findings seem to point to a definite desire on the part of the SMK's author, and subsequently of his successors, to link rāgas of his century with those of the past. Although only a few of the rāgas above agree in scale with their SR counterpart or even among themselves, yet by adhering to the rāgas' graha-aṃśa-nyāsa svaras associated to their names, a semblance of continuity through the centuries is preserved.¹

The position of graha, aṃśa and nyāsa in a note other than Sa, gives rise to the question as to whether this shift of emphasis to various degrees of the scale may be considered a continuation of the practice of svarabhinna found in the BD.² This practice of shifting the pivotal tone from one degree to another produces as many modal permutations of one basic scale-run as there are degrees. In the SMK, if we take the mela, Mālava-gaula, we find it includes the following rāga-scales:

¹In A comparative approach to the classification of rāgas, a paper read at the 1966 international symposium of Asian musics in Manila, Dr. Harold Powers compares North and South Indian rāgas that are nominally related and whose patterns seem to point, by virtue of their similarity, to a genetic and historical relationship as well.

²See p. et seq.

Mālavagaula mela 4:11-2 Lalitā 5:36

Ghūrjarī 5:34-5 Kannaḍabaṅgāla 5:51 Hejjujji 5:48

Baulī 5:31 Malhārī 5:38 Mālavagaula 5:40

(GAN: graha, aṃśa, nyāsa)

Every scale degree except Pa which is omitted in all but two of the rāgas functions as graha, aṃśa and nyāsa. Ignoring these three lakṣaṇa momentarily, we find that Lalitā, Ghūrjarī and Baulī have the same hexatonic scale. Without the distinguishing features of graha, aṃśa and nyāsa, therefore, some difficulty in differentiating these rāgas apart might arise.

The same is true of Sāverī and Āndolī. Both are pentatonic rāgas in the SMK with Ga and Ni omitted. Sāverī belongs to the Sārāṅganāṭa mela, Āndolī to the Śrīrāga mela. When Ga and Ni which are flat (sādhāraṇa and kaiśika) in the Śrīrāga scale are dropped, the

resulting pentatonic scale coincides with that of Sāverī whose parental Ga and Ni, here omitted, are antara and kākali. It is only when Dha is prescribed as graha, aṃśa and nyāsa for Sāverī, and Pa for Āndolī, that the difference between the two becomes evident.

The image shows two musical staves. The first staff is for Sāraṅganāṭa mela (4:20-2) and Sāverī (5:64). The second staff is for Śrīrāga mela (4:16-7) and Āndolī (5:65). Both staves show a pentatonic scale with a GAN note below the staff.

We might conclude from this discussion that, as in the time of Mataṅga, a single svara-series may produce as many rāga-scales as variation in scale size and in degree emphasis will allow. The principle of svarabhinna was very much alive in the 17th century and aspects of it are still evident today.

Somanātha's group of rāgas whose graha and aṃśa are other than Sa but whose nyāsa is always Sa might be said in this respect to anticipate the modern-day rāga. Even in his Mālavagauḍa whose graha, aṃśa and nyāsa are Ni, Somanātha declares that the rāga may also take Sa as its

final.¹ This group of rāgas in the RV either have their graha and aṃśa on one and the same svāra (except Sa), or start and end on Sa but use different aṃśas, or have their graha, aṃśa and nyāsa differing from each other, nyāsa always being Sa, however.²

Examples of the first type would be Trāvaṇī and Śrīrāga whose graha and aṃśa are on Ri; Toḍī, Māravikā, and Kedāra,³ on Ga; Hijeja and Āsāvarī (cf. the SR Sāvarī mentioned above), on Ma; none uses Pa in this grouping; Bhairava, on Dha, which recalls the SR Bhairava; and Vihaṅgaḍa, on Ni.

¹mālavagaḍaḥ pūrṇaḥ pradoṣaśobho 'tha vā rahitaḥ // 15
gāndhāradhaivatābhyāṃ ni nyāsāṃśagraho 'thavā sāntaḥ /
RV,4

²Regarding these relationships between various graha and aṃśa svaras with nyāsa Sa in these rāgas, the reader might also see N.A. Jairazbhoy's forthcoming book, (op. cit., but title is provisional). The author draws distinction between the inherent dynamic function of svaras and the dynamic function induced by melodic context. The former is the acoustic property of the note in relation to the tonic (consonants and dissonants); the latter may be brought about by the demands of symmetry, (in the chapter, "Symmetry, movement and intonation").

³There are two Kedāra rāgas in the RV: the Kedāra mentioned previously whose graha, aṃśa and nyāsa are Ni, and this Kedāra whose other difference is that its Dha is śuddha.

The second type whose graha and nyāsa are Sa but whose aṃśas differ may be found in Chaitigauḍa with Ri as its aṃśa; in Pūrvī, Jaitāśrī, Kalyāṇa, Bhūpalī, etc., with Ga as their aṃśa; Hindola, with Ma; Śuddhagauḍa, with Pa; and Lalitā, with Dha, the same aṃśa that the SR second Lalitā uses;¹ no rāga uses Ni here.

The rāgas whose graha, aṃśa and nyāsa are three different notes are: Devagāndhāra, with Ri, Pa, and Sa in that order; Hammīra, with Ga, Pa, and Sa; Pāvaka, with Ga, Dha and Sa; and Aḍḍāna, with Pa, Dha and Sa. Finally, to complete the picture, we must include Śuddhavarāṭī whose Ri graha to its aṃśa and nyāsa of Sa is a supertonal approach to the tonic.

Ga is seen to be the most desirable svara for aṃśa (representing twelve rāgas), which in the light of the tuning of the vīṇā's drone strings is a significant consideration since the vīṇā's drone strings are tuned Sa, Pa and Sa an octave above in the RV.²

A number of rāgas in this group are not mentioned in either the SMK or CDP and there is reason to believe

¹SR, II, 2:176

²RV, 2:20. The drone strings are tuned in a descending pitch in the SMK (3:24-5) and in the CDP (1:18-9).

they may have come from the north. In some instances, their scales relate rather closely to their present-day North Indian counterpart. We refer to Māravikā, Pūrvī, Paraja, Kedāra,¹ Hammīra, Lalita,² Jaitāsri, and Vihaṅgaḍa (Bihāgrā).

In the CDP a single note, as in the SMK, represents the rāga's graha, aṁśa and nyāsa.³ In addition to these mode determinants, Veṅkaṭamakḥin prescribes vādī, saṁvādī, anuvādī and vivādī svaras to ten of his rāgas. In the majority of them the prescription is the same: Sa is vādī;

¹This is a rāga of the mela, Hammīra in the RV. In the KPM Bhārkhāṇḍe describes the North Indian Kedār as being like Hamīr (North Indian) but great care, he says, must be taken in the use of Ga lest the rāga be mistaken for Hamīr (III,117 et seq.). The RV Kedāra and the KPM Kedār differ considerably in scale, however.

²Lalita and Śuddhalalitā are two different rāgas in the RV. It is the latter that is the counterpart of the SMK and CDP Lalitā.

³Two rāgas in the CDP are not assigned any graha, aṁśa or nyāsa svāra. They are Kalyāṇī and Pantuvarālī, named after their respective mela. Kalyāṇī is said to be suitable for gīta and prabandha, while Pantuvarālī suits the gīta, ṭhāya and prabandha (5:107-8). Cf. the North Indian Toḍī which lends itself best to the ālāpa and whose scale is also that of Pantuvarālī.

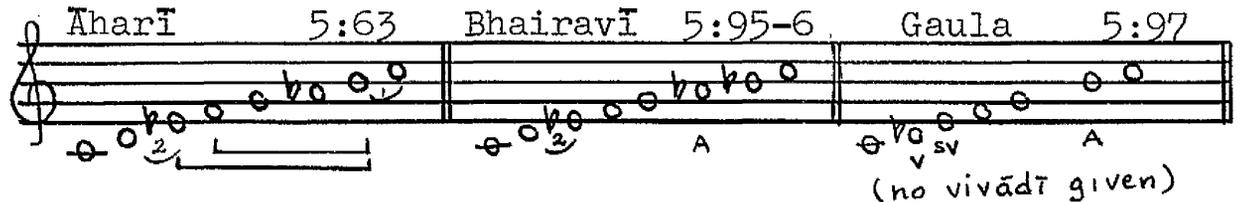
Pa is saṃvādī and in three of the rāgas,¹ Ma is a second saṃvādī; Ga and Ni are vivādī; Ri and Dha are anuvādī. The exception is Saurāṣṭra in which Ri and Dha are vivādī and Ni is anuvādī.

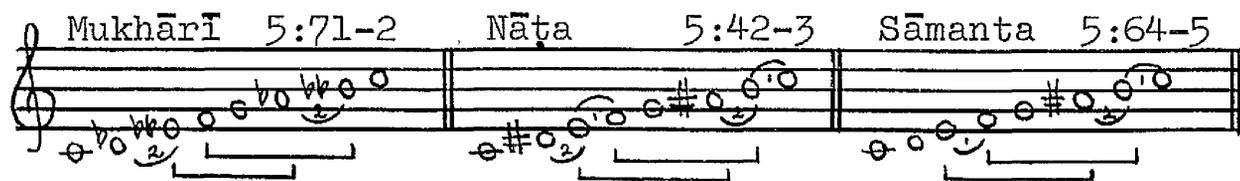
The relation between Sa and Pa, a perfect fifth, is clear since no variant forms of Sa and Pa are permissible. The Anuvādī or assonant intervals cover several intervallic sizes and do not present too much of a problem. In the case of the vivādī or dissonant intervals, however, the question arises as to what constitutes a dissonant interval in the CDP. The text does not elucidate on the matter. Is it a two-śruti interval as is found in the NS and other works, and does it lie between Ri and Ga and between Dha and Ni? If so, would a one-śruti interval not be considered even more dissonant?²

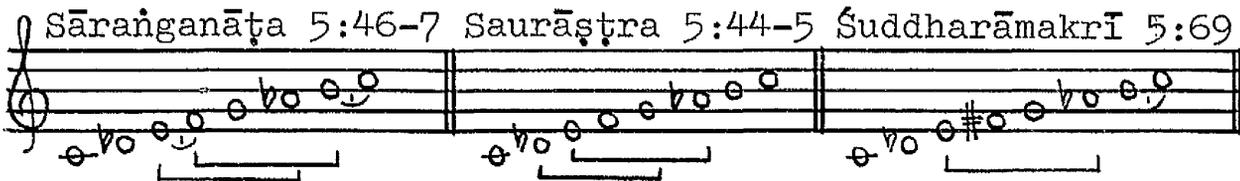
The ten rāgas are: Āharī, Bhairavī, Gauḷa, Mukhārī, Nāṭa, Sāmanta, Sāraṅganāṭa, Saurāṣṭra, Śuddharāmakriyā and Śuddhavarālī and their scales are given below.

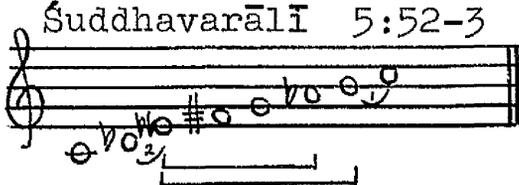
¹Sāraṅganāṭa, Saurāṣṭra and Śuddhavarālī.

²See our table of svara systems supra.

Āharī 5:63 Bhairavī 5:95-6 Gauḷa 5:97


Mukhārī 5:71-2 Nāṭa 5:42-3 Sāmanta 5:64-5


Sāraṅganāṭa 5:46-7 Saurāṣṭra 5:44-5 Śuddharāmakrī 5:69


Śuddhavarālī 5:52-3


Showing possible areas
of vivādī relationship

Sa is the vādī of all but one of these CDP rāgas and the aṃśa of all but two. Bhairavī takes a Dha aṃśa while Gauḷa whose aṃśa is Ni has its vādī on Ri. The intervallic relationship between aṃśa and vādī in Bhairavī and Gauḷa are a major third in the former and a diminished third in the latter. Gauḷa's saṃvādī is said to be Ga [sic] which is most peculiar. If this is not a printing error, then Ri-Ga constitutes a strange saṃvādī relationship indeed. If, on the other hand, we

dismiss this as being a scribe's error, then to what other note can Gaula's Ri vādī be saṃvādī since its consonant, Dha, is omitted in this hexatonic rāga? Pa, another possibility, is, however, not a perfect fourth to Ri in this rāga.

In Śuddhaḥvarālī both Ma and Pa are said to be saṃvādī to its vādī, Sa. But the fourth degree of its scale is raised. If śuddha Ma is meant, could this mean that the two varieties of Ma are used in this rāga?

Ga and Ni in Bhairavī are said to be the rāga's vivādī svaras but in terms of one or two-śruti intervals, only Ga forms a two-śruti interval with neighbouring note, Ri. As an interval Ga and Ni make a perfect fifth; moreover, Ga to Dha and Ni to Ma are also perfect consonants in this rāga, so that, except for Ga's two-śruti interval with Ri, it is not clear why Ga and Ni act as vivādī svaras in Bhairavī.

In Āharī, Mukhārī, Nāṭa, Sāraṅganāṭa, Sāmanta, Śuddharāmakrī and Śuddhavarālī, Ga and Ni make one- or two-śruti intervals with their neighbour notes. They also form false fourths or fifths with other svaras. We might at this point consider the possibility of this latter aspect as constituting another area of dissonancy. Not since the BD have the rāgas been specifically assigned

vādī-svaras. Hence, this reference to the vādī-svaras in certain rāgas in the CDP might indicate a further attempt to distinguish rāgas whose lakṣaṇa of Sa graha-aṃśa-nyāsa does not suffice to differentiate them from other rāgas of similar scales and lakṣaṇa.

A good example of this is found in Sāraṅganāṭa and Saurāṣṭra. Both have the same heptatonic scale and both rāgas have Sa as graha, aṃśa and nyāsa. Vivādī svaras are Ga and Ni in Sāraṅganāṭa and Ri and Dha in Saurāṣṭra. Areas which relate to Ga and Ni might then be considered vivādī in the former, and those relating to Ri and Dha as vivādī in the latter. These are the tritone, Ni-Ma and the false fourth, Ga-Dha, in Sāraṅganāṭa and the false fourths, Ri-Pa and Dha-Ga in Saurāṣṭra. Now, Ri and Dha are anuvādī svaras in Sāraṅganāṭa while Ga and Ni are given as anuvādī in Saurāṣṭra. The interval, Ri-Pa, which is vivādī in the latter would then now be acceptable in Sāraṅganāṭa; similarly, Sāraṅganāṭa's vivādī tritone, Ni-Ma, would be acceptable in Saurāṣṭra. Thus, although the two rāgas come from a common mela, we might expect their svara movements to differ according to their vivādī areas.

It is possible then that in the CDP the concept of vivādī encompasses a meaning beyond the scope expounded

in the NS and the BD. That vivādī no longer solely applies to two-śruti intervals is perhaps proved in the rāga, Saurāṣṭra, whose vivādī svaras, Ri and Dha, do not form any one- or two-śruti interval in the rāga's scale whatsoever. Instead, we might say that vivādī also includes a reference to areas of imbalance in a rāga's scale, such as false fourths and fifths, including tritones,¹ which may be deemed undesirable in the faithful delineation of a particular rāga. Being a relative concept, however, vivādī is not necessarily a thing to be avoided but rather a phenomenon that serves to mark one rāga off from another. This recalls the old SR lakṣaṇa of antaramārga. In the 17th century the vivādī may well have replaced the antaramārga as a more understandable rāga feature.

¹In his forthcoming book, N.A. Jairazbhoy explains how imbalance within a scale tends to create new scales in the effort to correct the imbalance; that it is this constant flux of balance and imbalance which provides new ideas to a tradition seemingly unchanging. (Op. cit.; see chapters, "Effect of drones", "Evolution of the ṭhāṭs", "Symmetry, movement and intonation")

Somanātha illustrates fifty-one of his rāgas with short vīṇā pieces for the purpose of demonstrating by means of graphic signs or symbols (saṃketas) various types of ornamentation-technique on the vīṇā (vādana-bhedas). The pieces consist of unmeasured rows of rāga-rūpas which aim, as the name suggests, to reveal the character of the rāga. The end of a rāga-rūpa is indicated by the padma (lotus) sign in the notation. Only eight of these illustrated rāgas take a nyāsa svāra other than Sa. The vīṇā pieces, however, show that the end of the rāga-rūpas in all instances falls on Sa.

One of Somanātha's vīṇā saṃketas, the śama, has been likened to the fermata of Western music.¹ At times a svāra in the rāga-rūpas is given two of these śamas, denoting, presumably, a longer hold. Following this interpretation of the śama, we have notated the end phrases of the eight rāgas which do not take a Sa nyāsa.

¹Simon, R. "Die Notationen des Somanātha," Sitzungsberichte der philosophisch-philologischen und der historischen Klasse der Königlichen Bayerischen Akademie der Wissenschaften zu München, III (1903), 459.

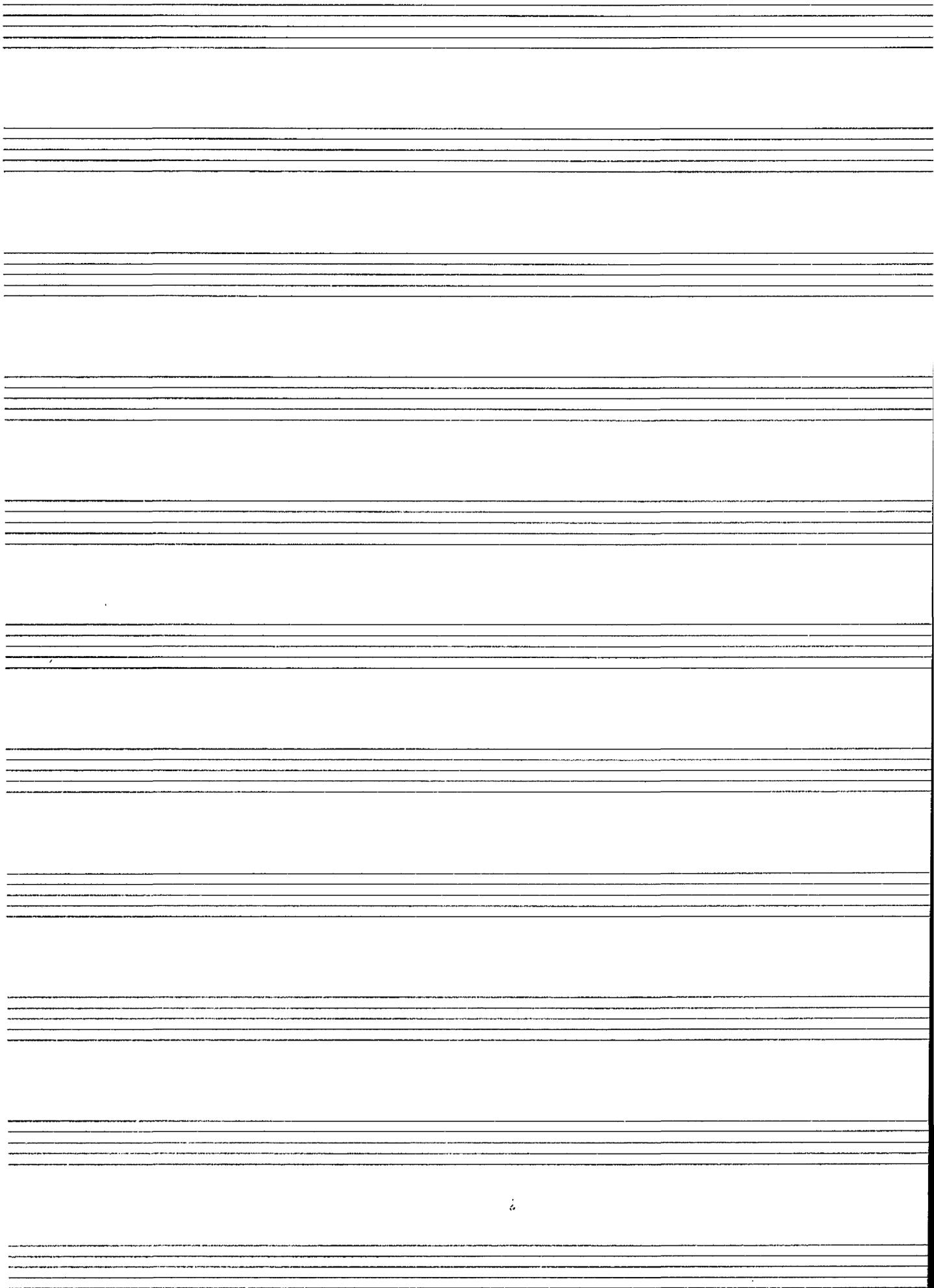
Final cadences of Rāga-rūpas

Deśī Nyāsa: Ri RV, 5:75-7

Gonḍa Nyāsa: Dha Ibid.:71-3

Karṇāṭa Nyāsa: Ni Ibid.:123-31

Mālavagaṇḍa Nyāsa: Ni Ibid.:116-20



Mallāri

Nyāsa: Dha

Ibid.:65-8

Nāṭamallāri

Nyāsa: Dha

Ibid.:68-71

Turuṣkatodī

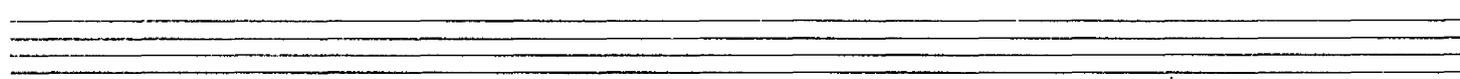
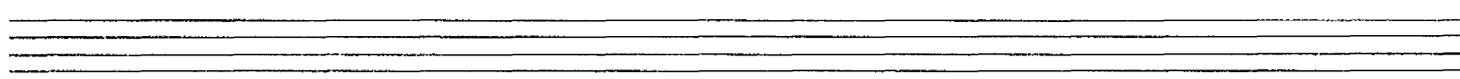
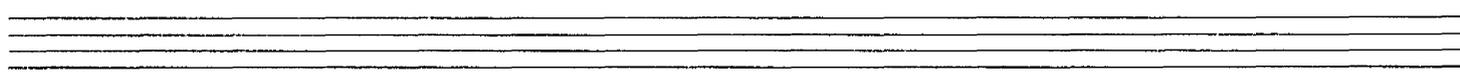
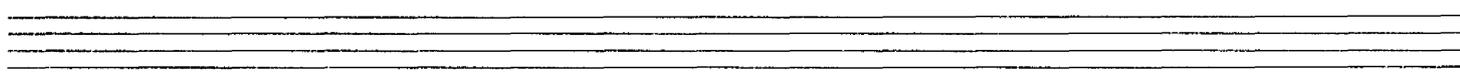
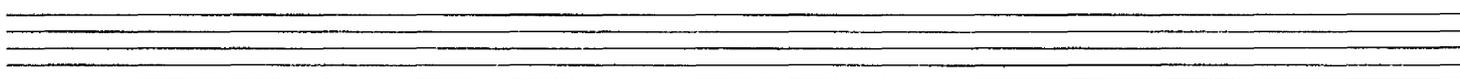
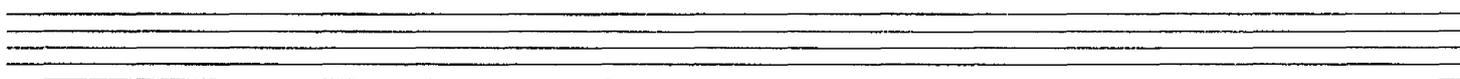
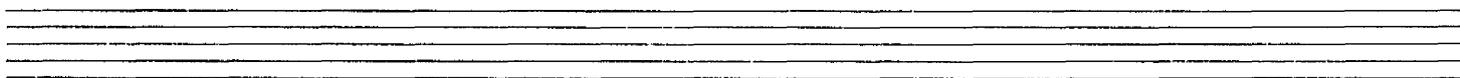
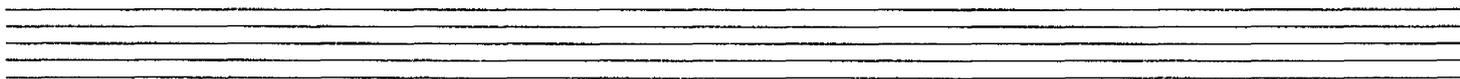
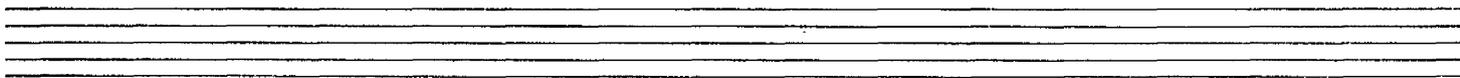
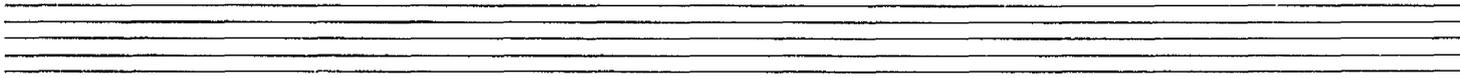
Nyāsa: Ga

Ibid.:63-5

Velāvalī

Nyāsa: Dha

Ibid.:41-3



The evidence above shows that most of the rāga-rupas' final cadences include the rāga's prescribed nyāsa and that they invariably gravitate to the tonic, Sa.

The effect of the Sa-Pa-sa or sa-Pa-Sa drone on the music of this era, coupled with its developing Sa-system of modality, may have resulted in a kind of "supra" Sa-nyāsa that was tacitly recognized to be inevitable. Like the drone which is never discussed in any of the texts,¹ the irresistible pull of Sa may have been recognized as such without further elaboration. Theoretically, in the mela scheme of things, the incorporation of well-known rāgas of the past into the new order of mela-janya rāgas would have necessitated the inclusion of lakṣaṇa associated with these rāgas. Thus, the traditional description of many rāgas in music treatises persists and any incongruity between theory and practice may be put down as evidence of a rāga's con-

¹Apart from the statement that the three side-strings in the vīṇā are called śruti (SMK, 3:26; RV, 2:20; CDP, 1:19), nothing more is said about the drone.

tinuing growth. Hence, as late as the 19th century, music theorists continue to prescribe a nyāsa svāra other than the empirical nyāsa of Sa to rāgas whose long history ostensibly warrants some degree of attention with regard to their śāstraic lakṣaṇa.

"Mandra svara is said to be singing by means of a low note.

"Tāra svara is said to be singing by means of a high note."¹

The arbitrary nature of their definitions seems to indicate that in the CDP mandra and tāra act not so much to delimit a rāga's range but to denote its level of tessitura. This is perhaps the inevitable consequence of a modality that has been systematized to a single svara series, the Sa series. In the past, when the first degree of a scale may be any one of the seven svara positions in an arbitrary middle register, the jāti's ambitus also helped to identify its mode. Similarly, the modal ambiguity of some Gregorian chants necessitates their classification in terms of ambitus or maneria rather than as authentic or plagal divisions of the four maneriae.²

In the SMK mandra is mentioned only in the rāga, Soma. The rāga is described as sung with a great deal

¹nīcaiḥ svareṇa yad gānaṃ sa mandrasvara ucyaṭe /
uccaiḥ svareṇa yad gānaṃ sa tārasvara ucyaṭe // 7

CDP,5

²This is specially true of chants with limited or excessive range. See Apel, op. cit., 144-52.

of mandra Ma.¹ In the CDP, "the sampūrṇa rāga, Sāma, adorned with mandra Ma, is sung with a stringed instrument."² Tāra is nowhere mentioned in the description of the individual rāgas in the SMK, RV, and CDP. This absence of mandra and tāra criteria in the treatises of the time tends to draw the conclusion that by the 17th century a rāga's range was limited only by the physical properties and inherent potentialities of varying vocal and instrumental media. Somanātha's statement that his rāga "rūpas which are given in the middle register may

¹SMK,5:60. A Jacobite church-song with a similar scale as the Soma appears to have a low tessitura, also. See, Idelson, A.Z. Jewish music (New York, 1944),32, no.5.

²śaṅkarābharaṇān melāt saṁbhūtaḥ sāmārāgakaḥ // 74
saṁpūrṇaḥ satataṁ geyo mandramadhyamabhūṣitaḥ /

CDP,5

The phrase, "satataṁ geyo", may perhaps also be translated, "played on a stringed instrument", implying that a stringed instrument might have greater mandra capabilities than the human voice.

The CDP Sāma's mandra Ma is not evident in the 19th century Sāma kriti of Tyāgarāja, Śāntamuleka (I,61), whose scale is also that of the CDP Sāma.

be rendered in the mandra and tāra [ranges]"¹ seems to confirm our impression. After the SR, mandra and tāra no longer act as the lower and upper limits of a rāga's ambitus as influenced by the position of its aṃśa within a given mūrccchanā.

¹rūpāṇy evaṃ madhyaprādhānyād darśitāni yāny eṣām /
mandre tāre ca yathā sambhavam iti vādanī yāni // 167

"The apanyāsa is reached at the intermediate pause of the rāga, while the nyāsa is at the utmost end [of it]. Such is the difference between the two, the nyāsa and apanyāsa svaras."¹

"The saṃnyāsa is called [that which] ends a part of the first section of the gīta.

"The vinyāsa is the note which stands at the end of the first part of a gīta section.

"These saṃnyāsa and vinyāsa are said by Bharata and others to be implied by the apanyāsa svāra."²

While the above definitions of the three ancillary types of nyāsa seem to follow the ancient theory of apanyāsa, saṃnyāsa and vinyāsa, there is an ambiguity about them that cannot escape notice. Taken literally,

¹avāntarasamātiṃ yo rāgasyāpi tanoti saḥ // 8
apanyāsaḥ smṛto nyāsas tv ātyantikāsamāptikṛt /
iti bhedo bhaven nyāsāpanyāsasvarayor dvayoḥ // 9

CDP,5

²saṃnyāso nāma gītādyakhaṇḍabhāgasamāptikṛt /
gītākhaṇḍādyāvayavasyānte tiṣṭhati sa svāraḥ // 10
vinyāsa etau saṃnyāsavinyāsau bhāratādibhiḥ /
antarbhūtav apanyāsasvāra eveti kīrtitau // 11

Ibid.

the definitions might present a pattern such as the following:

Given a gīta with three sections (khaṇḍa) of two parts (bhāga) each. The apanyāsa as an intermediate pause may either be found at any end point of the gīta except at the very end, or, only at the end of the second khaṇḍa, the midway point. The saṃnyāsa, on the other hand, is that note which ends a bhāga of the first khaṇḍa. In this instance our khaṇḍa has two bhāgas. Let our saṃnyāsa end the second bhāga of the first khaṇḍa. The vinyāsa, in turn, is that note which ends a khaṇḍa's first bhāga, called in the text, avayava, presumably to differentiate it from the other bhāgas.

-- G I T A --

Khaṇḍa One	Khaṇḍa Two	Khaṇḍa Three
Avayava! Bhāga !	Avayava! Bhāga !	Avayava! Bhāga !
aN aN	aN aN	aN N
or		
vN sN	vN aN	vN N

The ambiguity lies in what constitutes a khaṇḍa, bhāga, or avayava. Furthermore, all these pauses being inner pauses (avāntarasamāptiḥ), they may easily fall

into the category of apanyāsa. Venkaṭamakḥin perhaps realizes this when he says that the saṃnyāsa and vinyāsa are implied by the apanyāsa but he takes care to put the burden of proof on "Bharata and others".

Although the ancillary endings are identified as gīta endings in both the BD and the CDP, there is no mention of a text with regard to the vinyāsa in the latter. And unlike the BD, the CDP does not discuss the vidārī in connection with the apanyāsa, saṃnyāsa or vinyāsa. Instead, the vidārī is found in the chapter dealing with the ālāpa,¹ an aspect that is distinct from the gīta in the CDP "four-column" approach to the study of classical music.²

Briefly, the ālāpa which may be described as a prelude to the ākṣiptikā (measured composition with text), consists of sections known as rāgavardhanī (akin, perhaps, to the rāga-rūpa), vidārī and sthāyī. The ālāpa begins with three pairs of alternate rāgavardhanī and vidārī. This is followed by the sthāyī section. After the sthāyī is completed a fourth rāgavardhanī and its vidārī bring

¹CDP,6:1-32

²The four columns being gīta, ālāpa, ṭhāya and prabandha.

the ālāpa to a close. In a sense then, it is the vidārī that terminates an ālāpa section before another section can begin and finally terminates the ālāpa itself. One might say that the vidārī's 17th century structure is but an extension of its BD cadential one. The vidārī's function has, however, remained essentially the same.¹

From this vantage point, it is apparent that the function of the apanyāsa, saṃnyāsa and vinyāsa as musical pauses bound to the demands of the classical theatre begins to lose significance when seen in the context of purely vocal or instrumental music. As classical music acquires an independent and ever-widening horizon, the traditional rāgalakṣaṇa appear to drop their former application. We have seen this happen to tāra and mandra and we see it happening also to the subordinate nyāsa-types when no specific apanyāsa svāra or svāras are prescribed in any one rāga in the SMK, RV and CDP, or, in lieu of this, when no statement is made regarding the consonant or assonant relationship that the apanyāsa, saṃnyāsa or vinyāsa might have with the rāga's aṃśa.

¹The vidārī, also called muktāyī in the CDP, may perhaps be likened in function to the Da capo ending or to the 17th century ritornello of Western music although it is not clear whether the vidārī repeats the same tonal pattern everytime it is played.

"Bahutva is thought to be of two kinds: alaṅghana (non-leaping over) and abhyāsa (repetition). Wherever there is no contact, that is described as laṅghana (leaping over or avoidance). Alaṅghana is considered to be complete contact with a svara. [Contact] with a single note uninterruptedly, or else [its] enunciation again and again with an intervening [note] is said to be abhyāsa, that is, repetition. In this way is bahutva two-fold."¹

"Alpatva is [also] said to be two-fold: by anabhyāsa (non-repetition) and by laṅghana (leaping over). As said previously, anabhyāsa is described as being free from abhyāsa (repetition). And as previously stated, laṅghana is described as the absence of alaṅghana.

"These then are the ten lakṣaṇa as differentiated by me clearly."²

¹alaṅghanaṃ tathā 'bhyāso bahutvaṃ dvividhaṃ matam /
svarasyāsparśanaṃ yatra laṅghanaṃ tatra kīrtitam // 12
sākalyena svarasparśas tv alaṅghanam iti smṛtam /
yad ekasya svarasyaiva nairantaryeṇa vā 'tha vā // 13
vyavadhānena vā bhūyo bhūyo 'py uccāraṇaṃ hi tat /
abhyāsa iti śaṅsanti bahutvaṃ dvividhaṃ tataḥ // 14

CDP,5.

²alpatvaṃ dvidhā proktam anabhyāsāc ca laṅghanāt /
pūrvoktābhyāsarāhityam anabhyāsaḥ prakīrtitaḥ // 15
pūrvoktālaṅghanābhāvo laṅghanaṃ parikīrtitam /
lakṣaṇāni daśāpy evaṃ lakṣitāni mayā sphuṭam // 16

Ibid.

The concept of bahutva and alpatva in the CDP thus follows that of the SR quite closely. There is actually only one mention of alpatva, none of bahutva, in the CDP rāgas in spite of the elaborate explanation in the text of these lakṣaṇa. And in the SMK rāgas, no alpatva or bahutva is prescribed at all. This lack of prescription in the rāgas does not necessarily imply that little bahutva or alpatva characterizes the rāgas of this era. It could mean that the application or non-application of these lakṣaṇa to current rāgas was left in the hands of practicing musicians.

In theory there^{are} ways to determine the alpatva in rāgas. The SMK arranges its rāgas according as they are heptatonic, hexatonic or pentatonic. Notes omitted in ascent or in descent may be considered transitory or alpa notes. Of the SMK heptatonic rāgas, Kāmbhoji omits Ma and Ni in ascent,¹ Nārāyaṇī drops Ri in descent occasionally,² and Velāvalī omits Ri and Pa in descent at times.³ Ghūrjarī, classified as hexatonic, is only partly that since the omitted note, Pa, is retained in descent.⁴

¹SMK, 5:45

²Ibid.:49

³Ibid.:50

⁴Ibid.:35

Vasantabhairavī, a heptatonic, is the only rāga described in the CDP as having an alpa note, the weak note being Pa presumably in both ascent and descent.¹ Another heptatonic rāga, Śuddhavasanta, omits Pa in ascent.² These two rāgas seem to exemplify the two ways of arriving at alpatva. Alpatva in Vasantabhairavī implies the non-repetitive (anabhyāsa) use of Pa in ascent and descent while alpatva in Śuddhavasanta means the leaping over (lañghana) of Pa in the ascending melodic line. In terms of equal use of all seven svaras in the scale, Pa may be said to be weak in both these rāgas but in terms of directional emphasis, the absence of Pa in Śuddhavasanta's ascending melodic line may go unheeded if the rāga's emphasis lies in its descending melodic line.

Other heptatonic rāgas in the CDP that omit a note or notes from their scale are Gurjarī which omits Dha in descent,³ Sāverī which omits Ga and Ni in ascent,⁴ Kannadagaṅgaula which omits Ma in ascent,⁵ and Kalyāṅī which excludes Ma and Ni in ascent.⁶ We might expect

¹CDP,5:66

²Ibid.:49

³Ibid.:77

⁴Ibid.:90

⁵Ibid.:103

⁶Ibid.:107

to find more of the laṅghana type of alpatva featured in heptatonic and hexatonic rāgas; alpatva in pentatonic rāgas, if any, would perhaps be confined to the anabhyāsa kind.

About a dozen rāgas in the RV are described as having alpa notes. Two of these rāgas, Mālavaśrī and Dhanyāsi, are also in the SMK and CDP. Mālavaśrī, a heptatonic rāga, has Ri and Dha as transitory notes.¹ The rāga is, however, hexatonic with Ri omitted in the SMK and CDP.² Similarly, Dhanyāsi (or Dhanāśrī) is heptatonic in the RV with Ri and Dha weak;³ the rāga is pentatonic in the SMK and CDP with these same notes omitted.⁴ This disagreement between the RV on the one hand and the SMK and CDP on the other regarding the scale-size of Mālavaśrī and Dhanyāsi demonstrates the close involvement that alpatva has in the size of a rāga's scale. The influence of alpatva may lead one author to regard a rāga as pentatonic despite, perhaps, occasional use of notes not in its scale; on the other hand, the slightest use of any note in the full scale may be enough

¹RV,4:30

²SMK,5:33; CDP,5:67

³RV,4:31

⁴SMK,5:39; CDP,5:58

to make another author regard the rāga as heptatonic. As in the past, the frame of reference here is the full or sampūrṇa scale. But unlike the early texts, the SMK and RV make the scale-sizes, sampūrṇa, ṣāḍava and auḍava, categories of the rāgas, not their official lakṣaṇa. Tacitly recognized, however, as a necessary feature of the rāga, sampūrṇa, ṣāḍava and auḍava appear to be held self-evident by the authors of the SMK, RV and CDP.

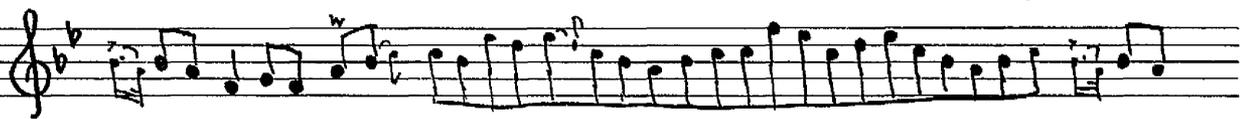
Since Mālavaśrī and Dhanāśrī both belong to the same mela and have the same weak notes, Ri and Dha, it might be interesting to see how the two differ. Below are the RV rāga-rūpas illustrating these rāgas. A study of these vīṇā pieces reveals that Dhanāśrī actually makes no use of Ri and Dha despite the rāga's description in the text.¹

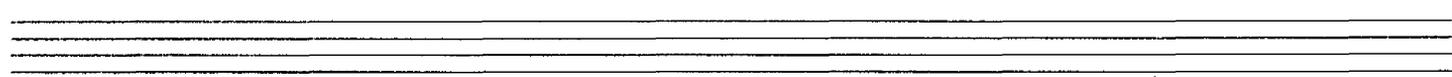
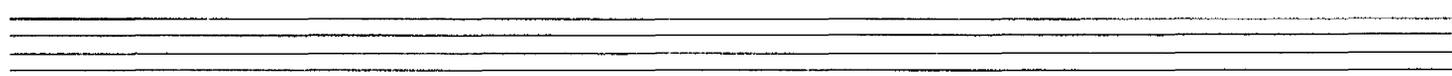
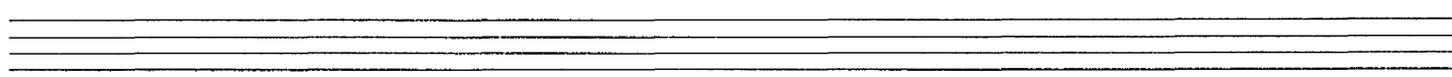
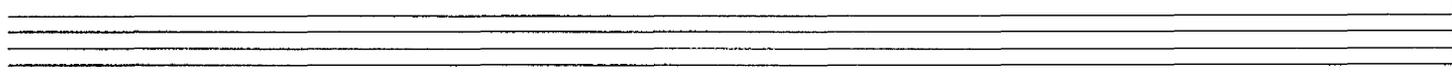
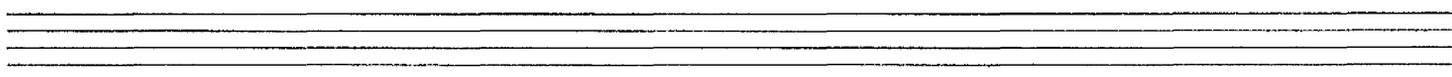
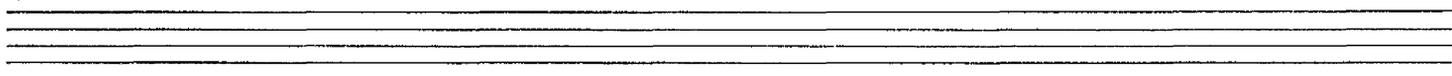
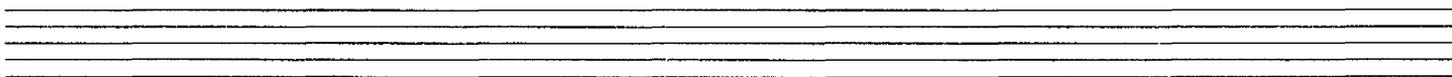
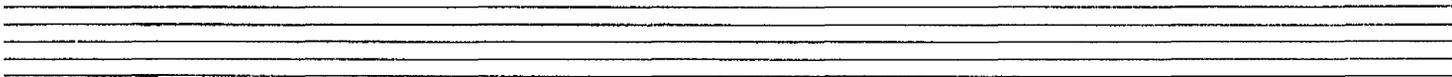
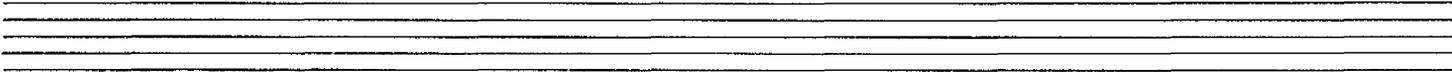
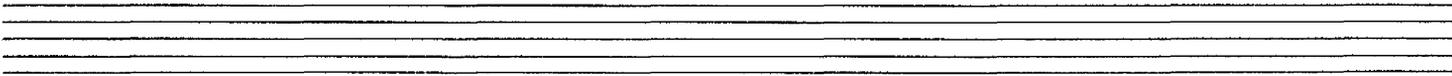
¹The rāga is described in the RV as deficient in Ri and Dha, ridhonā, but the author in his commentary explains ridhonā as ri-dha-durbalā, thereby suggesting the presence of Ri and Dha, albeit slight (4:31 com.).

Mālavāsri

Rāga-rūpa

RV, 5:144-7





Dhanāśrī

Rāga-rūpa

RV, 5:53-6

Blank musical staff

For the most part alpa notes appear as passing notes in Somanātha's rāga-rūpas for the vīṇā. Exceptions in Mālavaśrī above are a shake (dolana¹) on Dha in the first rūpa and a lengthened Ri (śama) in the fourth rūpa. Other discrepancies between theory and musical example concerning alpatva also arise in the rāgas, Hammīra, Pauravikā and Vihaṅgaḍa. Hammīra's alpa note, Ni, is repeated thrice in succession in the rāga's fifth rūpa and the note is given a long trill (kampa) besides in the last rūpa.² Pauravikā's alpa notes, Ri and Pa, are also given śama values as well as ornamented by a dolana: Ri in the first rūpa and Pa twice in the last rūpa.³ Vihaṅgaḍa's alpa note, Dha, has śama value in the final rūpa of this rāga.⁴ On the other hand, Saindhavī is said to be "without Ga and Ni always",⁵ but its musical example shows these two notes in three out of four rāga-rūpas.⁶ It is noted, however,

¹Dolana is perhaps comparable to a slow Pralltriller. See, Donington R. The interpretation of early music (Faber and Faber, 1963), ex.109, p.186.

²RV,5:136-9

³Ibid.:59-61

⁴Ibid.:141-3

⁵RV,4:33

⁶RV,5:155-6

that no note proceeds from Ga or from Ni in ascent in Saindhavī. A later description of the rāga in Saṅgīta-pārijāta is more accurate when it states that Ga and Ni are omitted only in ascent.¹

Concerning bahutva, there is no rāga in the SMK, RV or CDP that is said to be characterized by the plentiful use of a specific note or notes. Presumably, the aṃśa svara, the rāga's principal note, is also its most outstanding note. Certain rāgas in the RV are described as being amenable to gamaka (ornamentation). It is possible that the use of ornamentation may enhance the power of a note and make it more conspicuous. For instance, Deśīkāra (or Deśakṛt) whose aṃśa is Sa, is characterized by long trills (kampra) of Ma and of Ni;² in Paraja, the shaken note, Ga, is also the rāga's aṃśa;³ while in Bhairavī and Dhavalā (aṃśa: Sa), the ornamentation Somanātha calls mudrā is featured on Ri and Pa in the former and on Pa in the latter.⁴ Saindhavī (aṃśa: Sa)

¹SP:357

²RV,4:27. Kampra and kampa are synonymous, according to Somanātha (commentary on the śloka).

³Ibid.:23

⁴Ibid.:32

and Turuṣkatoḍī (aṃśa: Ga) are also said to be highly ornamented¹ and their vīṇā pieces show the use of a great deal of shakes (dolana and kampa).² We have chosen to notate Deśīkāra and Turuṣkatoḍī.

Emphasis is apparently laid not so much on Deśīkāra's aṃśa, Sa, as on the ornamented Ma and Ni of its scale. The stressed notes make a perfect fourth in this highly symmetrical rāga of three perfect fifths. Turuṣkatoḍī appears to have its stress on Pa. Enharmonically, Pa is a perfect fourth to the rāga's aṃśa, Ga. These rāgas' ornamented and oft repeated notes could well be their notes of bahutva. That they are not so prescribed in the RV perhaps proves our contention that this detail may have been left to the professional musician to observe and pass on orally to their pupils. Until such detailed books as S. Dīkṣitulu's Prathamābhyāsapustakamu and his Saṅgīta-sampradāyapradārśinī and Bhātkhaṇḍe's Saṅgītaśāstra and Krāmikapustakamālikā appear on the scene, the music treatises up to the 18th century may be said to be at best an aid to the memory where the rāgas are concerned rather than a complete record of their lakṣaṇa.

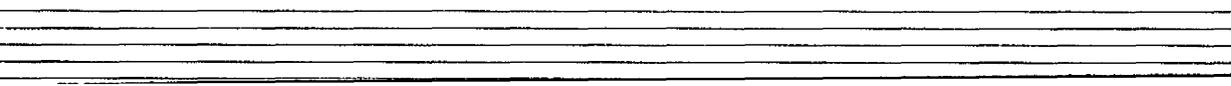
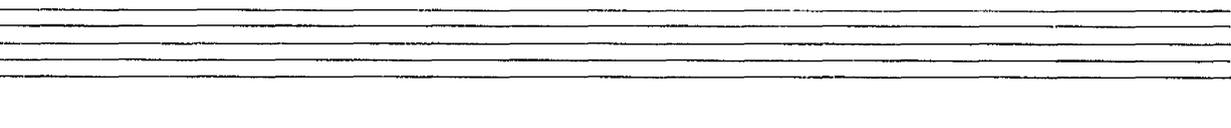
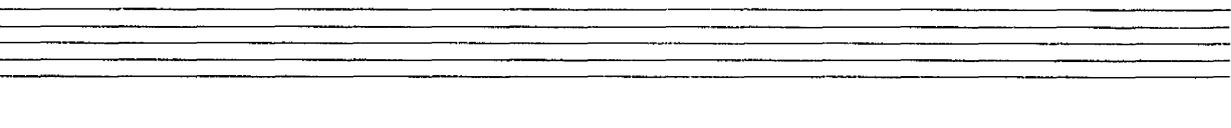
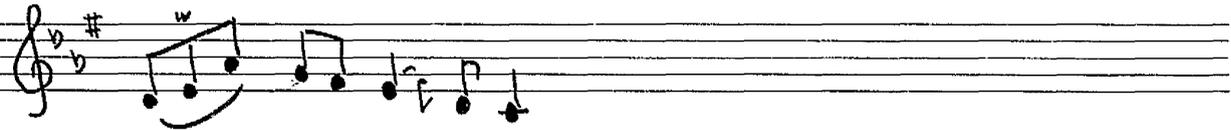
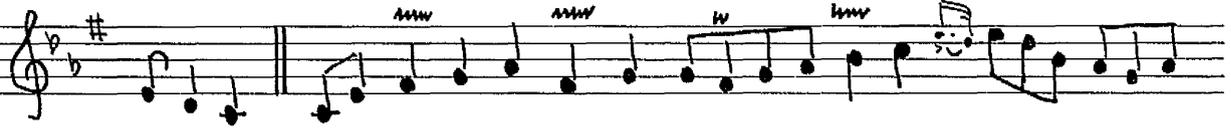
¹RV,4:33 and 8.

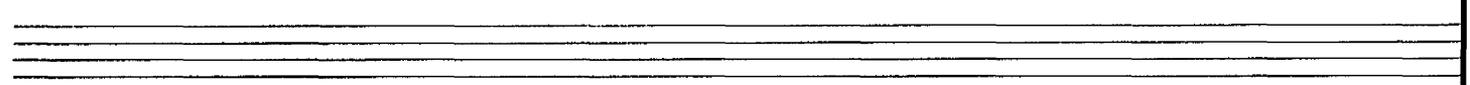
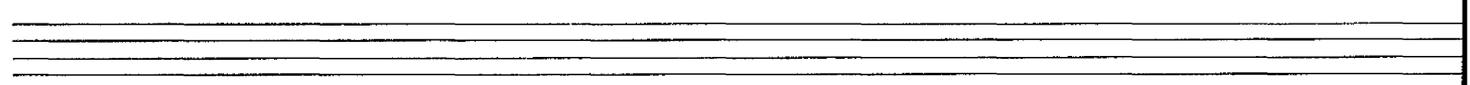
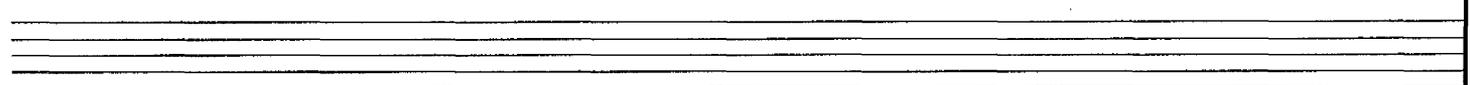
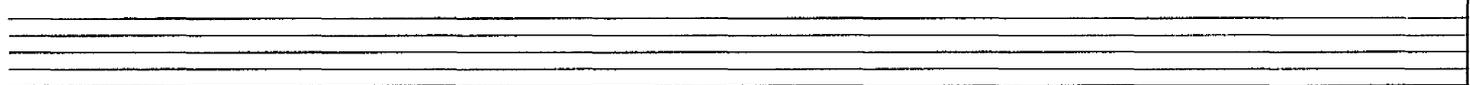
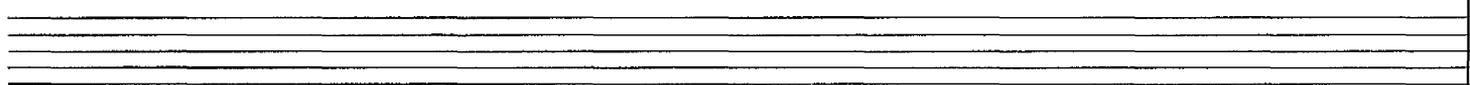
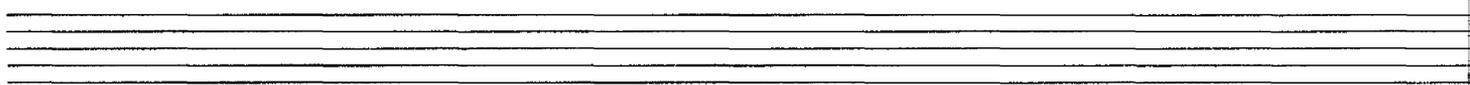
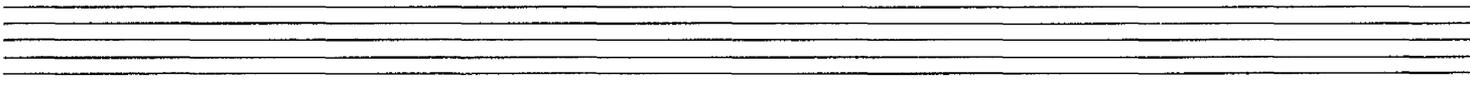
²RV,5:155-6 and 63-5.

Deśikāra

Rāga-rūpa

RV, 5:75-7



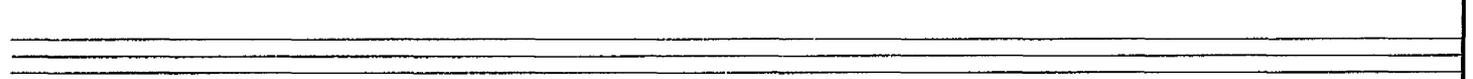
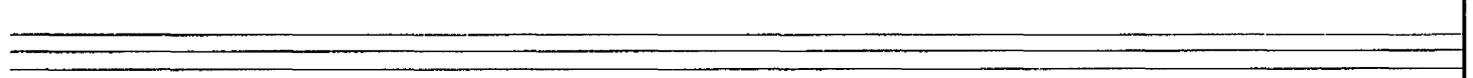
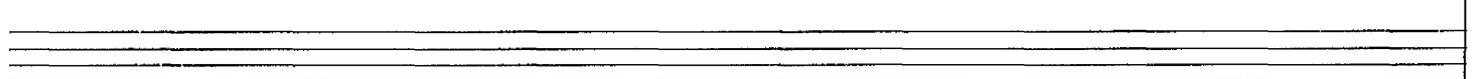
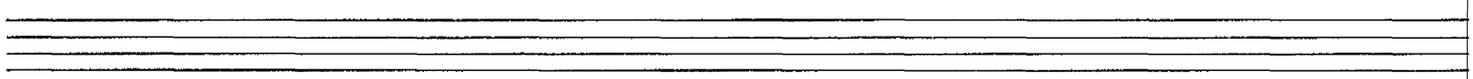
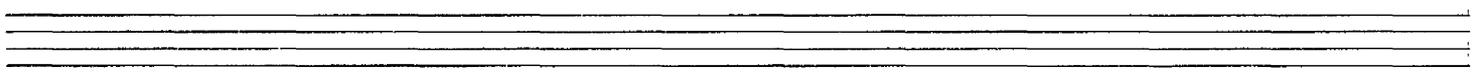
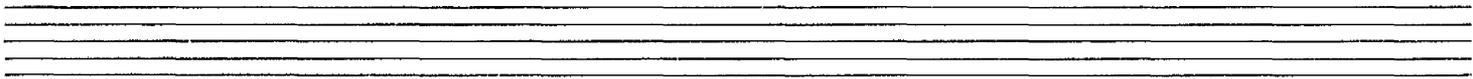
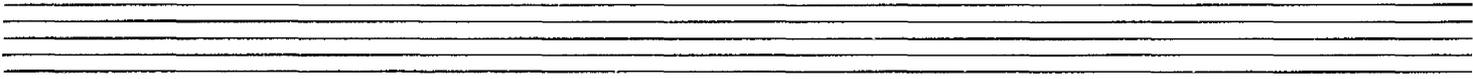
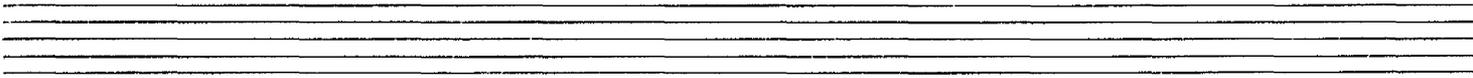


Turuṣkatodī

Rāga-rūpa

RV, 5:63-5

Handwritten musical notation for Rāga-rūpa in RV, 5:63-5. The notation consists of five staves of music in a single system, each starting with a treble clef and a key signature of two flats (B-flat and E-flat). The music is written in a style that combines Western musical notation with Indian musical concepts, including various note values, rests, and ornaments (mṛga) indicated by wavy lines above the notes. The first staff begins with a double bar line and a repeat sign. The second staff continues the melody with several ornaments. The third staff features a double bar line and a repeat sign, followed by a sequence of notes with multiple ornaments. The fourth staff continues with more ornaments and a double bar line. The fifth staff concludes the piece with a double bar line and a repeat sign.



RĀGALAKṢAṆA in the SP, SS and SC

We shall now consider the treatises Saṅgītapārijāta (SP), Saṅgītasārāmṛta (SS) and Samgrahacūdāmaṇi (SC) with regard to their rāgas' lakṣaṇa as these compare with corresponding rāgas in the earlier texts. Of these three, only the SS includes a section on the lakṣaṇa. The SS names and defines thirteen jātilakṣaṇa and ten rāgalakṣaṇa¹ but the pertinent verses are direct quotes from the SR and the CDP.²

The SP rāgas are based on a scale which Ahobala calls the śuddhamela.³ Roughly, this is the D mode, and any alteration (vikṛta) of one or more of the svaras of this basic scale results in the formation of other scales. Although there is no formal mela system in the SP comparable to that in the SMK or the CDP, the term, mela, is used in the SP as a suffix to the name of a rāga when once its scale has been established and from which other rāgas derive. Twenty-eight scale types emerge from the SP rāgas but only eight of these are designated as melas, viz.,

¹SS, p. 36-8; 67-8. (The śloka in the Madras edition, Music Academy Series 5, of the SS are not numbered.)

²Cf., SR, I, 7:29-58 and CDP, 5:3-16.

³SP: 328-9

Gaurīmela, Bhairavīmela, Śrīrāgamela, Kalyāṇamela, Mukhārīmela, Abhīrīmela, Nāṭyamela, and the Śuddhamela, although other scale types also produce several rāgas, such as Śaṅkarābharāṇa and Hindola. For the most part, the scales of the SP rāgas are easily determined in spite of the lack of a formal mela system. A few hexatonic or pentatonic rāgas, however, present some difficulty when their unidentified omitted notes are found to be used in the musical example given.¹

¹For instance, the rāga, Guṇakriyā, is said to have Ri and Dha flattened and Ga and Ni omitted (SP:404). Its musical example, however, contains the note, Ga. It is not clear whether this is the basic Ga or whether it is the raised Ga of the preceding rāga, Mālava, which has its Ri and Dha flattened and Ga and Ni raised. It is possible that Guṇakriyā is a pentatonic variant of Mālava. A defined mela system dispels ambiguity in the rāga scale.

Rāgas in the SP

1. Śuddhamela (14)

Saindhava	Madhyamādi
Dhanāśrī	Rītigaula
Meghamallāra	Māru
Nilāambarī	Manohara
Mālavaśrī	Mānavī
Raktahaṃsa	Laitaṅga
Prasabha	Bhīmapalāsī

2. Gaurīmela (24)

Gaurī	Mālavagaula
Mallārī	Āsāvarī
Bhairava	Pahāṛī
Vasantabhairava	Pūrvī
Mālava	Maṅgalakaiśika
Dīpaka	Nādarāmakriyā
Lalitā	Devagāndhārī
Bahulā	Trivaṇī
Gurjarī (SI)	Haṃsa
Kaumārī	Surālaya
Revā	Arjuna
Gaula	Śarvarī

3. Bhairavīmela (11)

Bhairavī	Mārgatoḍī
Bhūpālī	Guṇakriyā
Kollahāsa	Deśī
Toḍī	Ḍhakka
Chāyātoḍī	Siṃharava

Ānandabhairavī

SP rāgas (cont'd)4. Śrīrāgamela (14)

Śrīrāga	Kāmodanāṭa
Pañcama	Sāverī
Kānaḍī	Nārāyaṅaula
Kakubha	Kuḍāī
Kāmbodhī	Gauṇḍa
Gopikāmbodhī	Soraṭhī
Kedāragaula	Mañjughoṣā

5. Kalyāṇamela (7)

Kalyāṇa	Devagiri
Kalyāṇavarālī	Kokila
Kalyāṇanāṭa	Airāvata
	Rājadhānī

6. Mukhārīmela (2)

Mukhārī
Śivaballabhā

7. Ābhīrīmela (2)

Ābhīrī
Ābhīrīnāṭa

8. Nāṭyamela (3)

Nāṭa
Kumuda
Cakradhara

9. Śaṅkarābharāṇa (14)

Śaṅkarābharāṇa
Vasanta
Deśakārī
Nārāyaṇī
Vaḍahaṃsa
Velāvalī
Kedārī
Naṭanārāyaṇā
Sālaṅkanāṭa
Chāyānāṭa
Kedāranāṭa
Vihāgaḍa
Kaṅkaṇa
Śaṅkarānanda

SP rāgas (cont'd)10. Hindola (5)

Hindola
Ghaṇṭa
Khambāvatī
Mārgahindola
Śuddhakaiśika

11. Baṅgālī (2)

Baṅgālī
Pratāpavarāṭī

12. Rāmakarī (4)

Rāmakarī
Vibhāsa
Pūrvīsāraṅga
Jayaśrī

13. Varāṭī (2)

Varāṭī
Varāṭīnāṭa

14. Karṇāṭagaṅgā (3)

Karṇāṭagaṅgā
Sāmanta
Kalpataru

15. Sāraṅga (2)

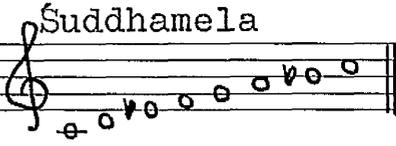
Sāraṅga
Sāraṅgagaṅgā

16. Śuddhavarāṭī17. Varāṭītoḍī18. Nāgavarāṭī19. Punnāgavarāṭī20. Śokavarāṭī21. Deśākhyā22. Meghanāda23. Sālaṅga24. Gurjarī (NI)25. Kuraṅga26. Saudāminī27. Vaijayantī28. Ratnāvalī

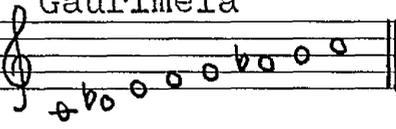
Total: 122 rāgas

Scale-types in the SP

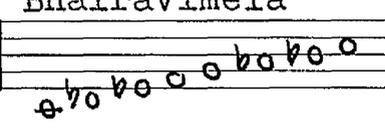
Suddhamela



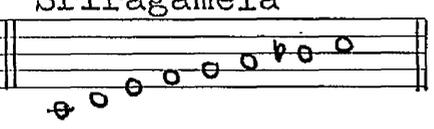
Gaurīmela



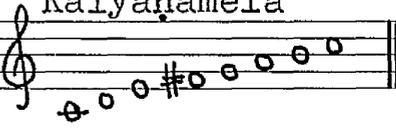
Bhairavīmela



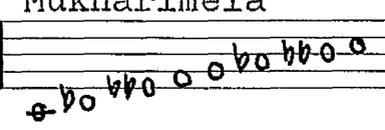
Śrīrāgamela



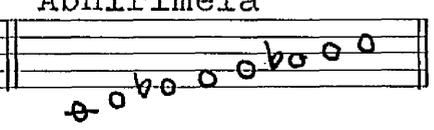
Kalyāṇamela



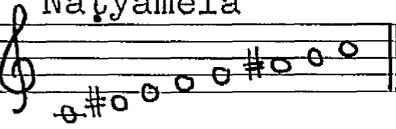
Mukhārīmela



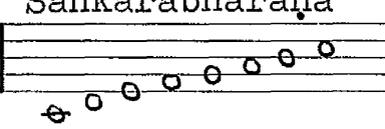
Ābhīrīmela



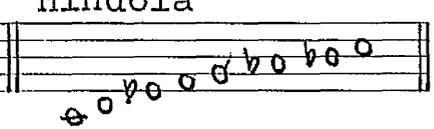
Nāṭyamela



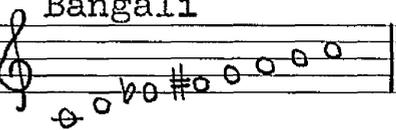
Śaṅkarābharāṇa



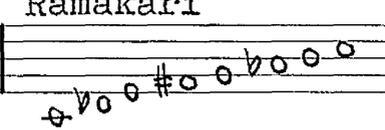
Hindola



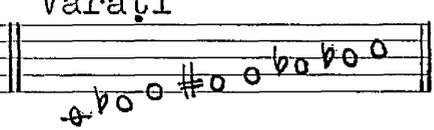
Baṅgālī



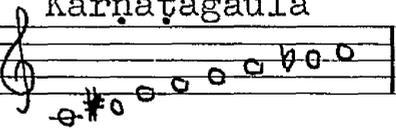
Rāmakarī



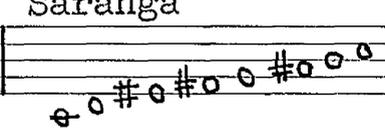
Varāṭī



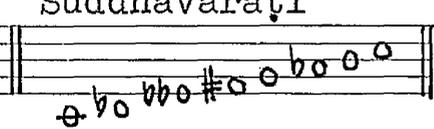
Karnāṭagaula



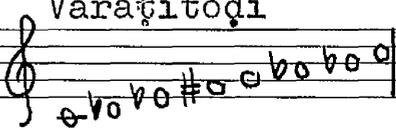
Sāraṅga



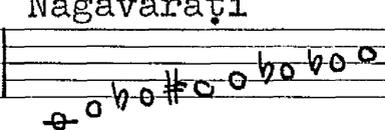
Śuddhavarāṭī



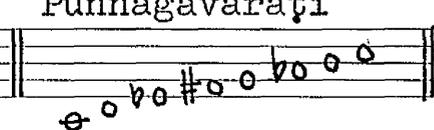
Varāṭītoḍī



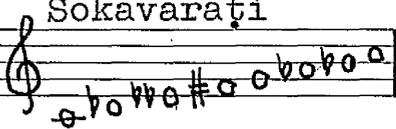
Nāgavarāṭī



Punnāgavarāṭī



Śokavarāṭī



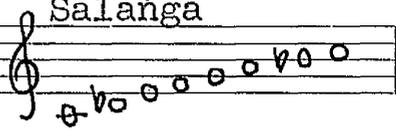
Deśākhyā



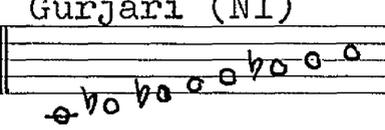
Meghanāda



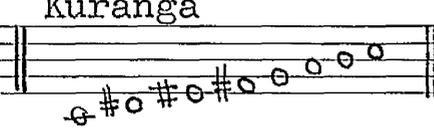
Sālaṅga



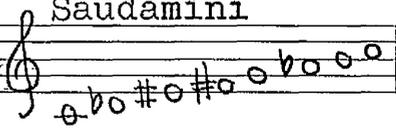
Gurjarī (NI)



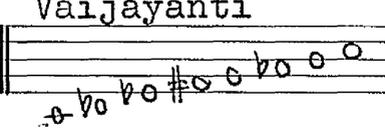
Kuraṅga



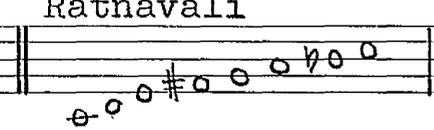
Saudāminī

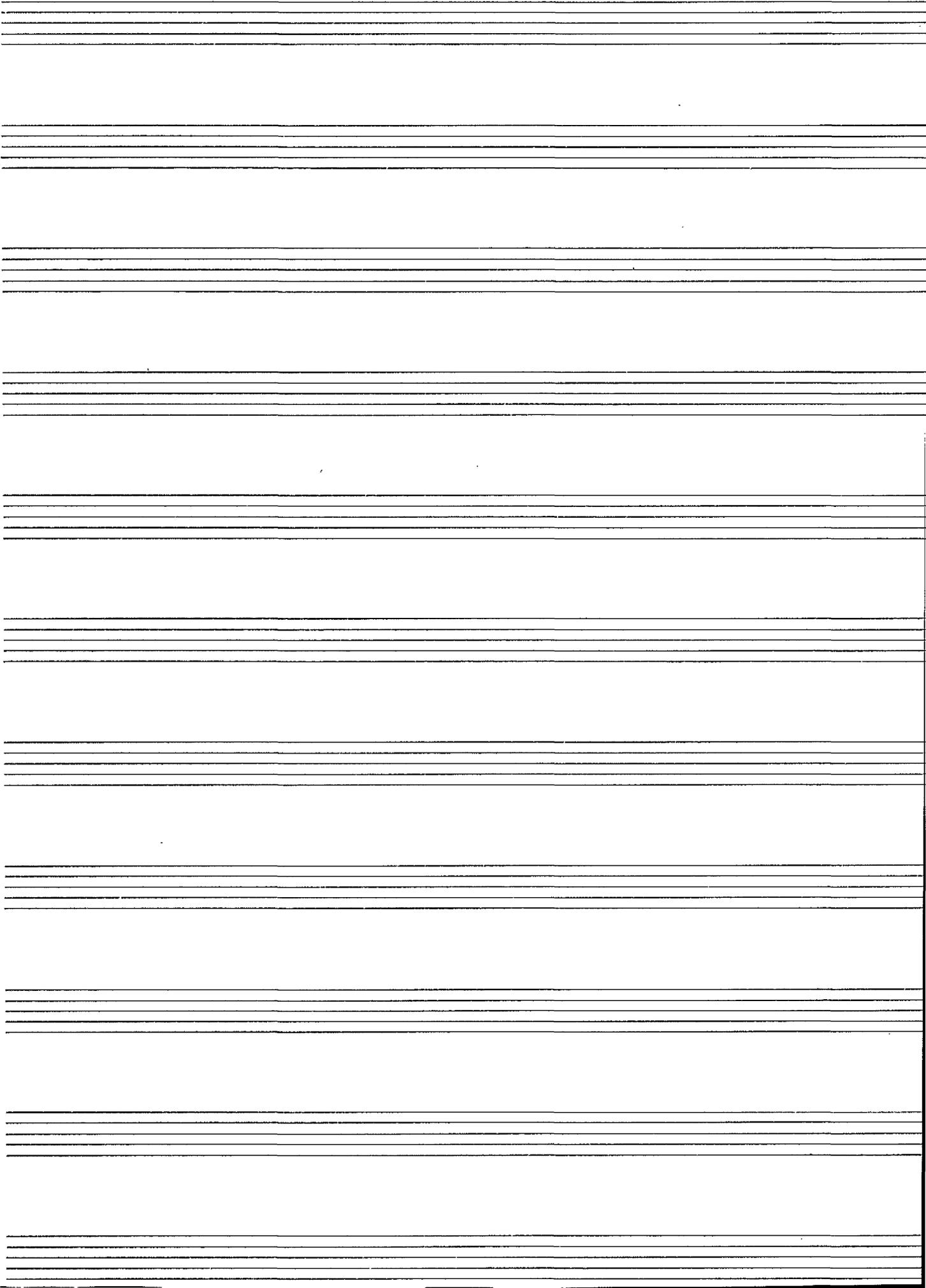


Vaijayantī



Ratnāvalī



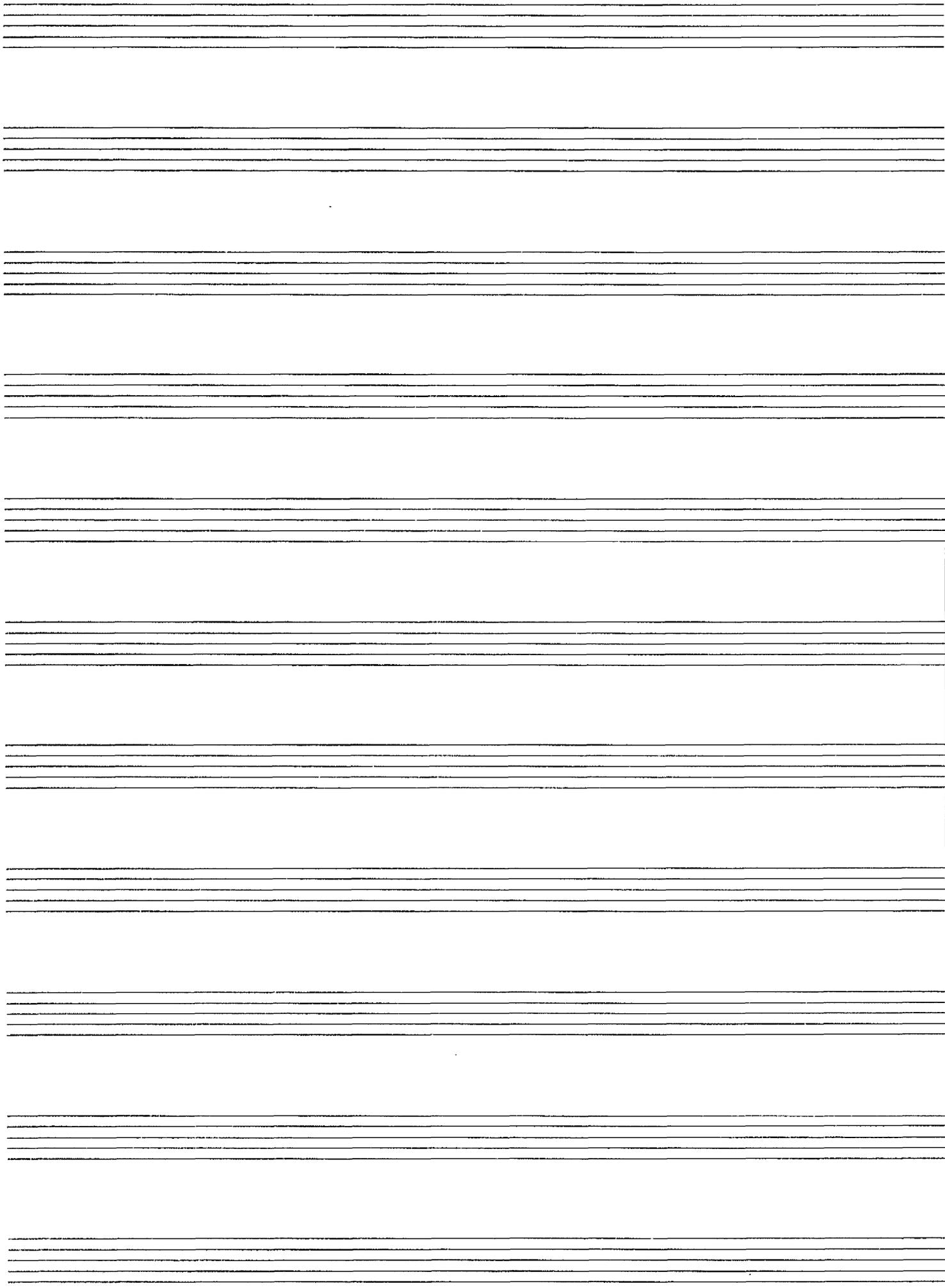


Melas of the SS

Śrīrāga	Nāṭa	Mālavagaula
Velāvalī	Varālī	Śuddharāmakrī
Śaṅkarābharāṇa	Kāmbhojī	Bhairavī
Mukhārī	Vegavāhinī	Sindhurāmakrī
Hejijjī	Sāmavarālī	Vasantabhairavī
Bhinnaṣāḍja	Deśākṣī	Chāyānāṭa
Sāraṅga	Toḍī [§]	Kalyāṅī [§]

SS, pp.72-111

[§]After Bhātkhaṇḍe. A comparative study . . ., p.106.



The rāgas in the SS and SC are arranged according to the mela system but it is the SC that fully presents the system of seventy-two melas as envisaged by Veṅkaṭamakḥin.¹ The SS rāgas which number 112² derive from twenty-one melas. Tulaja illustrates them with musical notations of their ascending and descending note-patterns, their opening phrases and the prayogas (characteristic motifs or formulae) suitable for various musical types, such as, the gīta, ālāpa, sūlādikhaṇḍa, ṭhāya, and others. Govinda, the SC author, demonstrates the workability of the seventy-two melas by illustrating his 366 rāgas (72 mela-rāgas and 294 janyarāgas) with short vocal pieces aptly called lakṣaṇagītas.

In general the rāgas' lakṣaṇa as prescribed in the SP, SS and SC relate to the rāgas' graha, aṁśa and nyāsa; to their scale-size and to the note or notes omitted; and, occasionally, to their ornamented notes. These then are the essential features of the rāgas in the theory books of the 18th and early 19th centuries. But it is the

¹CDP,4:67 and 74 et seq.

²The description of Toḍī, Kalyāṇī and Maṅgalakaiśika, the latter a janyarāga listed under Mālavagaula mela (SS,p.79), is missing.

notation of set phrases or patterns of a rāga's opening "bars", of its prayogas and other characteristic internal movements that signifies a new development in the theory of lakṣaṇa. For instance, whereas the earlier texts indicate only the graha note where the rāga's beginning is concerned, the SP and SS include the udgraha or opening note-patterns of their rāgas in notation. As its prefix, 'ud', connotes, udgraha refers to the pattern that follows the graha note, usually in an ascending movement.¹ This development perhaps indicates an awareness on the part of the 18th century music theorist of the inadequacy of theoretical lakṣaṇa and the need to present a rāga's features in a more practical manner. On the other hand, it might also mean the imposition to a much greater degree of the use of fixed initial formulae as against the possibly more arbitrary opening patterns of earlier times which, nevertheless, observed the prescribed graha. Moreover, the responsibility of remembering countless set phrases may have proved onerous so that the solution lay in the written note if the rāga's true traditional characteristics were to be preserved.

¹Although udgraha as a formal or technical term is not used in the earlier texts, the opening phrases of the musical illustrations in the BD, SR and RV may perhaps be considered their rāgas' udgraha.

The eventual publication of Dīkshītulu's and Bhāt-khaṇḍe's Sammelwerke in the following centuries seems to bear out our suppositions.

To determine the differences in the features of the rāgas in the SP, SS and SC, we are making a survey of eighteen rāgas that are, in most instances, similar to one another in name and in scale, and further comparing them with corresponding rāgas in the RV wherever these are illustrated in that text. The comparison will be based on the theory and musical examples given in these four texts. The eighteen rāgas represent twelve melas or scale-types. Our concordance, which follows, will show that we have used the older "Kana-kāmbārī" names of the SC melas.¹ This will make nominal comparison more relevant, and the accompanying mela number will help the reader to determine the mela's modern name.

¹SC, I, 3: under melalakṣaṇam

Mela Concordance

<u>SS</u>	<u>SP</u>	<u>SC</u>	<u>RV</u>
Śrīrāga	Śuddhamela	Śrīrāga(22)	Śrīrāga
Nāṭa	Nāṭa	Nāṭa(36)	Śuddhanāṭa
Mālavagaula	Gaurī	Mālava- gaula(15)	Mālavagaṇḍa
Velāvalī	-	Velāvalī(23)	-
Varālī	Śuddhavarāṭī	Varālī(39)	-
Śuddharāmakrī	Rāmakarī	Rāmakriyā(51)	Śuddharāmakriyā
Śaṅkarā- bharāṇa	Śaṅkarā- bharāṇa	Śaṅkarā- bharāṇa(29)	Mallāri
Kāmbhojī	Śrīrāga	Kāmbhojī(28)	-
Bhairavī	Hindola	Bhairavī(20)	-
Mukhārī	Mukhārī	Kanakām- barī(1)	Mukhārī
Vegavāhinī	Sālaṅga	Vegavāhinī(16)	-
Sindhurāmakrī	Vaijayantī	Pantuvarā- lī(45)	Śuddhavarāṭī
Hejijjī	-	Hejjujjī(13)	Revagupti
Sāmavarālī	-	Sāma- varālī(3)	Sāmavarālī
Vasantabhairavī	-	Vasanta- bhairavī(14)	Vasantabhairavī
Bhinnaṣaḍja	Gurjarī (NI)	Bhinna- ṣaḍja(9)	Nādarāmakrī
Deśākṣī	Deśākhyā	Deśākṣī(35)	Deśākṣī
Chāyānāṭa	Karṇāṭtagaula	Chāyānāṭa(34)	Karṇāṭtagaṇḍa

- Cont'd -

Mela Concordance (Cont'd)

<u>SS</u>	<u>SP</u>	<u>SC</u>	<u>RV</u>
Sāraṅga	Sāraṅga	-	Sāraṅga
Toḍī	Bhairavī	Toḍī(8)	Toḍī
Kalyāṅī	Kalyāṅa	Kalyāṅī(65)	-
-	Punnāgavarāṭī	Sīmantiṅī(57)	Kalyāṅa
-	Baṅgālī	Dhaumyarāga(59)	-
-	Varāṭī	Narmada(50)	-
-	Varāṭītoḍī	Bhavāṅī(44)	-
-	Nāgavarāṭī	Trimūrṭi(56)	-
-	Śokavarāṭī	Jaganmohana(38)	-
-	Meghanāda	Naṭābharāṅa(10)	-
-	Kuraṅga	-	-
-	Saudāmini	-	-
-	Ratnāvalī	Bhūṣāvalī(64)	-
-	-	Bhānumati(4)	Rītigaula
-	-	Surasena(27)	Hammīra
-	-	Kiraṅāvali(21)	Abhīranāṭa

A word about our notation of the examples in these texts. The ornamentation indicated in the RV rāga-rūpas and the text of the SS gītaprayogas and the SC lakṣaṇa-gītas have been left out. The exclusion of ornamentation has been done for reason of consistency and equality as the SP, SS and SC examples only give the bare outline of the melodic line of the form or phrase they illustrate. Phrasings mark the syllabic divisions of the text of the gītaprayogas and lakṣaṇagītas.¹ The SC author has written his lakṣaṇagītas in Tripuṭa time; this is equivalent to seven quavers apportioned into three-two-two quavers. The circular pattern of these vocal pieces can be seen when the gīta's first note at the Da capo sign (more often a crochet, at times two quavers) serves to complete the final set of seven quavers as well as introduce the song. Of the four texts, only the RV has a symbol for the octave position of a note. The register indicated in our notation of the examples in the three other texts is our own interpretation of it.

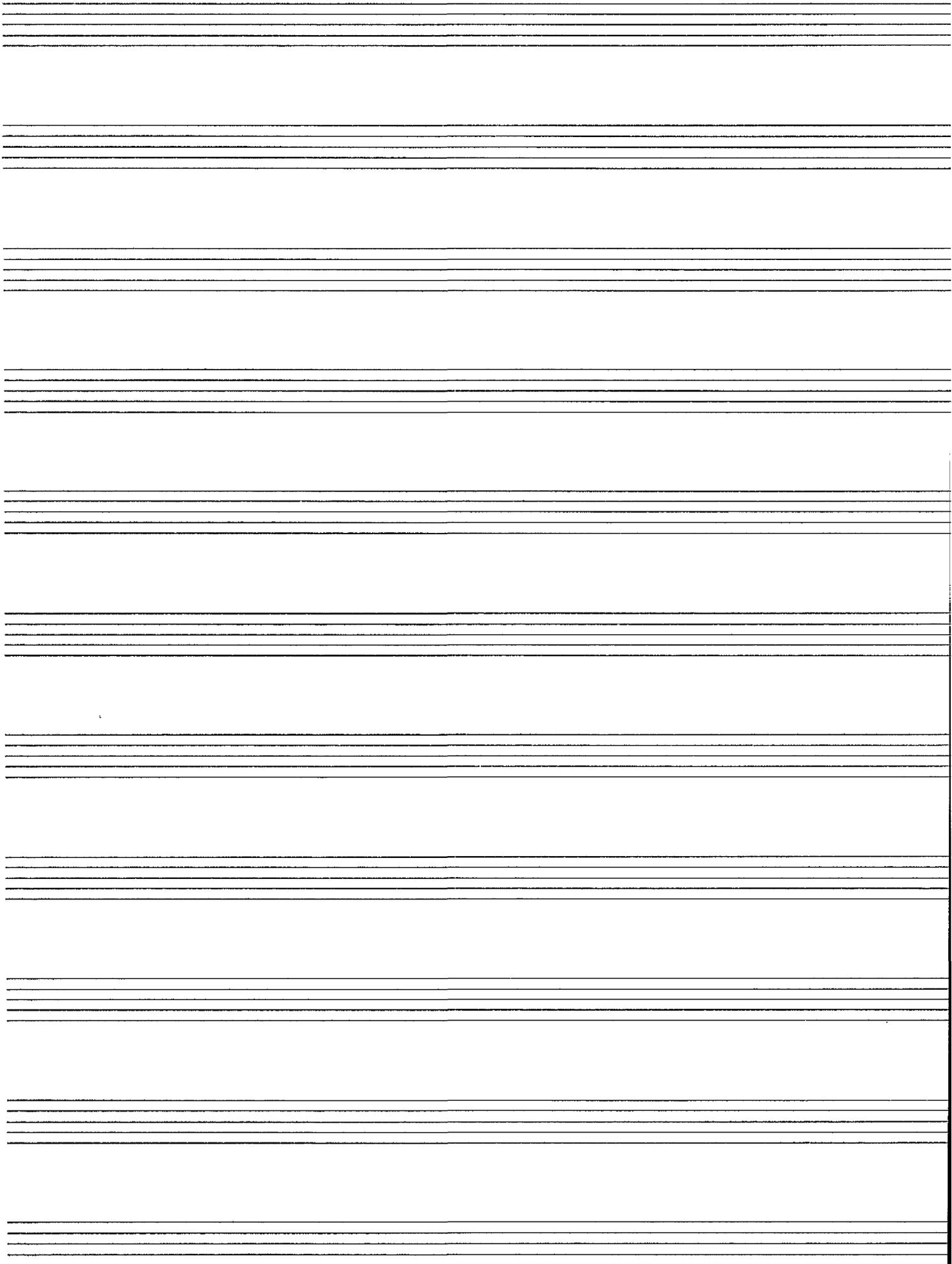
¹Tied notes do not necessarily mean one uninterrupted tone. As Idelsohn remarks, "Repeated notes on one syllable, in Oriental song, are not tied to make one prolonged tone, as in modern Occidental song. The Oriental musician or the singer of the old Church song, holds the vowel or consonant of the word sung, while producing a throbbing repetition of the note in question." (Op. cit.,[xiv])

Śrīrāga in the RV theory is said to consist of movements (gata), that is, note patterns, that either include Ga and Dha or exclude these svaras.¹ The notated rāga-rūpa clarifies this statement when it reveals that Ga and Dha are used only in descent and not in ascent in this rāga. The SS which classifies Śrīrāga as heptatonic states that no tāna may proceed from Ga or Dha.² Its ṭhāya example shows no Dha; Ga is used only in descent, that is, no note proceeds from Ga upwards.³ The SS furthermore prohibits the progressions, Sa-Ri-Ga-Ma and its reverse, Ma-Ga-Ri-Sa. It is this practical aspect of the theory books of the 18th century that contributes to a better understanding of a rāga's features rather more than a mere listing of its lakṣaṇa could do. The SC Śrīrāga omits Dha altogether and uses Ga in descent almost always. The opening pattern of both the SS and SC Śrīrāga examples progresses downwards in the scale rather than upwards in

¹RV,4:30

²Documentation of statements, when not indicated as a footnote, will be found in the notation.

³It is the direction following a note that determines whether it is being used in ascent or in descent, not the directional pattern which precedes it.

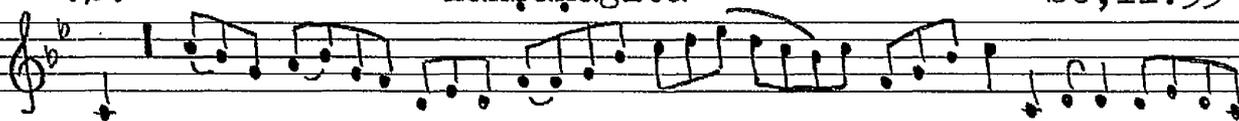


- Śrīrāga -

:♩:

Lakṣaṇagīta

SC, II:35



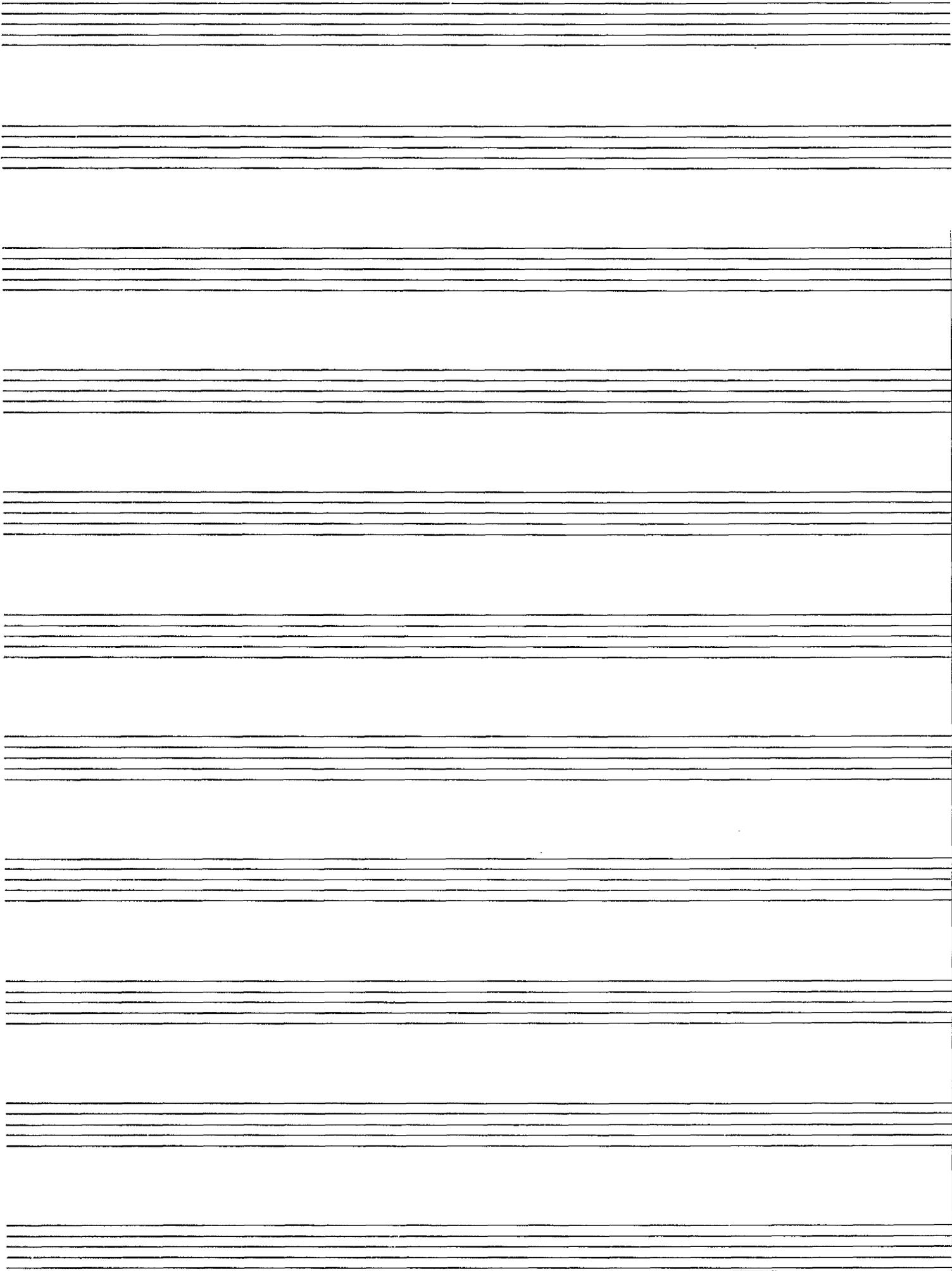
Dal segno

- Saindhavī -

Rāga-rūpa

RV, 5:155-6





the more conventional manner. The musical examples reveal that the SS and SC Śrīrāga features have more in common with each other than with the 17th century RV Śrīrāga whose graha and aṃśa are Ri to the others' Sa, yet regarding Ga and Dha they all appear to agree.

Saindhavī is said to have an innate lack of Ga and Ni, according to the RV,¹ but its rāga-rūpas show the use of these svaras, albeit in descent only. In this respect the SP offers more accurate information when it states specifically that Ga and Ni are omitted in ascent in this rāga. The omission in ascent of Ga and Ni, however, does not prevent the SP Saindhavī from being classified as heptatonic. This seems to indicate that although the role of Ga and Ni in descent is a minor one as it appears to be in the RV and SS examples, if not so much in the SP, these notes cannot be considered subordinate tones in the same category that pièn-tones are in a pentatonic scale. The SS Saindhavī, also classed as heptatonic, also uses Ga and Ni in descent only. In musical example, therefore,

¹RV,4:33

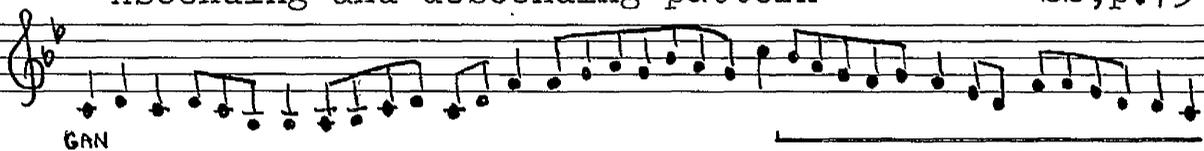
Prastāra

SP:357



Ascending and descending pattern

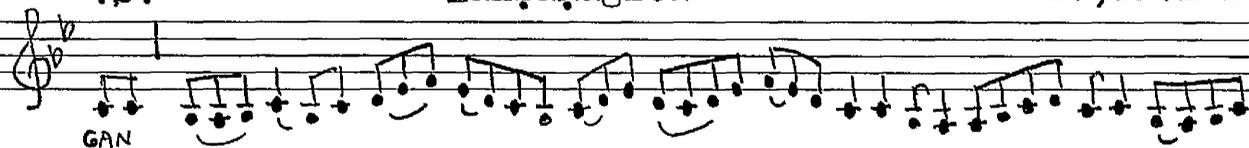
SS,p.75



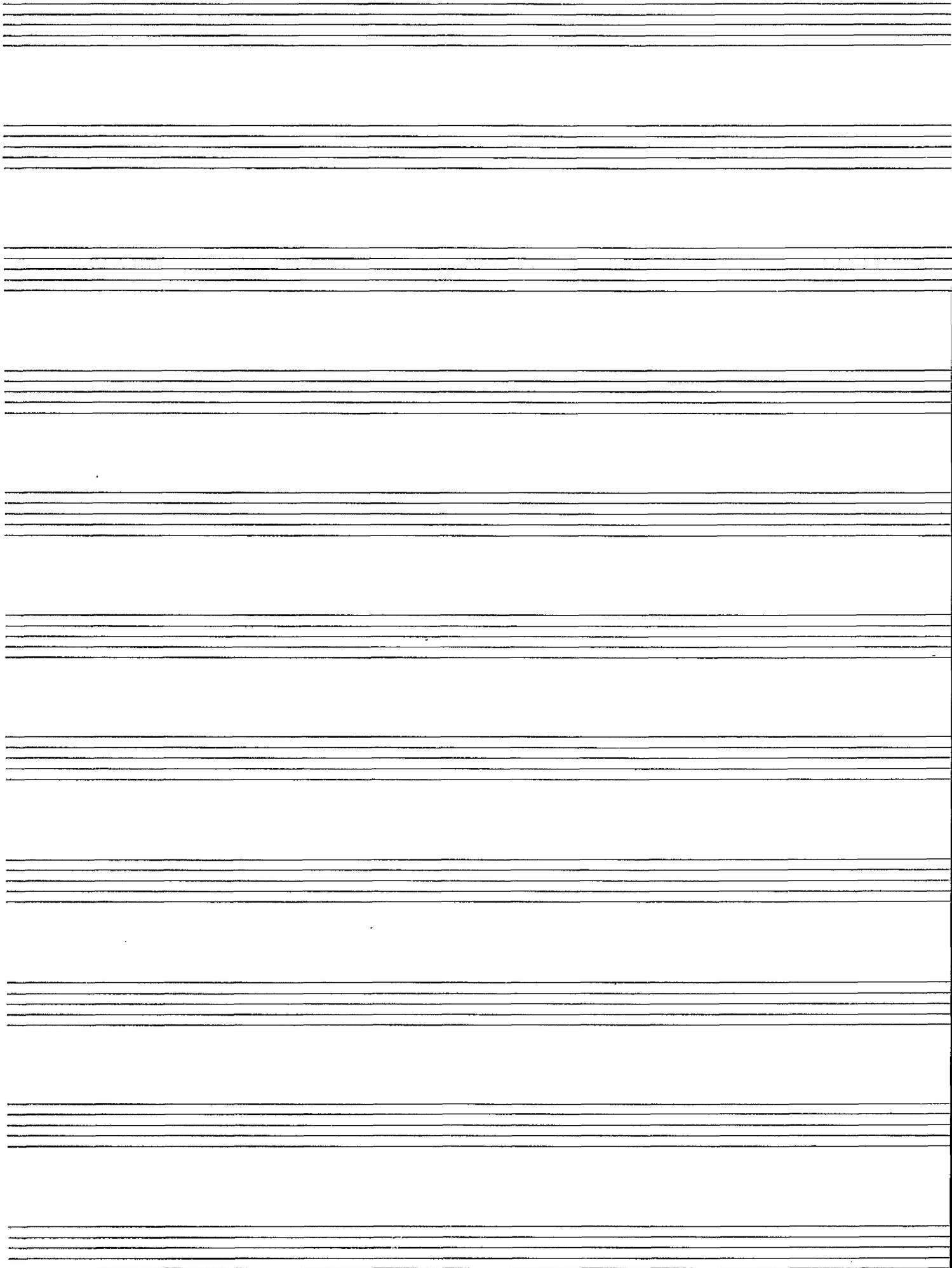
:S:

Lakṣaṇagīta

SC,II:142



Dal segno



the RV, SP and SS agree on this feature of Saindhavī. On the other hand, although the SC Saindhavī is in the same modal scale, its use of Ga and Ni in ascent makes it entirely alien to the earlier Saindhavī examples. Thus, while in theory the texts may seem to agree on a rāga's basic lakṣaṇa, a look at their musical illustrations can alter any preconceived notion about a possible musical concord among them.

The RV Saindhavī's initial and principal note is said to be Sa, yet its rāga-rūpas begin on Ri. It is this supertonal suspension, especially seen in the second rūpa at its close, that characterizes most of the music. Dha, which we might note is Ri's consonant, is the SP Saindhavī's initial note. Some similarity between the RV and SP descending patterns may be seen. This descending pattern usually emanates from Ni ostensibly making that note an appoggiatura to Dha in the SP prastāra of the rāga.

The SC Saindhavī description provides one of the rare instances when a rāga's range is given. Here it is said to be in the middle range¹ and what this means can

¹SC, I, 3:22/8

be seen in the musical example. The range of Saindhavī's lakṣaṇagīta is limited to exactly seven notes: from Dha of the theoretical mandra register to Pa of the middle register. In this aspect the SC seems to agree with the SS but because the SS gives no other musical illustration of Saindhavī except the rāga's arohāvarohaṇa pattern, this evidence remains inconclusive. However, the evidence in the SC example does support our hypothesis that range is a relative concept. In modern terms, and all things being equal, the SC Saindhavī's middle range would be described as a low tessitura.

Śuddhanāṭa's six-śruti svaras, Ri and Dha, give this rāga's scale two symmetrical clusters of notes with Pa at the fulcrum yet symmetry is not this rāga's distinguishing feature. The omission of Ga and Dha in descent, which all four texts observe, leads to an imbalance created by the loss of Ri's consonant partner. Such an imbalance would, therefore, be concentrated more likely on the lower tetrachord of the rāga. Leaps of fourths and fifths on Sa, Ma and Pa, which abound in most of the examples, lessen the occurrence of chromaticism between Ri-Ga and Dha-Ni. Ga, when present, acts as a passing

- Śuddhanāṭa -

Rāga-rūpa

RV,5:101-3

- Nāṭa -

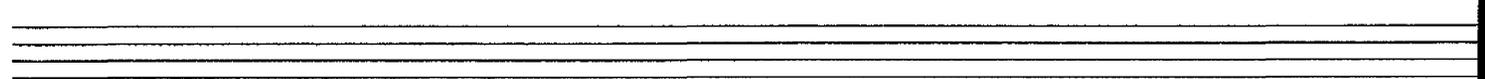
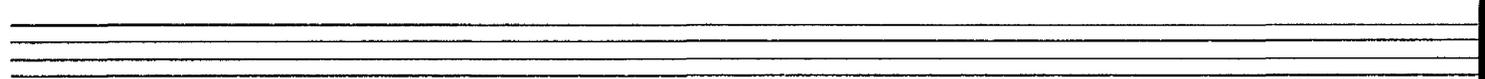
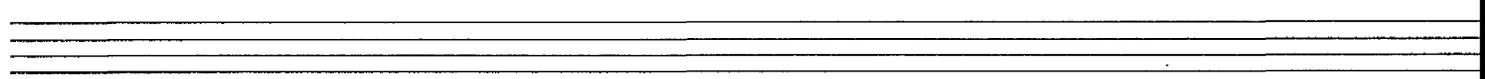
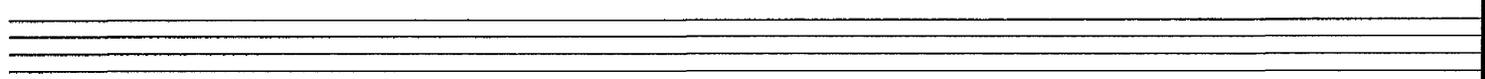
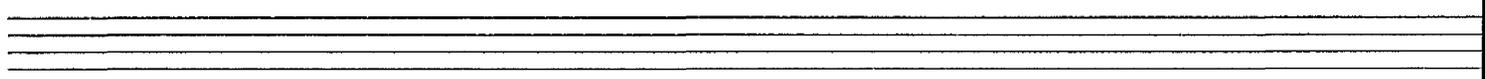
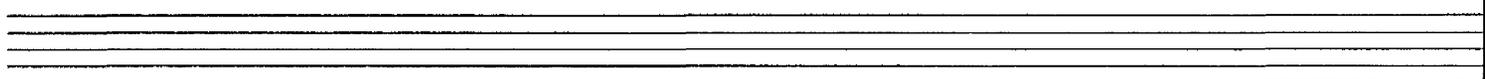
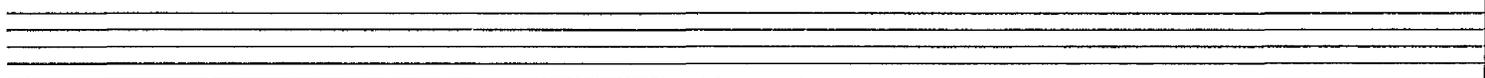
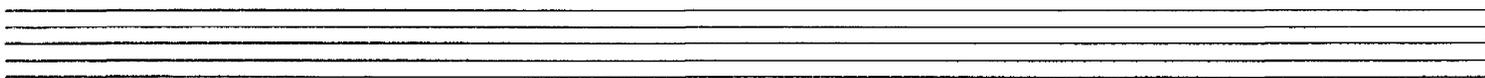
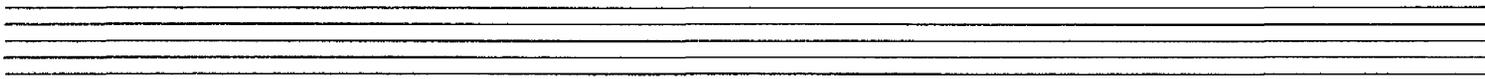
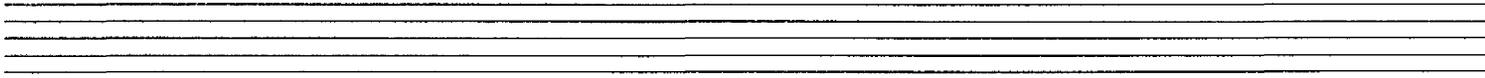
Prastāra

SP:433

- Śuddhanāṭī -

Udgraha

SS,p.78



- Nāṭa -

:♩:

Lakṣaṇagīta

SC, II:254

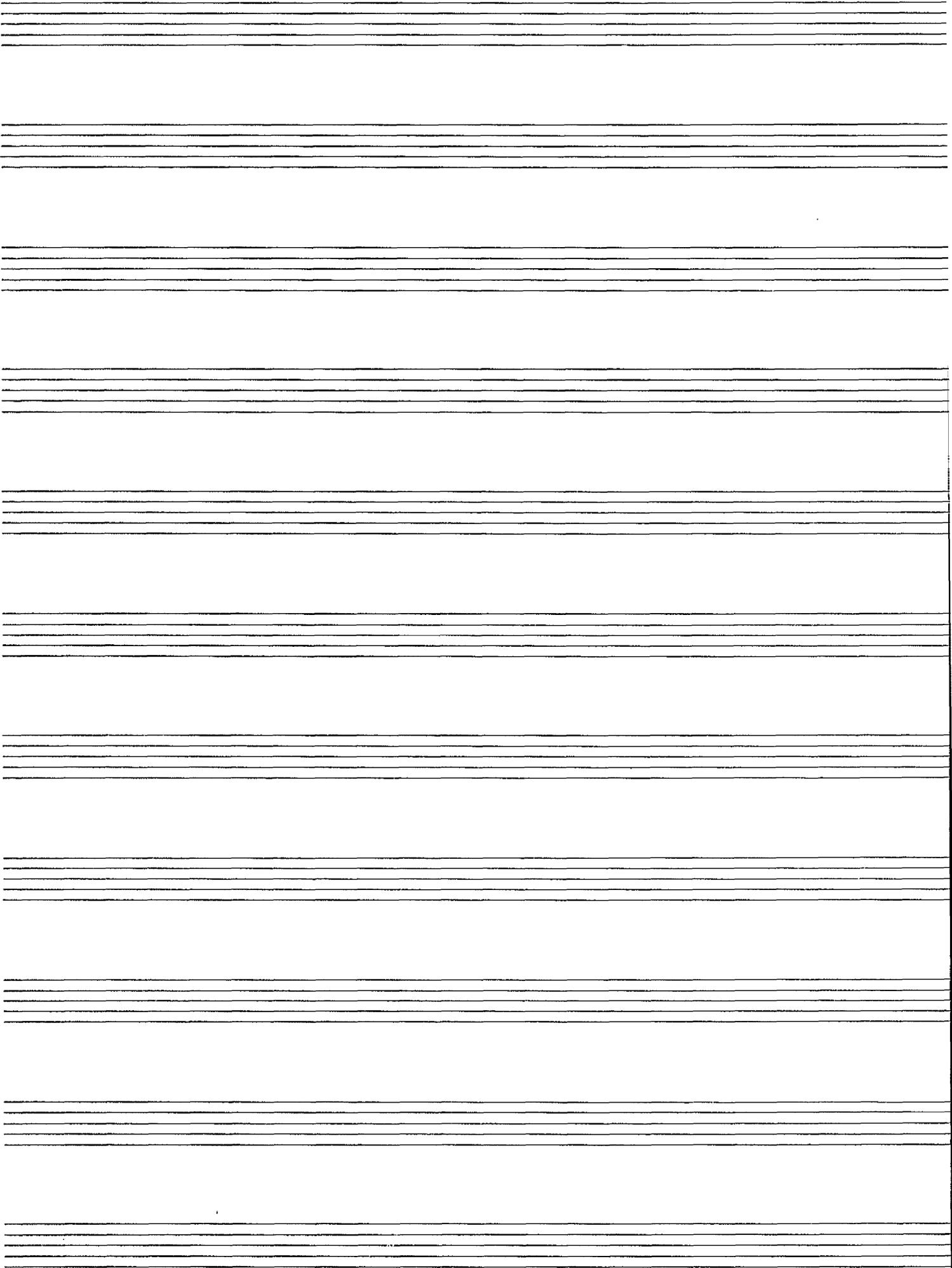


- Mālavagaṇa -

Rāga-rūpa

RV, 5:116-7





note between Ri and Ma in the RV r̄upa and the SC lakṣaṇa-gīta of Nāṭa. The RV rāga furthermore omits Ni in ascent and thus avoids the Dha-Ni chromaticism found in the SP and SS Nāṭa examples. In the SC Nāṭa, Dha appears as the bottom note of what might pass for a melodic (as against an ornamental) Doppelschlag and an inverted turn on Ni in the second and fourth line, respectively, of the lakṣaṇagīta. The reiteration of seconds on Sa-Ni and on Pa-Ma provides a touch of symmetry to the shape of the RV and SP Nāṭa illustrations. On the whole, the features of Nāṭa in all four texts appear remarkably consistent.

Mālavagaula is a melarāga in all the texts being reviewed except the SP. In the RV the rāga is said to be either heptatonic or without the use of Ga and Dha. The omission of these notes, however, is applied in the descending line mostly as the RV rāga-rūpa shows. Ni is the RV Mālavagauḍa's graha, aṃśa and nyāsa but Sa may be an alternative ending.¹ Without Ga and Dha, the rāga's scalar structure consists of two consecutive major thirds, Ri-Ma and Pa-Ni, approached by a minor second from either

¹RV,4:15

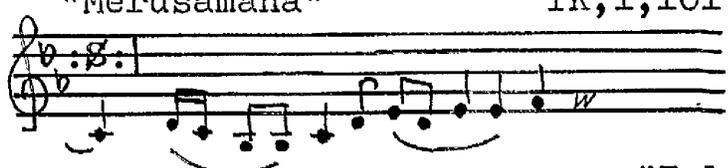
end of the scale at Sa. Alternate thirds or a progression of thirds, especially seen in the SP example, seem to characterize this rāga. The SP Mālavagaula is hexatonic, Dha being dropped. It has a choice of initial as well as of final notes. When Ri is the initial note, then Ga may not follow, Ahobala says. If Ga is to be used, then Pa is the opening note, and if Pa is graha then the rāga ends on Ma. The SP rāga has apparently two forms: authentic and plagal, so to speak, Ni leading to Sa in the former and Ga to Ma in the latter. The SP illustration begins on Ri and ends on Sa; no prastāra illustrates the plagal form, however. A feature which ties the later SS and SC Mālavagaula to the RV corresponding rāga is the leap found in these three examples between Ni and Ma, an augmented fourth that the RV rāga-rūpa softens by leading Ma to Pa which resolves to Sa, thus making Ma appear as an appoggiatura to Pa. Another trace of the past is seen in the reiteration of Sa-Ri or Ri-Sa in the SS āyittaprayoga of Mālavagaula which can be found in the RV rāga-rūpa, too.

It might be noted that among the rāga's lakṣaṇa it is to the graha or mūrccchanā as he usually calls the initial note of a rāga, that Ahobala almost invariably draws our attention. This leaves the impression that in the SP the graha is of prime importance in the iden-

tification of a rāga. When one considers that several rāgas can and do have the same scale and that their endings have by now been reduced to the Sa drone, then the rāga's opening phrase begins to assume greater significance indeed. As the final becomes a common denominator to rāgas of any given scale, it ceases to act as a criterion for identification. This recalls the 9th century monks, Aurelian of Réomé and Regino who considered the beginning rather than the ending of a Gregorian antiphon the final criterion of its modal classification.¹

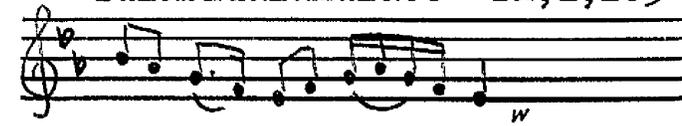
It is interesting to discover that while the SS and SC Mālavagaula begins on Sa, the earlier graha prescription of the RV and SP rāga finds a following in two of Tyāgarāja's kritis. In one Ri is the opening note while in the other the more traditional Ni is used:

"Merusamāna" TK, I, 101



Māyāmālavagaula mela

"Tulasīdalamulace" TK, I, 103



¹Reese, op. cit., 161.

Prastāra

SP:428

G AN

or G N

Āyittaprayoga

SS, p.79

(no lakṣaṇa given)

Gītaprayoga

:S:

Lakṣaṇagīta

SC, II:57

GAN

- Cont'd -

Blank musical staff

Āsāvarī in the RV belongs to the Mālavagaula mela. The later SS and SC texts call the rāga Sāverī. When the SP qualifies its Āsāvarī as ādya, meaning, early, it perhaps points to some affiliation between its rāga and the RV Āsāvarī, since, among its rāgas, the SP also includes a Sāverī which is however of a different mela.

The omission of Ga and Ni in ascent is a common feature in the illustrations of this rāga in all four texts. Ma is said to be the RV Āsāvarī's graha and aṃśa.¹ Its first rāga-rūpa here finds Ma being introduced by Ri, however. What is remarkable is the opening phrase of the second RV rāga-rūpa, which now begins on Ma. This phrase is duplicated in the SP prastāra initial run and it can also be found in the SS Sāverī ālāpa and in the third line of the SC Sāverī lakṣaṇagīta. The RV aṃśa of Ma is moreover well substantiated in the rāga-rūpas' melodic line. The SP prefers to make Dha its Āsāvarī's principal note. The SP rāga is said to end on Pa but like most of the other rāgas illustrated in the text, it ends on Sa. It is quite possible that Ahobala's nyāsa refers to a medial pause rather than to the authentic final. The RV Āsāvarī

¹RV, 4:21

(Mālavagaula cont'd)

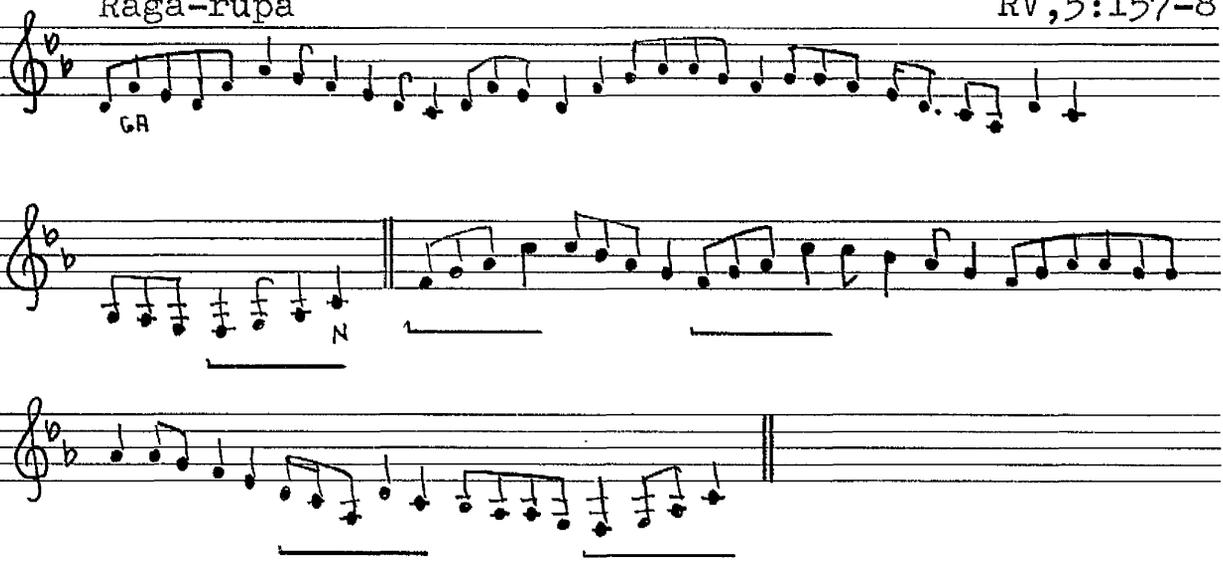


Musical notation for Mālavagaula cont'd, featuring a single staff with a treble clef and a key signature of one flat. The melody consists of a series of eighth and sixteenth notes, ending with a double bar line. A bracket under the final notes is labeled "Dal segno".

- Āsāvārī -

Rāga-rūpa

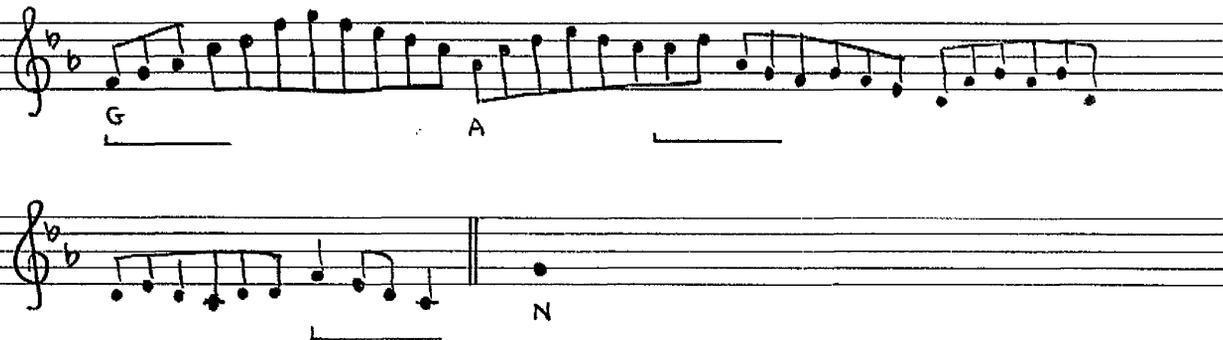
RV, 5:157-8



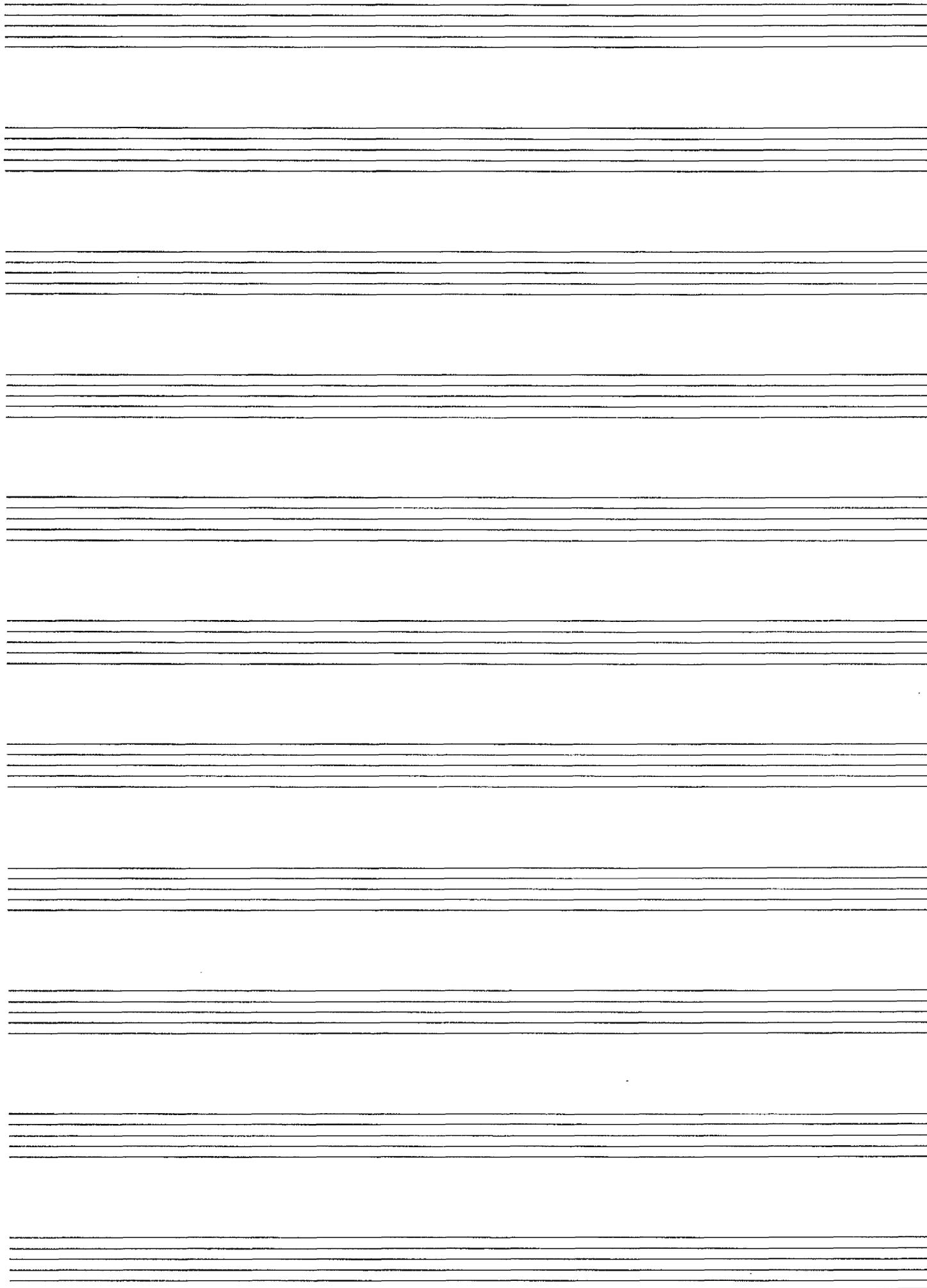
Musical notation for Rāga-rūpa, consisting of three staves with a treble clef and a key signature of one flat. The first staff begins with a bracket labeled "GA". The second staff has a bracket labeled "N" under the first few notes. The third staff has two brackets under the first and last parts of the melody.

Prastāra

SP:442



Musical notation for Prastāra, consisting of two staves with a treble clef and a key signature of one flat. The first staff has brackets labeled "G" and "A" under the first and middle parts of the melody. The second staff has a bracket labeled "N" under the first part of the melody.



rūpas end on a plagal cadence from low Ma to middle Sa. The SP and SC examples likewise end in the same manner but from above. Speaking of cadences, we might call the final cadence of the SS Sāverī ālāpa a Landini cadence on the minor sixth. The ālāpa's most outstanding note is Dha (Sāverī's official aṃśa: Sa) and the ālāpa moreover begins on Dha (official graha: Sa); finally, its Landini cadence on the flattened sixth only accentuates this note all the more.

Another aspect of the rāga is the leap between Ri and Dha or their inversion. In all but the SS which offers only one Sāverī illustration, the leap can be seen to be one of the rāga's more easily discernible features. Proof that the leap is indeed the Sāverī's and early Āsāvarī's mark is given in the Tyāgarāja Sāverī kriti, "Daridāpuleka", which opens directly into a leap from Dha to Ri upwards.¹ Although the four texts do not entirely agree on the rāga's lakṣaṇa, the amazing similitude of their musical illustrations might be taken as evidence of the high degree of constancy which the character of Āsāvarī or Sāverī managed to preserve within the span of three hundred years.

¹TK, I, 98.

- Sāverī -

Ālāpa

SS, p. 84

GAN

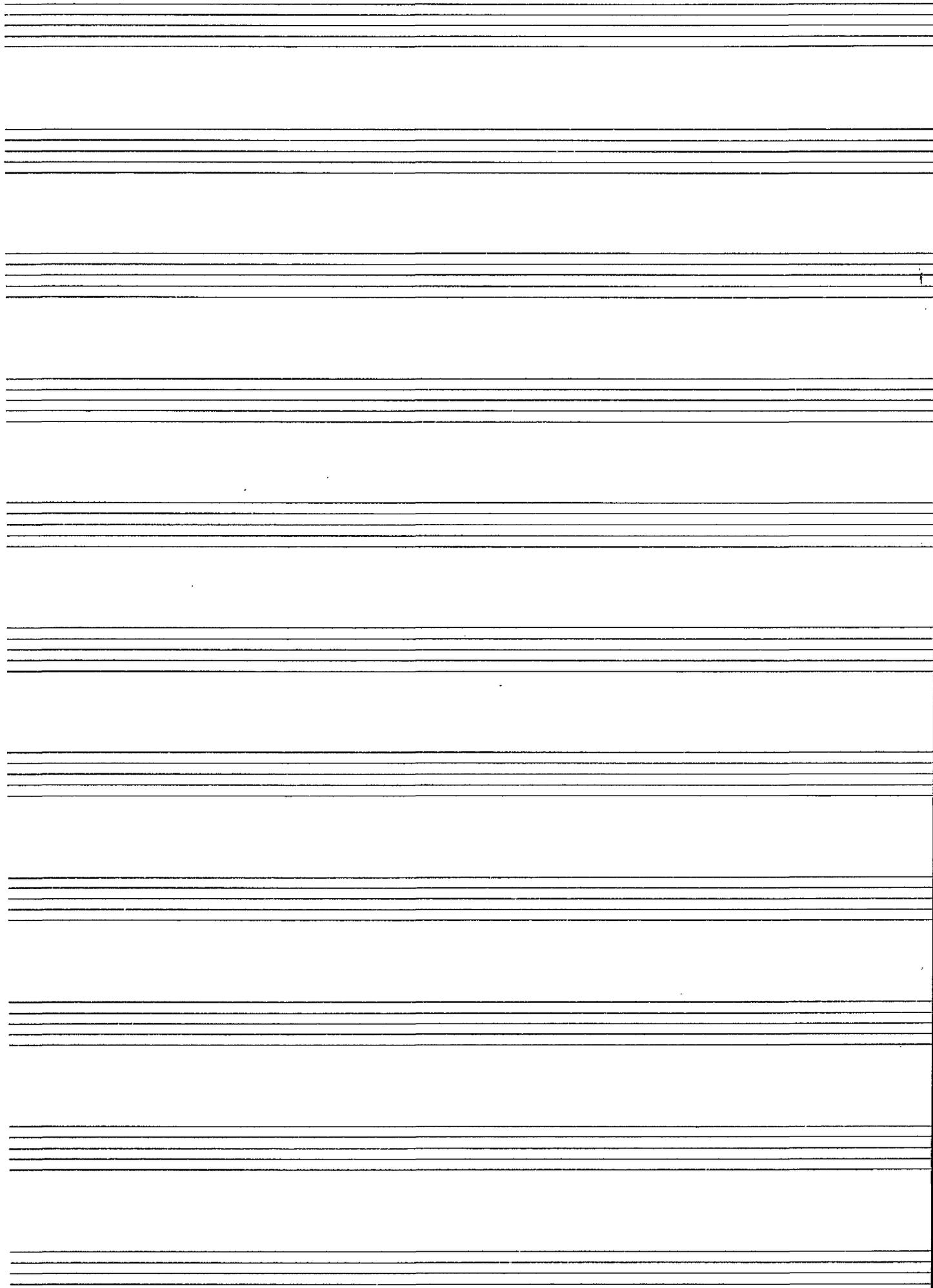
:8:

Lakṣaṇagīta

SC, II: 58

GAN

Dal segno



Pūrvī, like Sāverī, belongs to the Mālavagaula mela. The rāga's dominant note in the RV, SP and SS illustrations of Pūrvī appears to be Ga, a note that is omitted in ascent in Sāverī. Thus, aṃśa and alpatva combine to distinguish this rāga from another of the same mela. The RV prescribes Sa as Pūrvī's initial note and uses this in its first rāga-rūpa but it is Ga that begins the following two rūpas. The SP makes Ga the rāga's nyāsa as well as its aṃśa and we find the note acting as points of rest between stretches of ascending and descending melodic lines in the prastāra which ends as usual on the inevitable Sa. This confirms our hypothesis on Ahobala's concept of the nyāsa referred to in his rāga, Āsāvarī, which is, that his prescribed nyāsa applies not to the final of the rāga but to pauses within a given piece.¹

Besides the emphasis on Ga, the RV, SP and SS illus-

¹Pauses here refer to notes of longer values, that is, to breaks in the even flow of the melodic line, not to the state of silence in the Western musical sense. Unlike other types of Eastern music in which the rest or intervals of silence are an integral feature of their character (Arab music, for instance), Indian classical music, assisted by the drone, contains no gaps of silence.

trations reveal other features common to almost all three. There is the tendency to omit Ri and Ni in ascent; the illustrations use the phrase involving Ga with Pa and resolves downwards to Sa; the SP and SS use the leap of a fifth between Pa and Sa in their Pūrvī cadences.

The SC Pūrvī, on the other hand, is quite another specimen, judging from its lakṣaṇagīta. Here Ga is not the predominant note. It is Sa as the text prescribes. Although Ni is also omitted in ascent, Ri is very much in evidence and it is Pa that is occasionally skipped in descent. It is apparent, therefore, that unlike the more steadfast Sāverī, Pūrvī underwent an appreciable degree of modification during the period separating the SS and the SC. That the change may have already begun in the 18th century is shown when the SS prescribes Sa as the rāga's graha, aṃśa and nyāsa.

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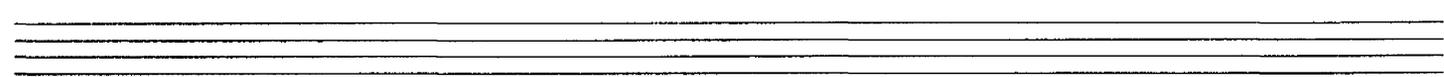
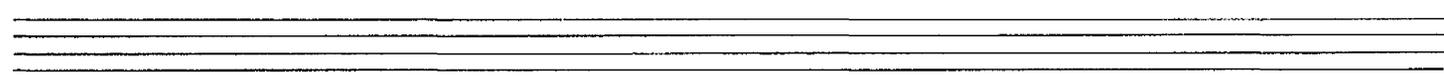
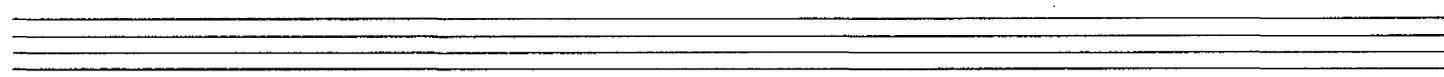
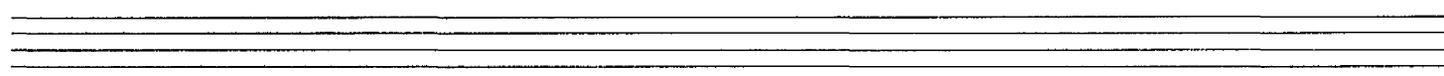
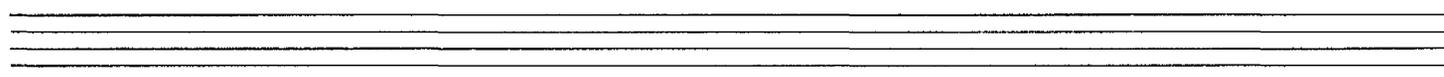
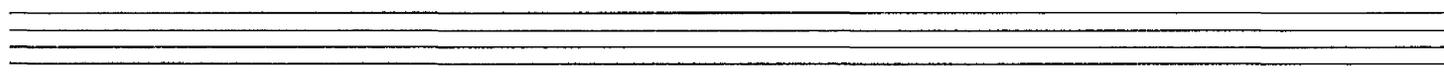
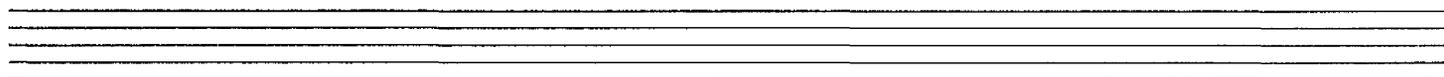
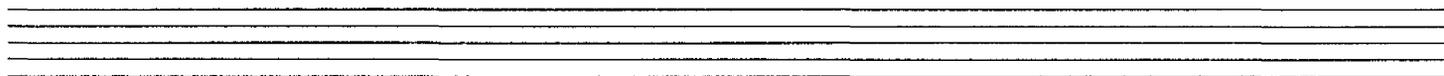
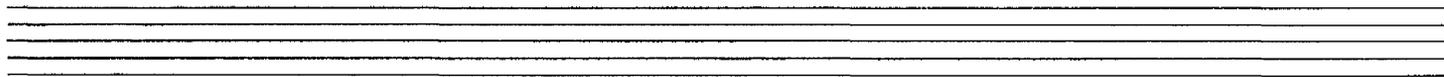
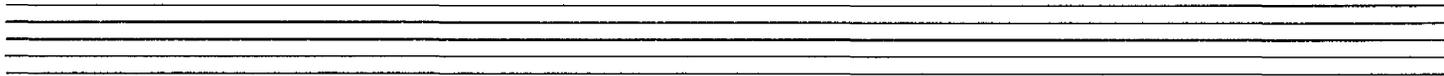
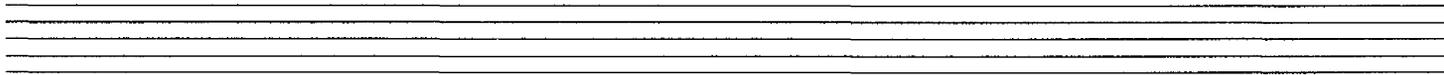
- Pūrvī -

:♩: Lakṣaṇagīta SC, II:87

Dal segno

- Gauḷa -

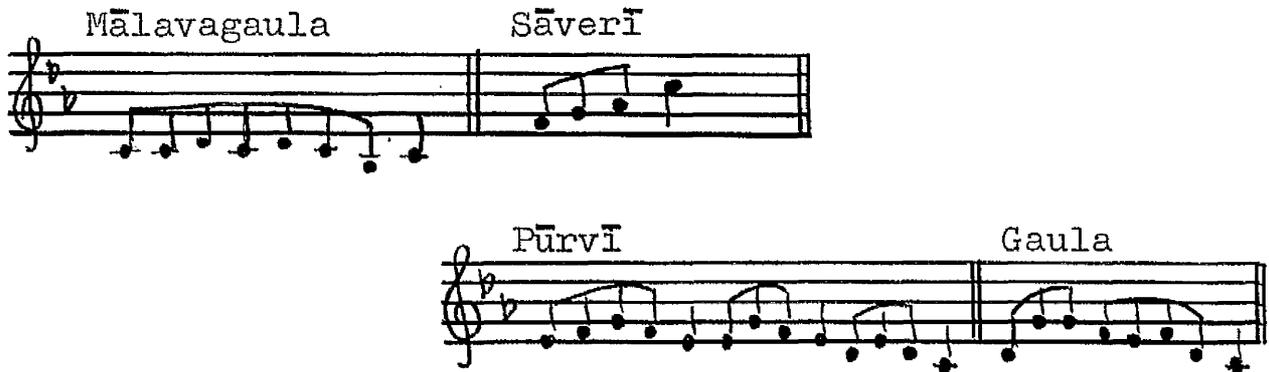
Rāga-rūpa RV, 5:120-1



Gaula, our last rāga of the Mālavagaula species (which species consists of the most number of rāgas), has features that could mistake it for any of the three previous rāgas of this mela. There are, for instance, the leaps of fourths and fifths, the omission of Ga and Dha, and the reiteration of seconds in the illustrations of Gaula in our four texts. Yet, the rāga remains distinguishable from the others. The four texts, however, disagree on Gaula's lakṣaṇa perhaps even more so than on the other three. The RV makes Pa Gaula's graha and aṁśa; the SP concentrates on Sa as the rāga's main functionary; the SS gives no data but begins and ends its illustration on Ni; and Ni is, in fact, the SC Gaula's graha, aṁśa and nyāsa. Yet Ni is said to be weak in the RV Gaula¹ and Somanātha uses the note only as a kind of appoggiatura to Ri in his first rāga-rūpa; the SP rāga, on the other hand, is pentatonic, with Ga and Dha omitted; the SS Gaula omits Dha only in ascent and the author points out that Ga is only to be used in the ascending krama (note series) that ends on Ma, not in the krama that resolves on Sa, nor may Ga be found in the series that begins on Ri or on Sa. In

¹RV,4:24

spite of these apparent discrepancies, the character of the rāga in all four illustrations emerges as one. All show leaps of a greater variety than found in the three previous rāgas, Gaula displaying more augmented fourths, such as, Ri-Pa and Ma-Ni, and there are leaps on the restricted Ga-Dha as well. All omit Dha in ascent and all four illustrations restrict the use of Ga. The leaps combined with the oblique use of Ga in relation to Ri and Ma give Gaula its singular character. The melodic phrases or formulae that characterize our four Mālavagaula rāgas might be said to be the following:



In modern times, the North Indian Gaurī appears to have all the marks of the 18th century South Indian Gaula. In Gaurī Ga and Dha are also omitted in ascent, there are the usual leaps on Ri-Pa and Sa-Pa, and Ga's movement is restricted in the same oblique manner. The one difference between Gaurī and Gaula is the occasional use in the former

of the sharpened Ma. Bhātkhaṇḍe's sthāyī and antara of Gaurī, however, show no Ma-sharp:

Sthāyī

Antarā

KPM, V, 408-10

Prastāra

SP:419



Mukulita tānaprayoga

SS, p.85



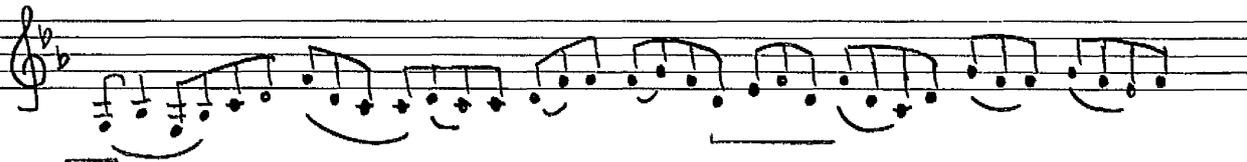
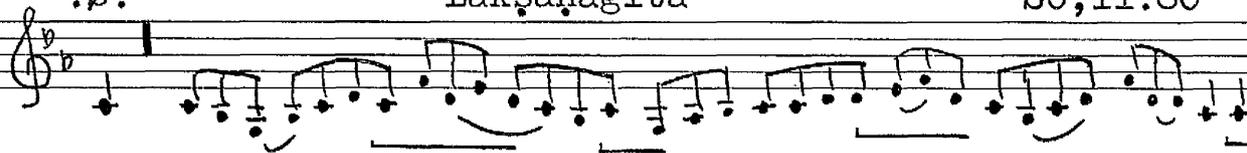
Prabandha prayoga



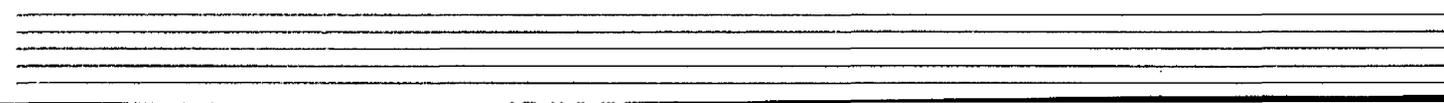
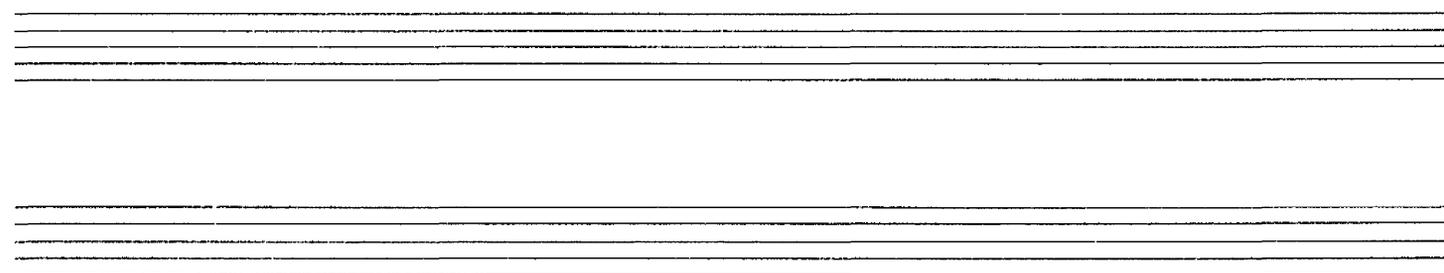
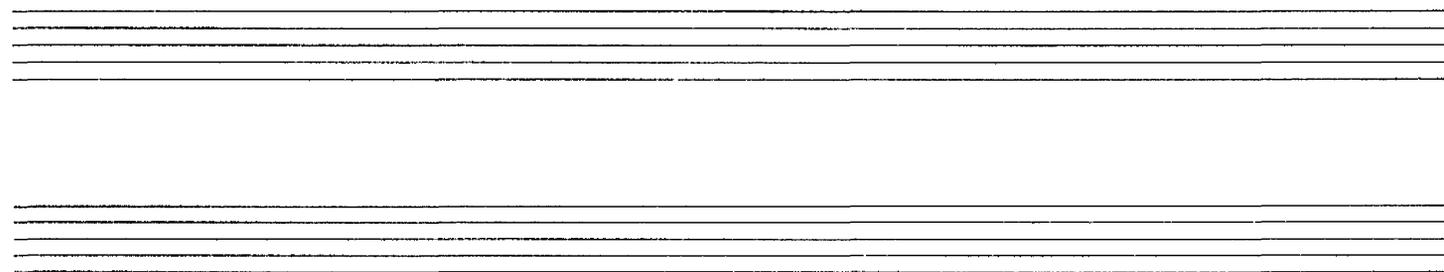
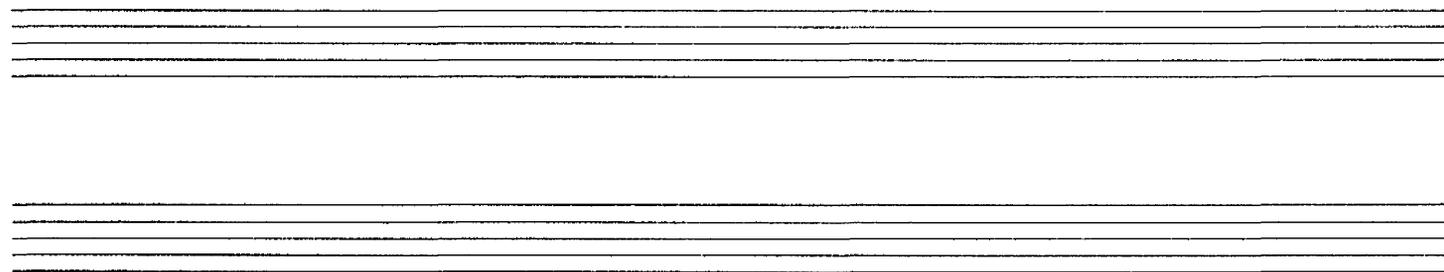
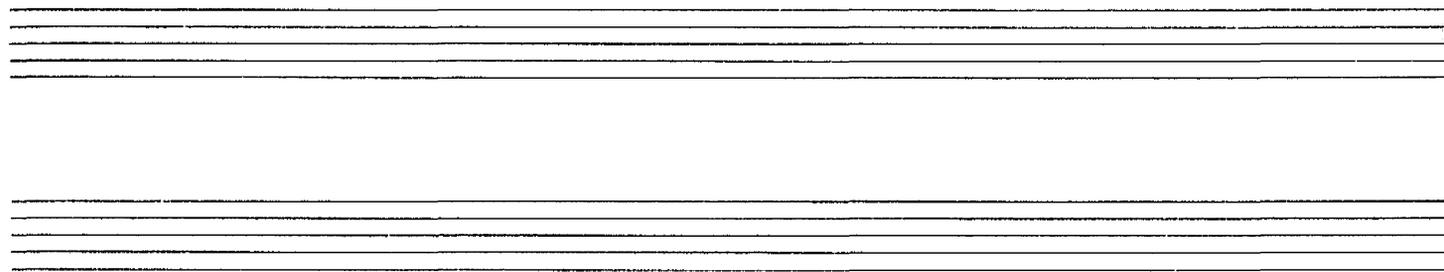
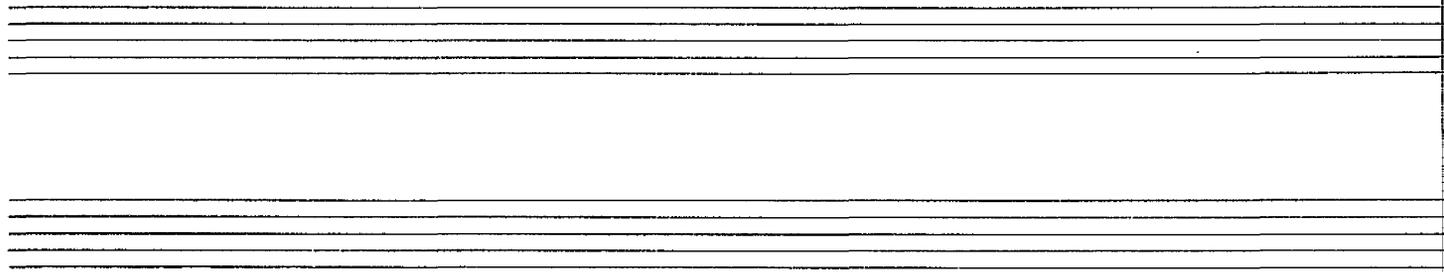
:S:

Lakṣaṇagīta

SC, II:60



Dal segno



Varālī's cluster of chromatic notes in the first tetrachord is matched in the upper tetrachord an augmented fourth away. The rāga's movement in our three illustrations consists mainly of semitonal steps around Ri-Sa or Ri-Ga, Ma-Pa or Dha-Pa, and Ni-Sa. The distance between Ga and Ma in the rāga (enharmonically a major third) puts Ri in the position of a passing note to or a turn for Sa or a turn for Ga. For all that, Ri is not an insignificant note in this rāga; it is the directional pattern of the melody that decides the role of a note in this heptatonic rāga.

The SP Śuddhavarāṭī's graha of Dha will be seen again in that role in subsequent rāgas of more or less related scales. As Ma's consonant (resolving to Pa) and as Sa's leading note, Ni is justifiably regarded as the SP rāga's nyāsa (more accurately, its subfinalis). Balance is thus achieved by this relation of Ni to the two chromatic clusters of this sophisticated mode. Ahobala makes Ma, Ni's consonant, Śuddhavarāṭī's aṃśa but the SP prastāra hardly shows Ma in that important capacity. Instead the prastāra shows Ma in a leap to Sa which interval of a diminished fifth can also be seen in the Dha-Ga leaps in the SC lakṣaṇagīta of (Jhāla)varālī. The SC leaps may, however, prove to be something more than

- Śuddhavarāṭī -

Prastāra

SP:391

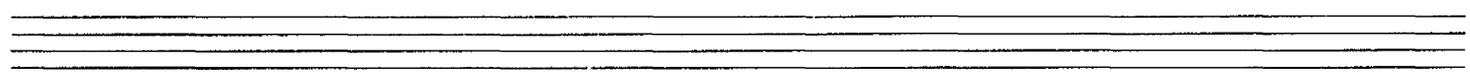
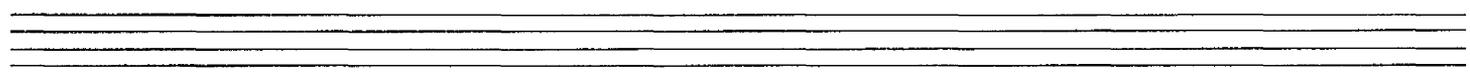
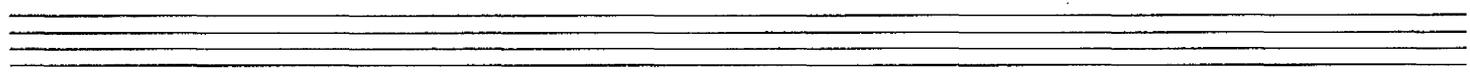
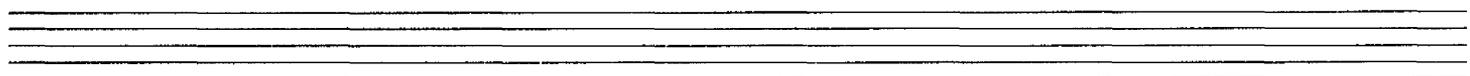
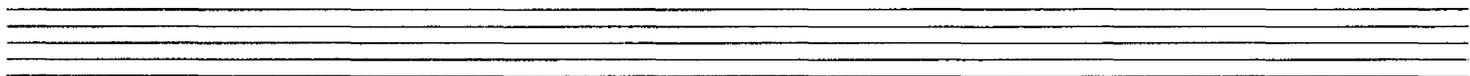
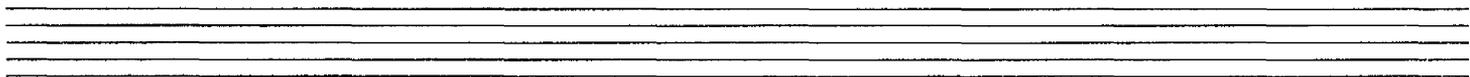
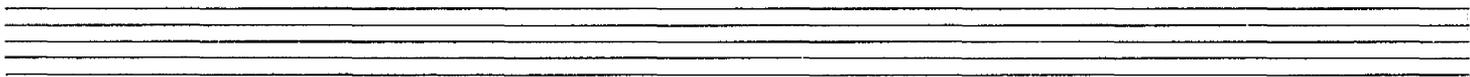
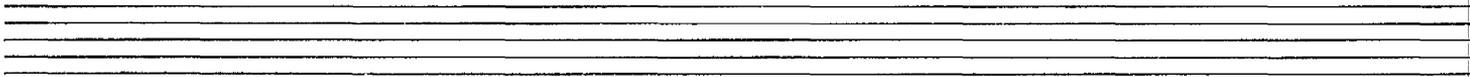
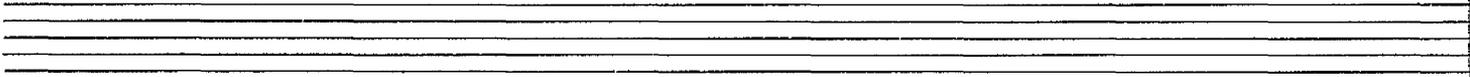
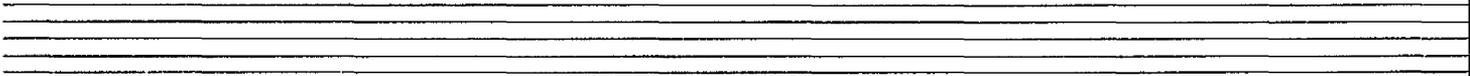
- Varāṭī -

Udgraha

SS,p.89

Sañcāriprayoga

Gītaprayoga



- (Jhāla)varālī -

Lakṣaṇagīta SC, II:260

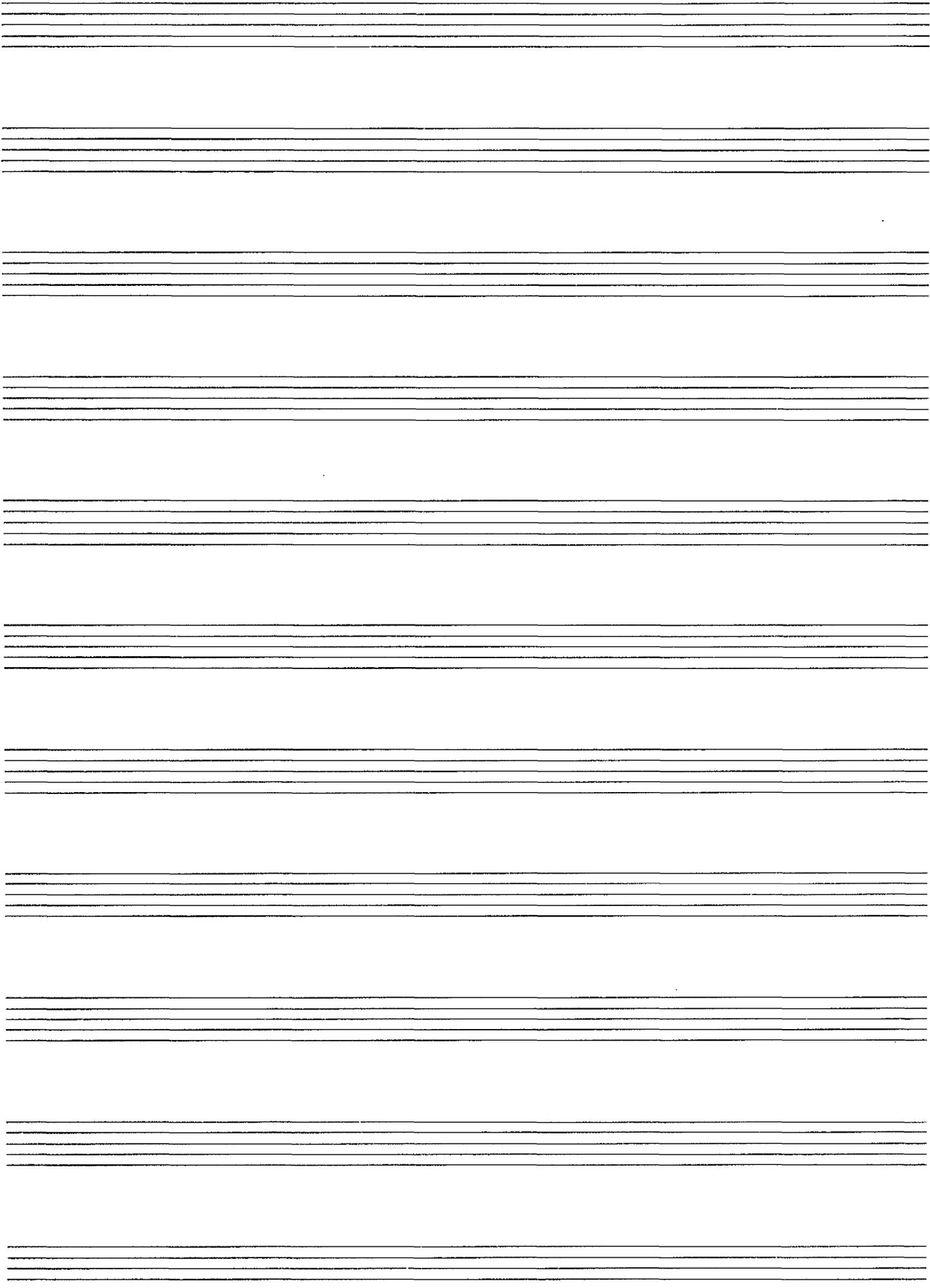
:♩:

GAN

Dal segno

- Rāmakrī -

Rāga-rūpa RV, 5:151-3



false fifths if Ga can be interpreted in the first leap (second line of the gīta) as a passing note to Ri thus suggesting the perfect fifth, Ri-Dha, or, if Dha in the second leap (third line) is put in the role of an appoggiatura to Pa, Pa being Ga's enharmonic fourth.¹

Rāmakrī's scale is the augmented fourth version of the scale of Mālavagaula. The nominally related RV Rāmakrī belongs to the latter mela and is being included here to show its similarities with the SP Rāmakarī. The RV rāga has two choices of graha/aṃśa, namely, Sa or Ga.² Its illustrated rāga-rūpas begin on Ga. The rūpas' omission of Ma in ascent causes the Ga-Pa major third to become the rāga's most conspicuous notes, especially when Ma is also skipped in descent as it often is in the fourth rūpa. While Ga is the RV Rāmakrī's official aṃśa, Pa might be said to be the rāga's bahu svara. The

¹Tyāgarāja's Varāli kriti, "Marakatamaṇi" which begins on Pa makes Dha either its appoggiatura or its turn. In ascent, however, Dha assumes its own role in relation to Sa.

²RV,4:20.

- Rāmakarī -

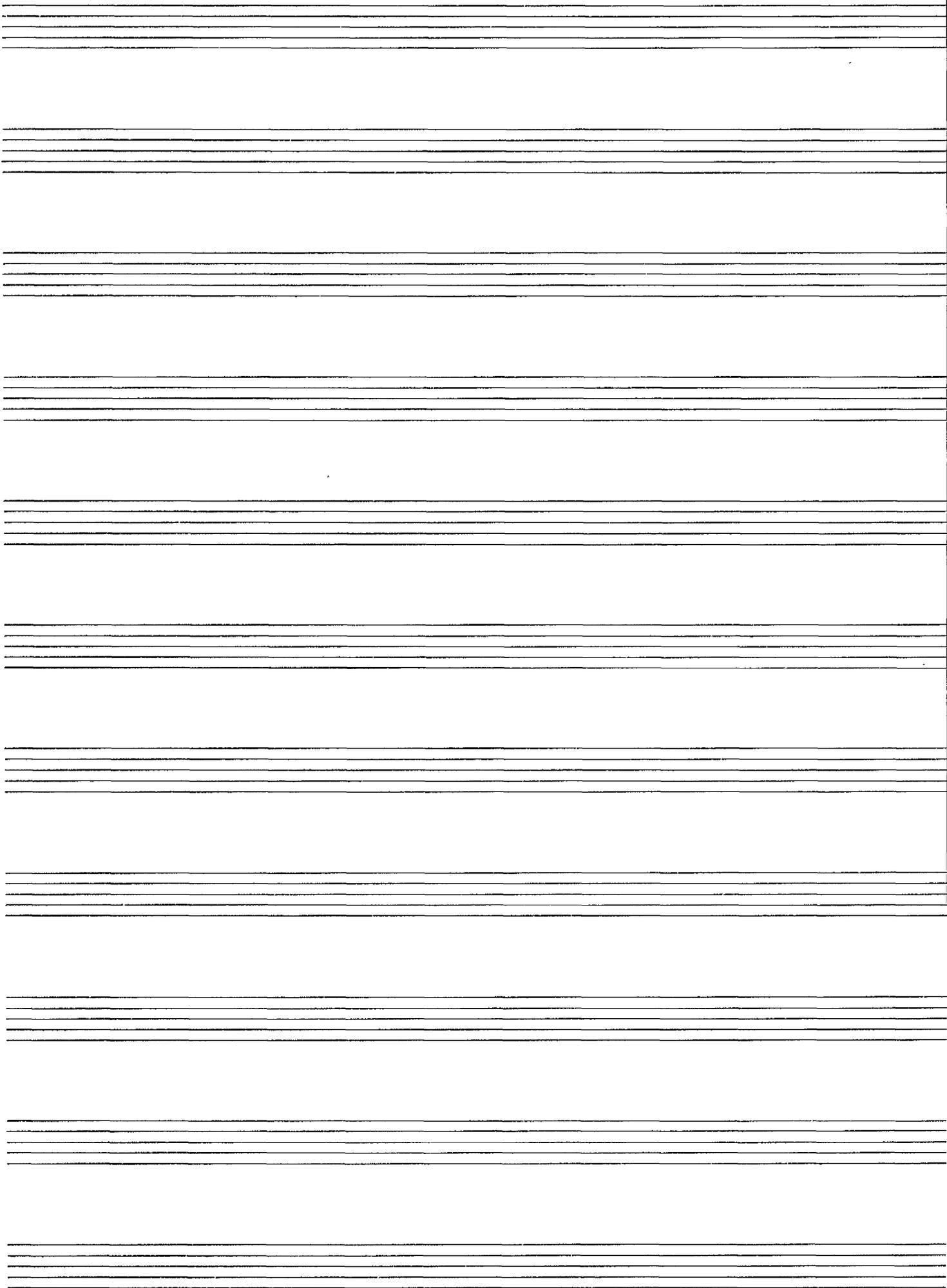
Prastāra SP:401

- Śuddharāmakrī -

Ayittaprayoga SS, p.90

- Rāmakriyā -

Lakṣaṇagīta SC, II:301



omission of Ma in this rāga is significant in view of the consequent classification of Rāmakrī's scale.

The SP Rāmakarī begins on Dha. However, the opening phrase in the SP prastāra of Dha-Sa-Ri introduces the Ga-Pa interval as prevalent in the prastāra as it is in the RV Rāmakrī's rāga-rūpas. The SP rāga also omits Ma and Ni in ascent¹ and makes Pa, the RV rāga's strong note, its aṃśa. Despite the discrepancy in scale, therefore, theory and illustration show a close correlation in the two texts because Pa plays a prominent part in both. (It is possible that the descending Ma in the SP rāga might have been flattened.)

This apparent tie to the Mālavagaula scale disappears in the SS and SC Rāmakrī rāga. Their illustrations show a definite use of the sharpened Ma. Dha is seen to be the strong note in the SC lakṣaṇagīta of Rāmakriyā. Thus, the use of the Ma-sharp seems to have caused the shift of emphasis from the previously limited conjunction of Pa with Ga to another comprising the broader intervals of Pa-Sa and Ma-Ni. Dha, the medial note of the two

¹But for the omission of Ni in the initial phrase of its prastāra, the SP Rāmakarī may temporarily be mistaken for a Varāṭī-type rāga, many of which begin on Dha in the SP.

intervals serves to "modulate" the melody from one interval to the other.

Rāmakrī then seems to illustrate the evolution of a rāga whose reiteration of the powerful early aṃśa, Pa, led to the inevitable inclusion of the previously omitted Ma, now taking the role of a leading note, which in turn necessitated the appearance of the previously omitted and non-consonant Ni, now in consonant agreement with the sharpened Ma. If the development of the features of each and every rāga could be traced, it might be discovered that it is not only inventiveness but also a subconscious desire on the part of the musician to correct the imbalance inherent in the diatonic modal system¹ that lead to the supplantation of a rāga's early lakṣaṇa by other lakṣaṇa. Ultimately, it would seem, the newer lakṣaṇa pass the test of time and thus become part of a rāga's tradition.

¹See N.A. Jairazbhoy's Rāg and scale in North Indian classical music (title is tentative), due to be published sometime this year by Faber and Faber.

Śaṅkarābharāṇa is among the rāgas listed in the SR "pūrvaprasiddha" rāgas.¹ Whether its 13th century scalar composition bears any resemblance to that of the Śaṅkarābharāṇa of the 17th and subsequent centuries might be difficult if not futile to determine. Śaṅkarābharāṇa is in the category of so-called inferior heptatonic rāgas in the SMK and its mela is that of the Śrīrāga (D mode).² It is said to have a likeness to the rāga, Sāmanta,³ whose Ri-sharp and Dha-sharp might apparently be taken for the minor third and minor seventh of the Śrīrāga mode.

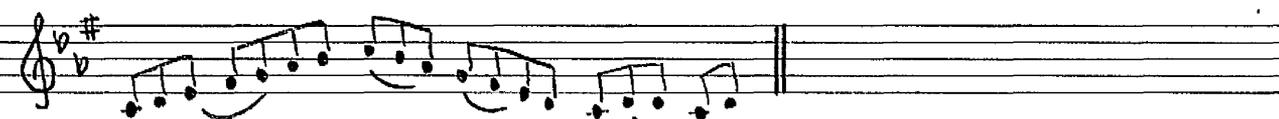
The C-mode Śaṅkarābharāṇa appears in the 17th century RV as a rāga of the Mallāri mela. In this and subsequent texts, the rāga is described as heptatonic, with its graha, aṃśa and nyāsa on Sa, except in the SP where Śaṅkarābharāṇa is given an aṃśa of Ma and a nyāsa of Ga. The SP musical illustration, however, consists only of the ascending and descending movement of its scale, the range of the rāga being two octaves. There is no way to prove or disprove from the illustration the rāga's Ma aṃśa or its Ga nyāsa. We have shown the SP nyāsa to

¹SR, II, 2:4

²SMK, 5:61

³Ibid.

(Rāmakriyā cont'd)

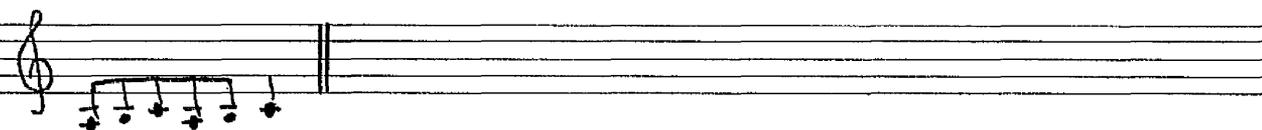


Dal segno

- Śaṅkarābharāṇa -

Rāga-rūpa

RV, 5:37-8



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- Śaṅkarābharāṇa -

Prastāra

SP:406



Āyittaprayoga

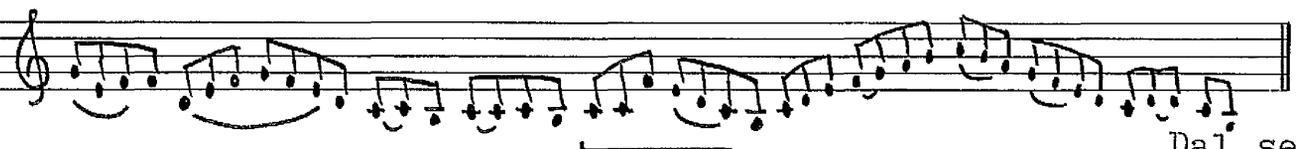
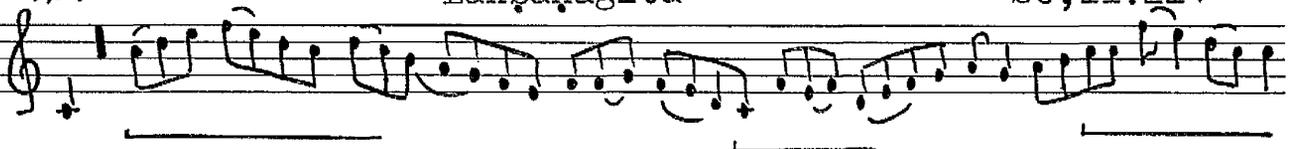
SS, p.90



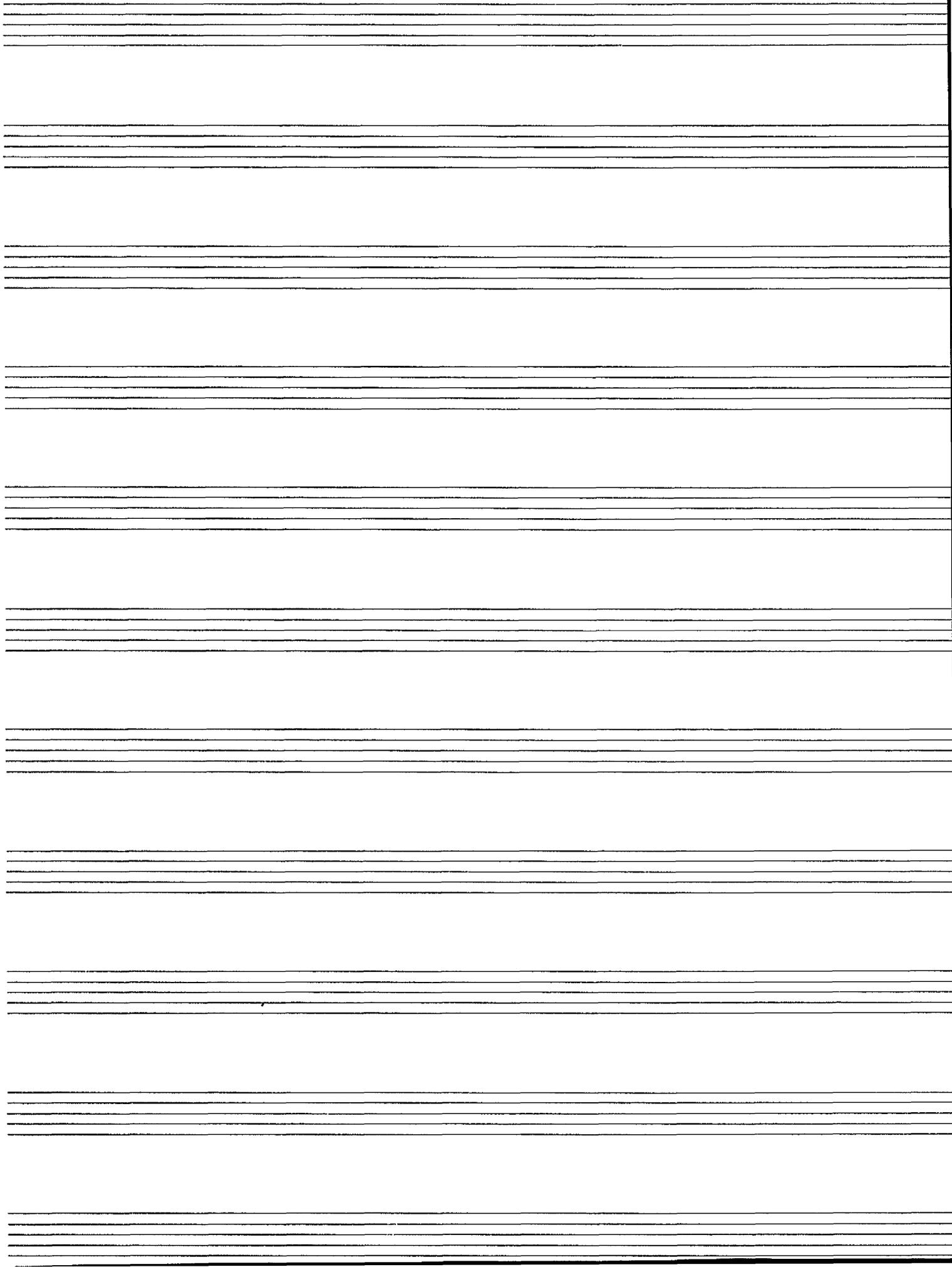
:♩:

Lakṣaṇagīta

SC, II:214



Dal segno



Kāmbhojī and Naṭanārāyaṇī are rāgas that bear nominal or scalar relationship with their respective counterparts in our four texts but their musical illustrations show unexpected differences as well as similarities.

Kāmbodī and Naṭanārāyaṇa in the RV are in the C mode. The SP Kāmbodhī is in the G mode, a mode that is not represented in the RV, we recall. The SP Naṭanārāyaṇa is, however, in the C mode as are other earlier types of the rāga, in the SMK and CDP, for instance. The later Kāmbhojī and Naṭanārāyaṇī of the SS and SC are in the G mode; only their Kāmbhojī musical illustrations show some parallel features.

The RV Kāmbodī is said to be heptatonic but its rāga-rūpas show no use of Ni, and Ga is omitted in ascent. The SP Kāmbodhī, on the other hand, omits Ma and Ni in ascent. Despite their theoretical differences in mode and lakṣaṇa, their musical illustrations show as much kinship as the modally related SS and SC Kāmbhojī. The SP Kāmbodhī begins on Ga. The rāga may also begin in the upper tetrachord on Dha, one of its two aṃśas, the other being Ma. When the rāga begins in Dha, the SP prescribes the omission of Ga (yadā gāndhārahīnā syān mūrchanā cottarāyatā // 410).

- Kāmbodī -

Rāga-rūpa RV, 5:100-1

- Kāmbodhī -

Prastāra SP:410

- Kāmbhojī -

Udgraha prayoga SS, p.96

Gītaprayoga

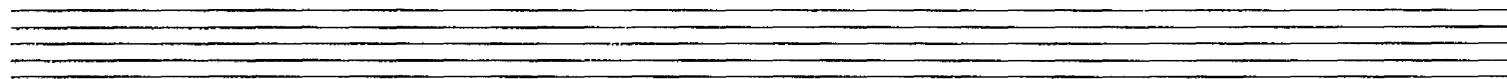
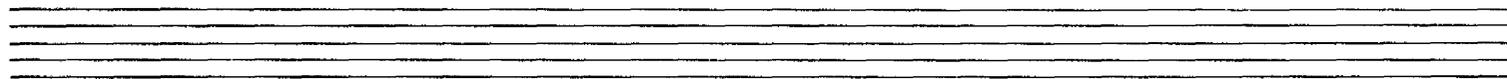
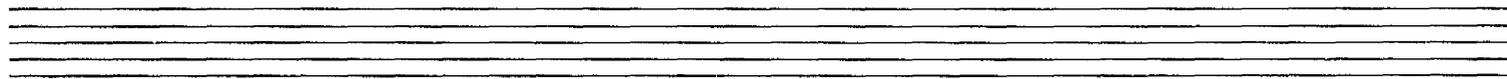
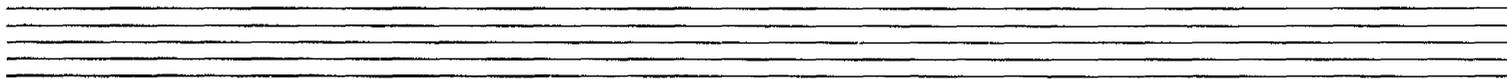
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It is this alternate initial phrase in the SP prastāra that begins the RV Kāmbodī rāga-rūpa and, except for the descending Ni in the SP rāga prastāra, the RV and SP Kāmbodhī illustrations have many related passages.

Ma, omitted in ascent, is nevertheless the SP Kāmbodhī's aṃśa. The rāga's prastāra clearly proves this. Because the ascending movement of the prastāra terminates on Ma, attention is fixed on it. It is the note-plateau among the ups and downs of a rāga's svara pattern that catches the ear. Here then is an instance in which the omission of a note leads to no diminution of that note's power. There is apparently no hard and fast rule that relates the omission of notes to alpatva. Generally speaking, however, the restricted use of a note is apt to weaken it, not enhance it.

The SS Kāmbhojī also omits Ma and Ni in ascent and its author claims that "there are ways of achieving rakti (charm) when Ma occasionally appears." Our SS illustrations of the rāga do not, however, suffice to establish this claim. One apparent similarity between the SP and SS Kāmbhojī rāgas is the opening phrase in both their illustrations. The later SC Kāmbhojī omits only Ni in ascent and its lakṣaṇagīta features many leaps.

The RV and SP Naṭanārāyaṇa rāgas are related in scale



and in name but their svara patterns do not seem to have much in common. While the RV rāga-rūpas include leaps of fifths, the SP prastāra takes a step by step course. Furthermore, the RV rāga's aṃśa is Ga while the SP has its aṃśa on Ma. Thus, although the two texts assign different modes to Kāmbodhī, their Kāmbodhī rāga illustrations at least reveal some common note-patterns while their modally related Naṭanārāyaṇa illustrations show no kindred features.

The SS and SC Naṭanārāyaṇī agree not only in name and mode but also in lakṣaṇa; yet their note-patterns diverge. Theoretical lakṣaṇa between nominally and modally related rāgas, while seeming to coincide, may therefore prove misleading. The differences between modally related rāgas of the same name may stem from lack of a strong tradition or may signify continuous development. Whatever the reason, the importance of notated music to illustrate a rāga's features becomes plain if the rāga is to preserve its conventional character or if its historical growth is to be more faithfully recorded. In this respect the 20th century is better equipped than the past. It has seen the compilation of the compositions of such famous South Indian musicians as Tyāgarāja, Dīkshitar, Śyāma Śāstrī, Kshe-

Blank musical staff with five lines.

trājña and others, and the anthologies of S. Dīkshitulu and Bhātkhaṇḍe, and has encouraged the holding of annual music conferences that include the discussion of lakṣaṇa. The published reports of these lakṣaṇa discussions do much to develop the analytical approach to the study of a rāga's features.

Hindola has consistently been a pentatonic rāga since the time of the BD, our first extant source of the rāga. In the BD Hindola is described as a Vesara-type parent rāga which omits Ri and Dha.¹ The same description is given in the SR² and in the 17th century we find the same notes omitted in the CDP Hindola.³ It is the RV, the CDP's predecessor, that changes the gaps of the rāga's scale to Ri and Pa.⁴ Hindola's gaps have remained so today. In the matter of scale, however, Hindola has undergone somewhat more change. We have shown the Hindola scale to be that of the D mode in the BD and SR. In the SMK Hindola appears as a rāga of the A mode⁵ and, except

¹BD:344 in which the rāga's name appears as Bhindola; it is Hindola in BD:314.

²SR, II, 2:94

³CDP, 5:60

⁴RV, 4:14

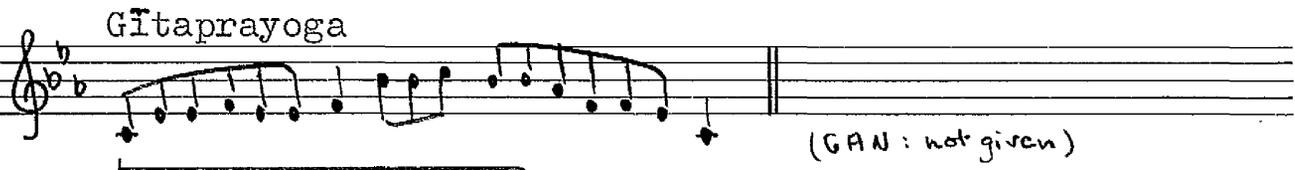
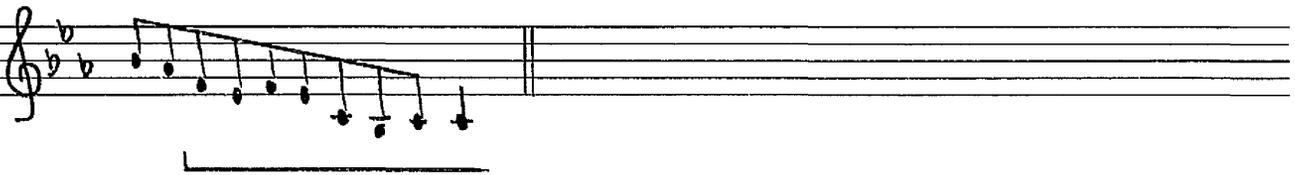
⁵SMK, 4:26

(Naṭanārāyaṇī cont'd)

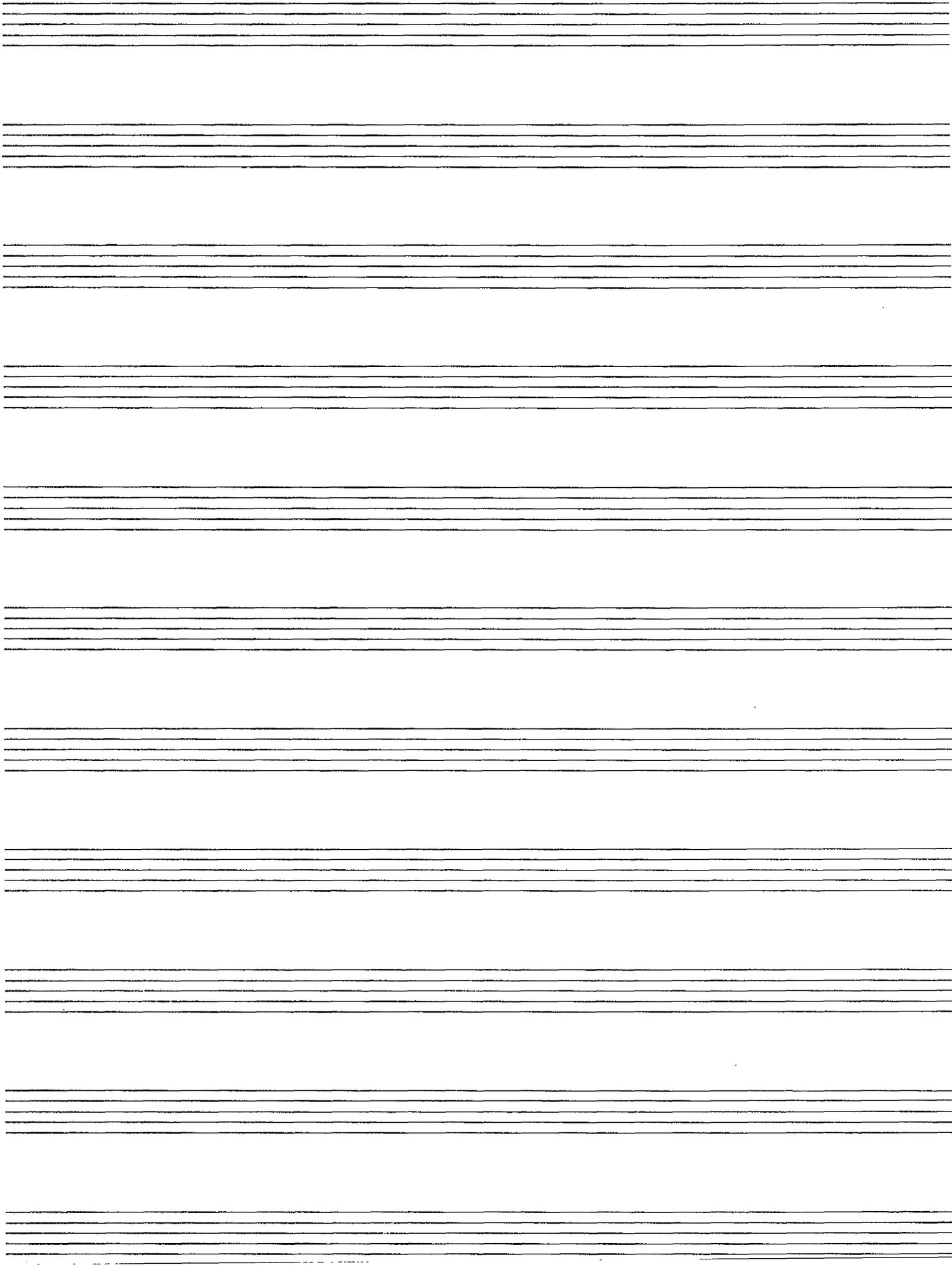


Dal segno

- Hindola -



(GAN : not given)



for the RV which puts Hindola in the Vasanta mela (a duplicate of the Mālavagaula mela), the rāga remains in the A mode until the middle of the 19th century when it reverts to its original D mode.¹ Thus, while the modern Hindola is again in the D mode, its Ri-Pa gaps distinguish it from the Hindola of the 10th century.

The omission of the consonant pair, Ri-Pa, from Hindola produces a rāga of tasteful symmetry, whose melodic themes center around the ancient tetrachordal boundaries of Sa and Ma. Like most rāgas that omit Pa,² Hindola's drone-tones would be Sa and Ma. And to the Western ear the Sa-drone in Hindola would seem to take the role of dominant to the f-minor chord. All three illustrations of Hindola here show much consistency in playing Sa-Ni-Sa against Ma-Ga-Ma. The interesting thing about Hindola's development is the retention of its 18th century svara-patterns in spite of the rāga's change of mode. The effect of the major sixth in the D mode as against the A mode's minor sixth is to create a less

¹Tyāgarāja's Hindola kritis are in the 22nd mela (D mode).
See next page.

²Of the non-Ma-sharp variety.

Toḍī and Bhūpāla represent the E mode in our selective survey of 17th and 18th century rāgas. The mode is not among those in the 16th century SMK class of rāgas although it has been shown to be in the earlier BD and SR rāga systems. Fifty years after the SMK the mode appears in the RV.

The RV Toḍī concentrates its initial, principal and pausal note on the svāra, Ga.¹ Its rāga-rūpa covers a range of a little over an octave. This ambitus is confirmed in the SP and SC Toḍī illustrations. The RV Toḍī rāga-rūpa's display of leaps is also seen in the SC Toḍī lakṣaṇagīta, yet the two are incompatible because Pa is omitted in the hexatonic SC Toḍī.

The SP description of its Toḍī includes a procedure that presages the more detailed kind of descriptive analysis that characterizes the SSP, KPM, and even the more modest Dakṣiṇarāgaratnākaram of K. Ramachandran.² This is the reference to the use of accidentals in a rāga, i.e., to the occasional change in the pitch of a note or notes of the rāga's basic scale. There is no mention of accidentals in the SMK, RV, CDP, SS or SC.

¹RV,4:10

²Madras, 1949.

- Hindola -

:8:

Lakṣaṇagīta

SC, II:108

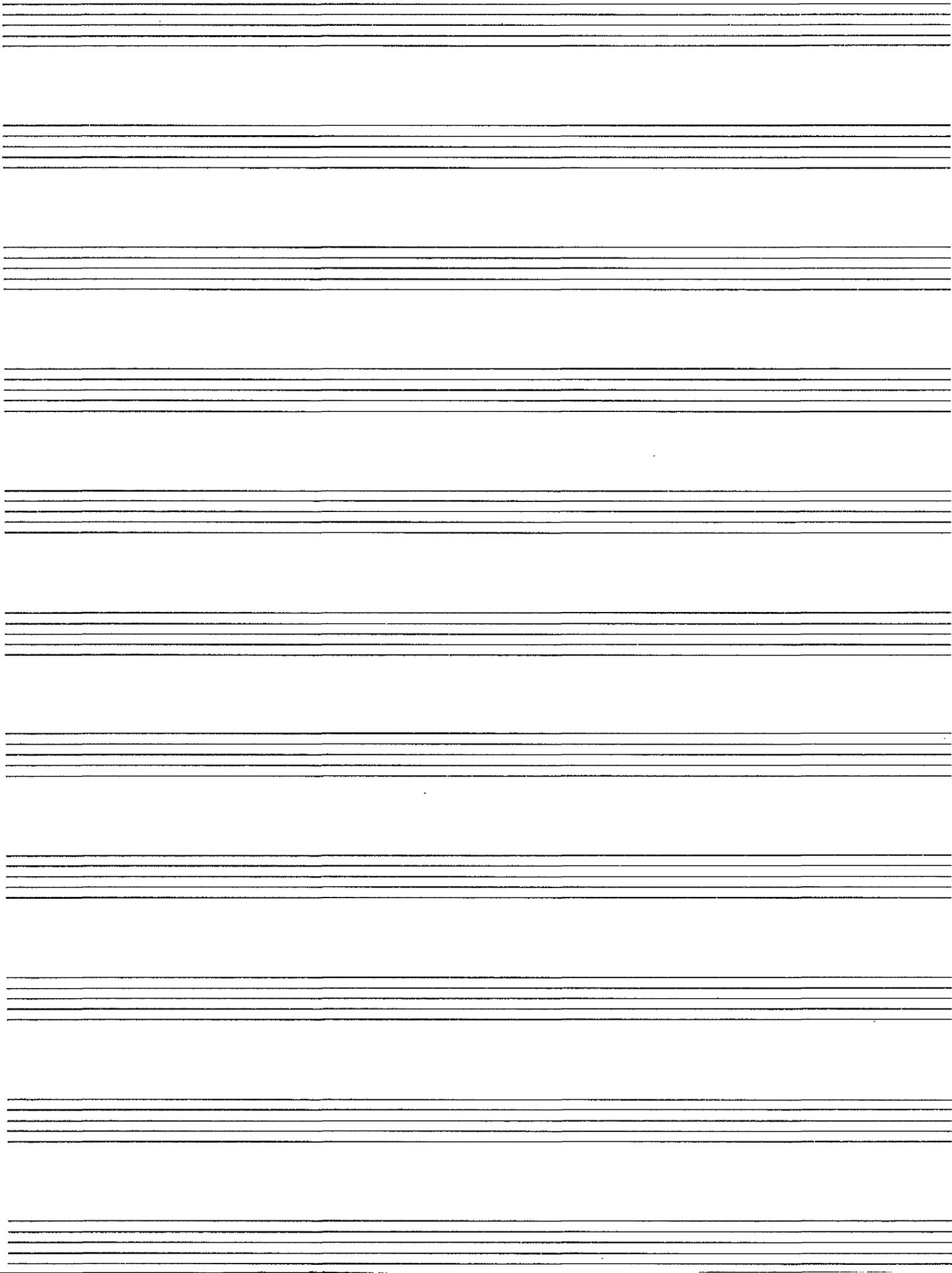
Dal segno

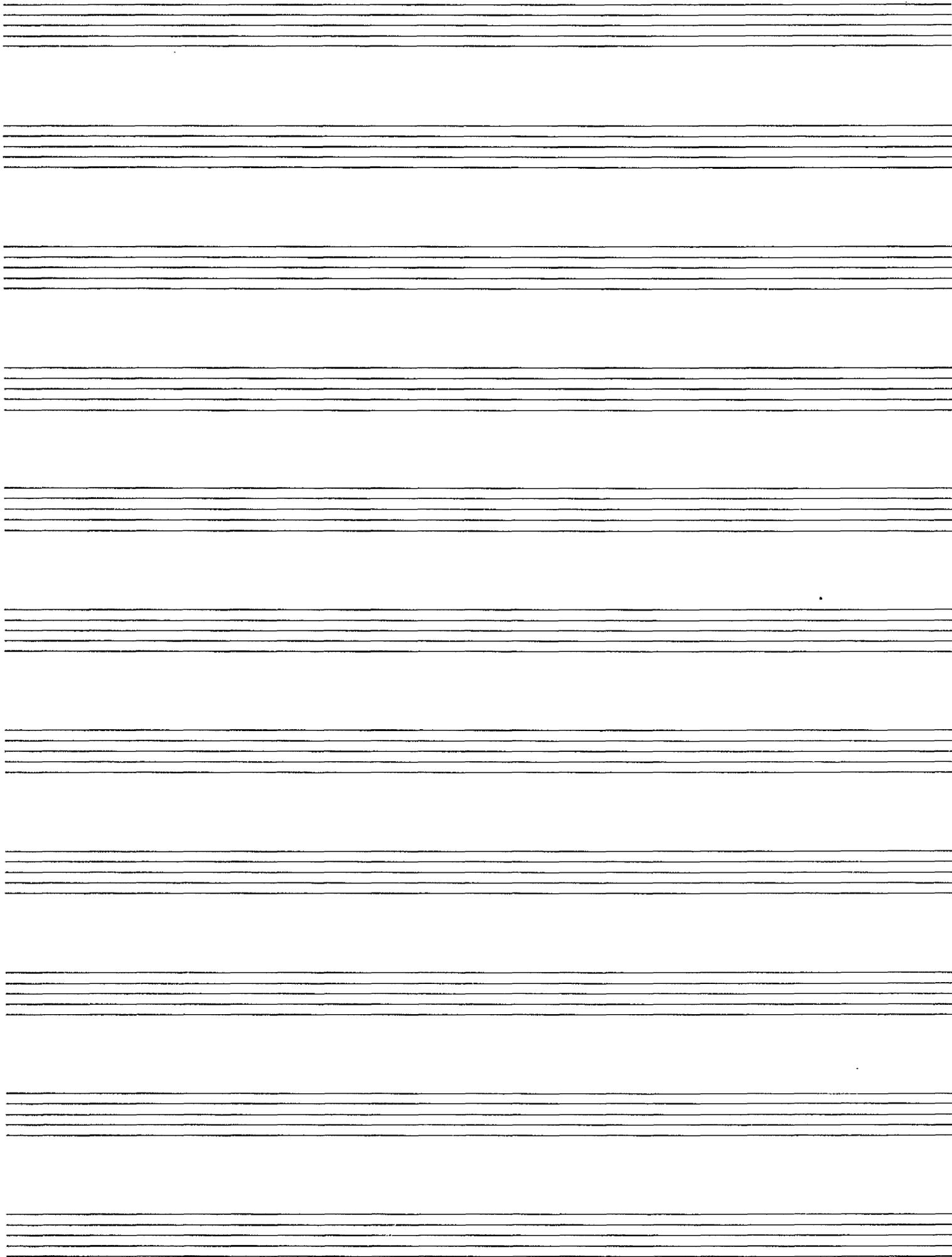
- Toḍī -

Rāga-rūpa

RV, 5:61-2

GAN





The SP Toḍī description ends with, "When Ma is used in ascent, then Pa is nyāsa (that is, then Ma should resolve to Pa), and [that Ma is equivalent to] the second Pa."¹ This second Pa is the vikṛta variety of Pa which Ahobala says is like tīvratama Ma.² This sharpening of Ma in ascent might indicate some influence on the SP rāga of the North Indian Toḍī whose fourth and seventh degrees are raised. Additional proof that Ahobala's nyāsa refers to intermediate pauses, not to the rāga's final, is furnished by the SP Toḍī's prastāra. Dha, the rāga's nyāsa, appears twice as pauses within the prastāra and Dha makes an effective pause in relation to the rāga's aṃśa.

Bhūpālī in the SP, like its parent rāga above, takes Ga as its aṃśa but the derivative Bhūpālī omits Ma and Ni. The SS Bhūpāla belongs to another mela but

¹menārohe tu panyāsā pañcamenobhayor api // 386 SP

²SP:76. The quality of sharpness in the term, tīvratama, may be likened to the sharpness of a leading note that resolves to a modulatory tonic key as compared to that note's less sharp pitch level when used as the major third of the tonic triad.

is included here as a nominally related rāga that could well have been classified in the E mode judging from its pentatonic scalar structure.¹ The SS, however, places Bhūpāla among the rāgas of its Bhinnaṣaḍja mela, a scale that lacks the flattened seventh of Toḍī. Despite this mela difference, all three of our Bhūpāla illustrations agree in svara patterns as well as in gapped scale.

The SC Bhūpāla lakṣaṇagīta provides further evidence of the discrepancy between theory and illustration that occasionally occurs in our four texts. Ga introduces and ends the SC Bhūpāla lakṣaṇagīta but Sa is said to be the rāga's official graha and nyāsa.²

There is a strong affinity in scale and lakṣaṇa between our South Indian Bhūpāla illustrations and the KPM's sthāyī and antarā of the North Indian Bhūpālatoḍī. In the latter, the omitted notes, Ma and Ni, appear as decorative pièn tones that fill the gaps of its pentatonic scale. Perhaps the same could be true of the South

¹The RV Bhūpālī, although nominally related, is in the C mode; yet it, too, omits Ma and Ni (RV,4:36). Cf. this with the North Indian Bhūpālī in the F mode, whose similar omission of Ma and Ni results in the same gapped scale as the RV Bhūpālī (KPM,III,23).

²SC,I,3:8/2.

Indian examples had their ornamentations been notated.

Sthāyī KPM, VI, 442

The image shows four staves of musical notation. The first staff is labeled 'Sthāyī' and the second staff is unlabeled. The third staff is labeled 'Antarā' and the fourth staff is unlabeled. The notation is in a single system with a treble clef and a key signature of two flats (B-flat and E-flat). The first staff contains a melodic line with various ornaments (trills, grace notes) and a final cadence. The second staff continues the melodic line. The third staff is labeled 'Antarā' and shows a melodic line with ornaments. The fourth staff continues the melodic line and ends with a double bar line.

- Bhūpālatodī -

- Bhūpālī -

Prastāra

SP:375



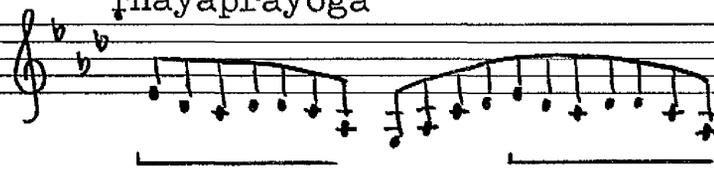
- Bhūpāla -

Udgraha

SS,p.109-10



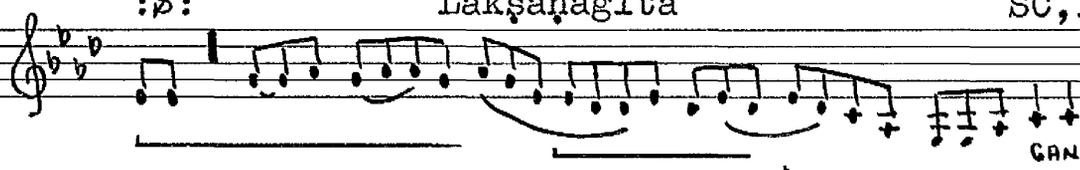
Thāyaprayoga



:8:

Lakṣaṇagīta

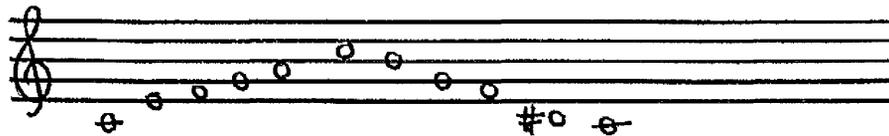
SC, II:26



- Cont'd -

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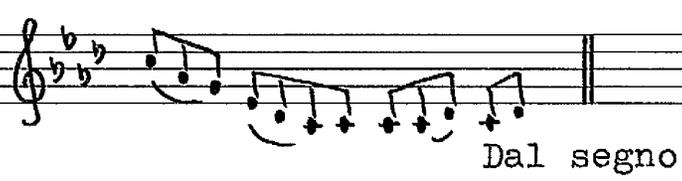
Deśākhyā or Deśākṣī appears to have been in vogue for at least two hundred years. The mode is found in the SMK which classifies the rāga as "superior heptatonic", the RV and CDP as well as in our last three texts, the SP, SS and SC. The rāga's svāra patterns in our illustrations disclose an adept handling of the Ri-sharp which results in the formation of



a pseudo-pentatonic structure whose gaps apparently indicate a pairing of Ri with Ni in ascent and Dha with Ga in descent. The gapped interval, Ri-Ni, although a minor sixth and not the usual fifth or fourth, nevertheless brings about symmetry in the rāga when Ri and Ni are seen as leading notes to Ga and Sa, respectively. Their omission results in a minor third final cadence instead, Dha-Sa from below or Ri-sharp (the enharmonic Ga-flat)-Sa from above. The two pentatonic scales, as it were, create a contrast in moods in this rāga, which might be described as optimistic in ascent and cautious in descent.

The SP and SS illustrations of Deśākṣī here show remarkable resemblance. The SC rāga, on the other hand, is a mela-rāga and, as such, must be heptatonic in ascent

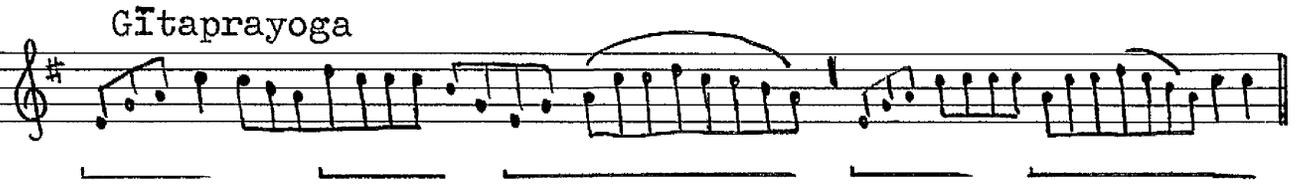
(Bhūpāla cont'd)

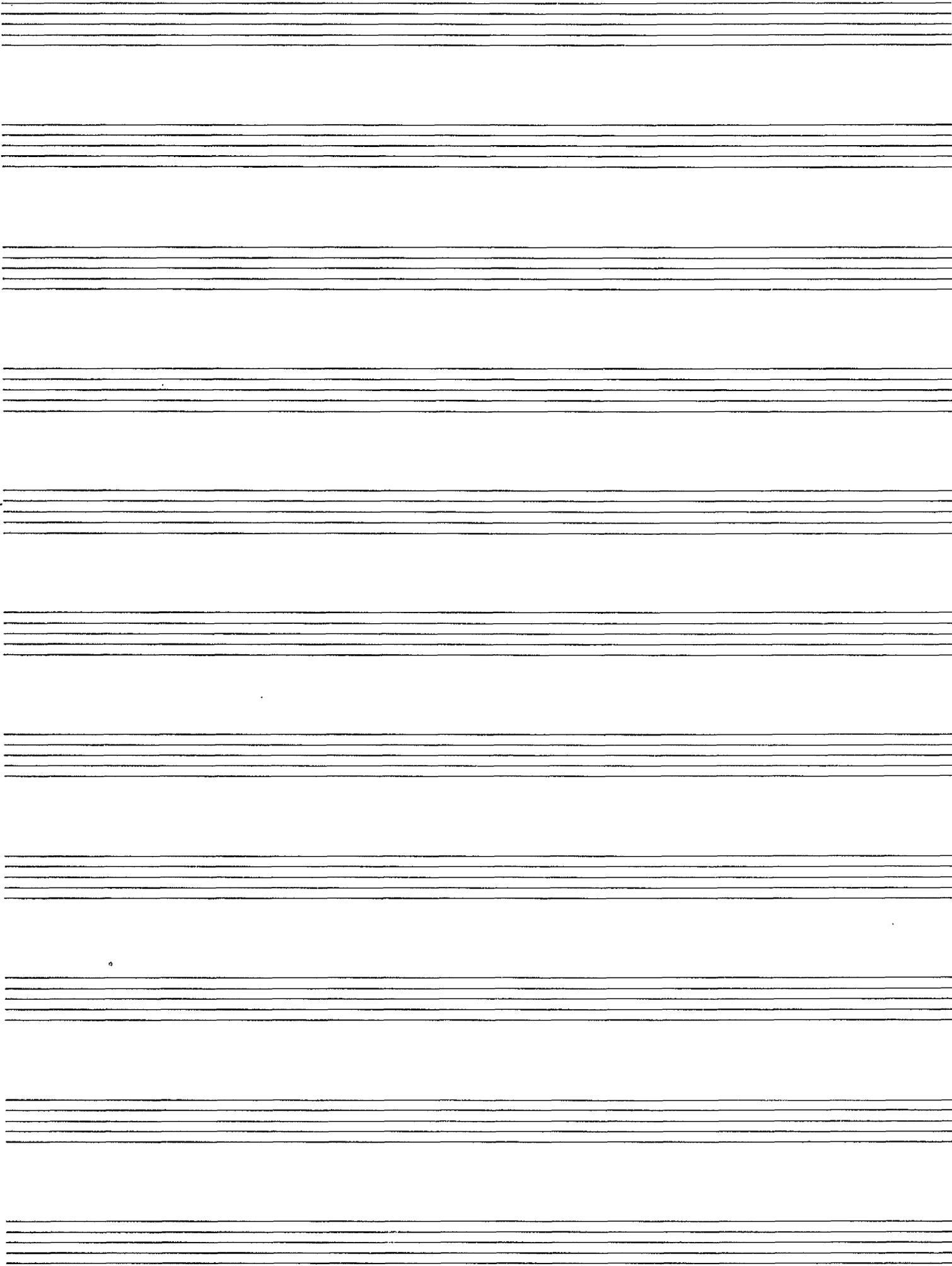


- Deśākhyā -



- Deśākṣī -





- Deśākṣī -

: 8: Lakṣaṇagīta SC, II: 251

GAN

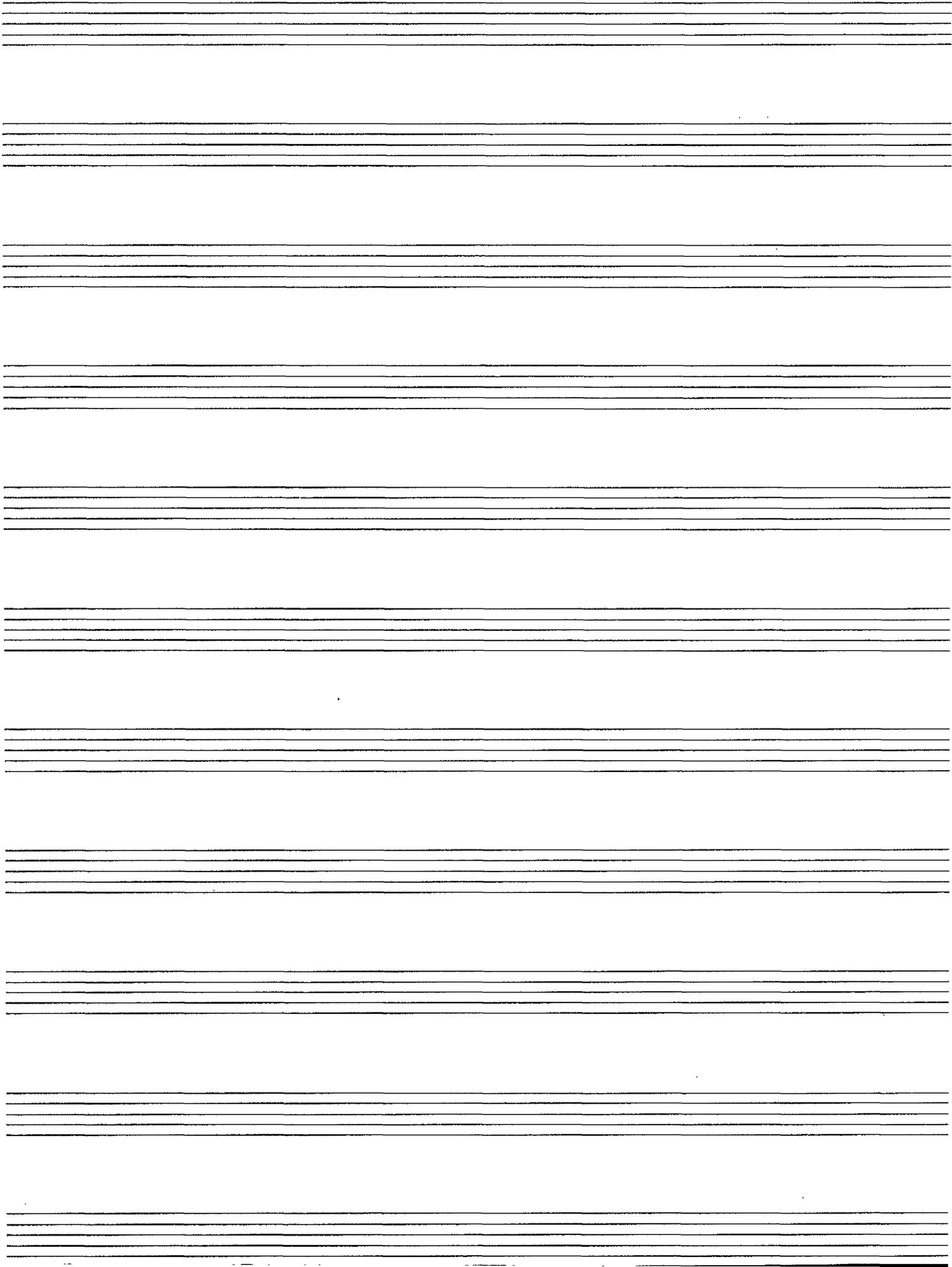
Dal segno

- Sāraṅga -

Rāga-rūpa § RV, 5: 83-4

GAN

§ Ga in the 1895 Poona ed.; Ma in the other editions.



and descent. The resulting svara pattern in the SC Deśākṣī lakṣaṇagīta includes the chromatic Ri-Ga-Ma sequence which the older SP and SS rāga neatly avoids. Our surmise would be that with the SS the original Deśākṣī tradition ceases.¹

Sāraṅga's odd scale is not accommodated in the present scheme of seventy-two melas.² The mode is among those in the RV, SP and SS rāga systems. The peculiarity of its scale does not inhibit the possibility of balance within the rāga's tetrachords. Like other rāgas with chromatic svara tendencies, Sāraṅga consists of two consonant chromatic clusters around Ga-Ma-Pa and Dha-Ni-Sa. In modern notation, the Sāraṅga scale would be:

¹The modern-day Deśākṣī is in the C mode that includes the accidental Ni-flat.

²Other 18th century modes not reckoned by the mela system today are the SP Kuraṅga and Saudāminī. Kuraṅga might be classified under the 59th mela (Dharmāvati, with a minor third and augmented fourth) if Kuraṅga's Ga-sharp is treated as an accidental. Saudāminī could pass for the North Indian Pūrvī, a rāga that uses the perfect and augmented fourths as well as the flattened second and sixth.

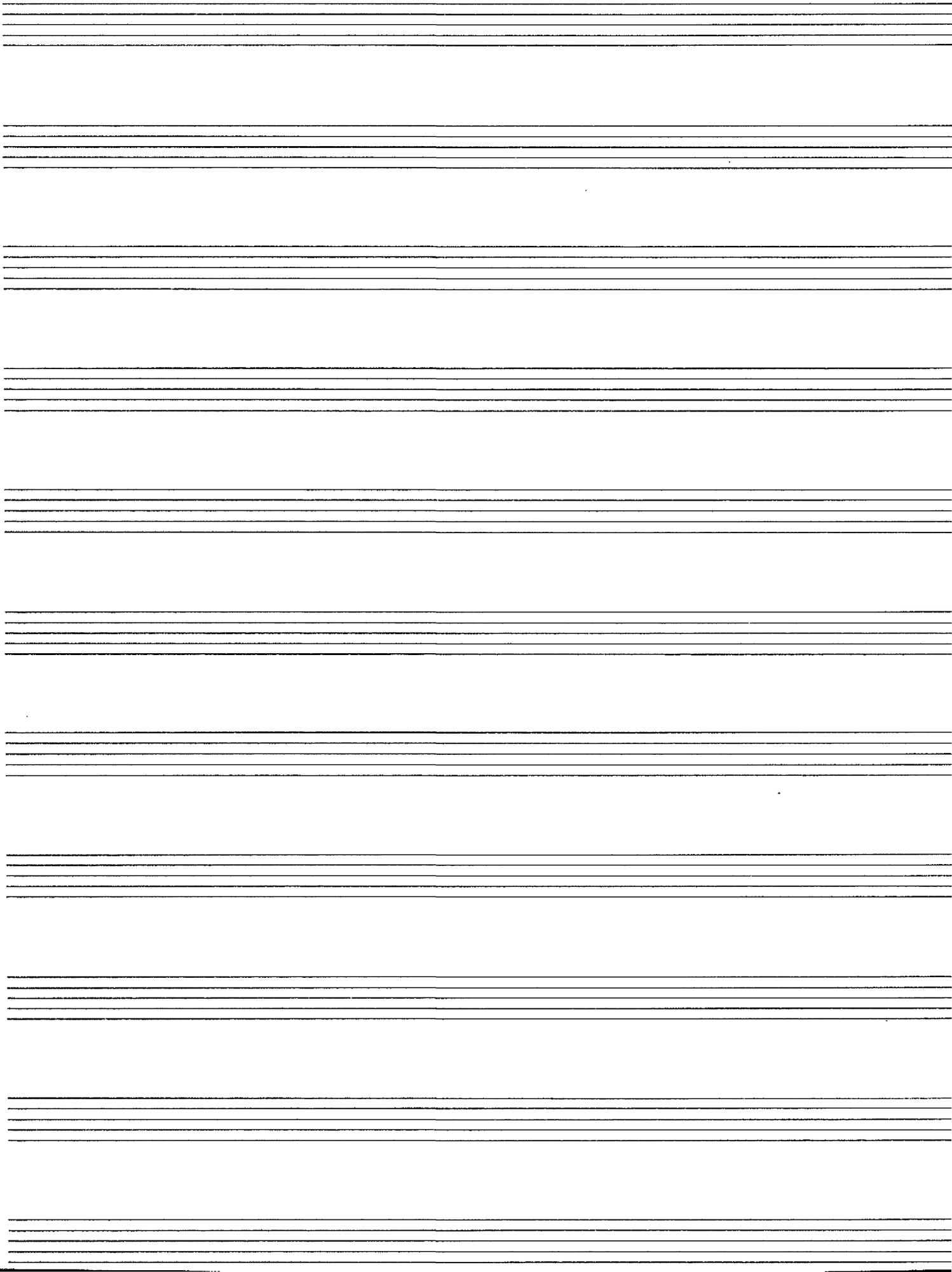
- Sāraṅga -

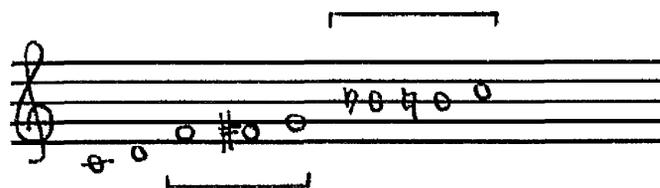
Prastāra SP:402

- Śuddha Sāraṅga -

Calan KPM, VI, 174

V: Vādī
S: Saṁvādī





The SS points out the enharmonic relationship of Ga-sharp with Ma¹ and it is this note that holds the ear in the RV Sāraṅga rāga-rūpas. Ma-sharp and Ni which usually act as leading notes to Pa and Sa do not function as such in our Sāraṅga illustrations. Instead, these svaras act as chromatic passing notes for Pa and Ga on the one hand and for Sa and Dha on the other, the rāga itself ending in a "tenor cadence".

The use of accidentals in the North Indian Śuddha Sāraṅga conceals the frame of the RV and SP Sāraṅga. The omission of Ga in the North Indian rāga of the G mode, which uses both the perfect and augmented fourths as well as the minor and major sevenths, puts into a new format what is actually the old Sāraṅga scale (Dha in the modern scale being only slightly used²). Thus, by

¹SS, p.111

²KPM, VI, 173

the use of accidentals are the more exotic modes of the past absorbed by the rāgas of the present mela or *ṭhāt* system.

Kalyāṇī in its present F-mode constitution appears in the CDP rāga system. The F mode is not represented in the SMK or the RV although the latter includes a Kalyāṇa rāga (but with a minor third and sixth to its augmented fourth). The CDP states that Kalyāṇī is unsuitable for continuous singing and that it is a favourite of the Turks.¹ Like the CDP rāga, the SP Kalyāṇa omits Ma and Ni in ascent. Its svāra prastāra here takes the descending movement much more than the ascending one. Our SC example of the rāga is Yamunā-kalyāṇī as being closest in character to the CDP and SP rāga. The SC rāga is hexatonic, omitting Ni. But it, too, moves more conspicuously in descent. Its tessitura, moreover, is low. Both these characteristics are seen in the KPM sthāyī of Yamankalyāṇ, the North Indian variety of the SC rāga. A more recent example

¹CDP,5:106-7

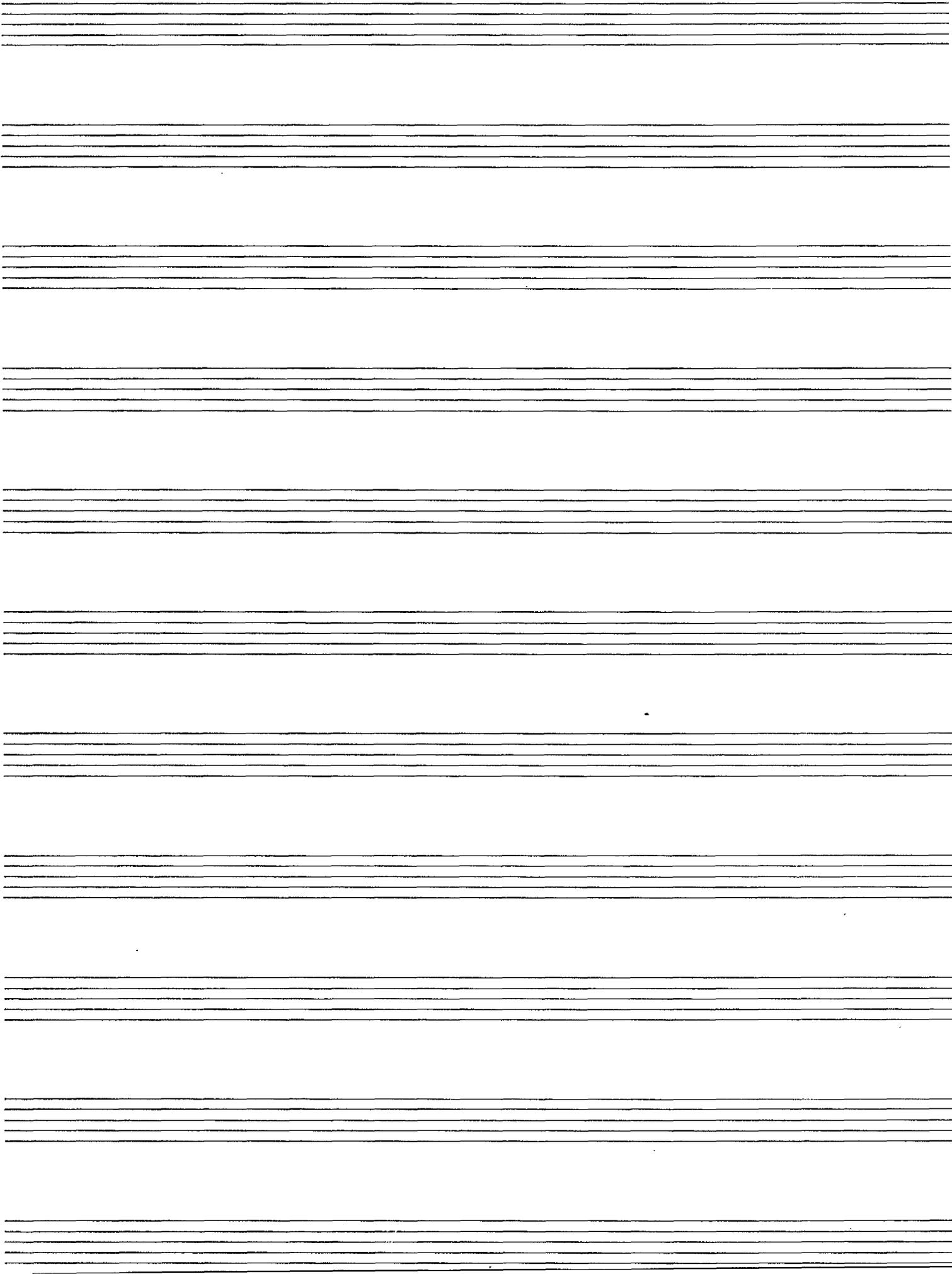
- Kalyāṇa -

Prastāra SP:400

- Yamunākalyāṇī -

Lakṣaṇagīta SC, II:352

Dal segno

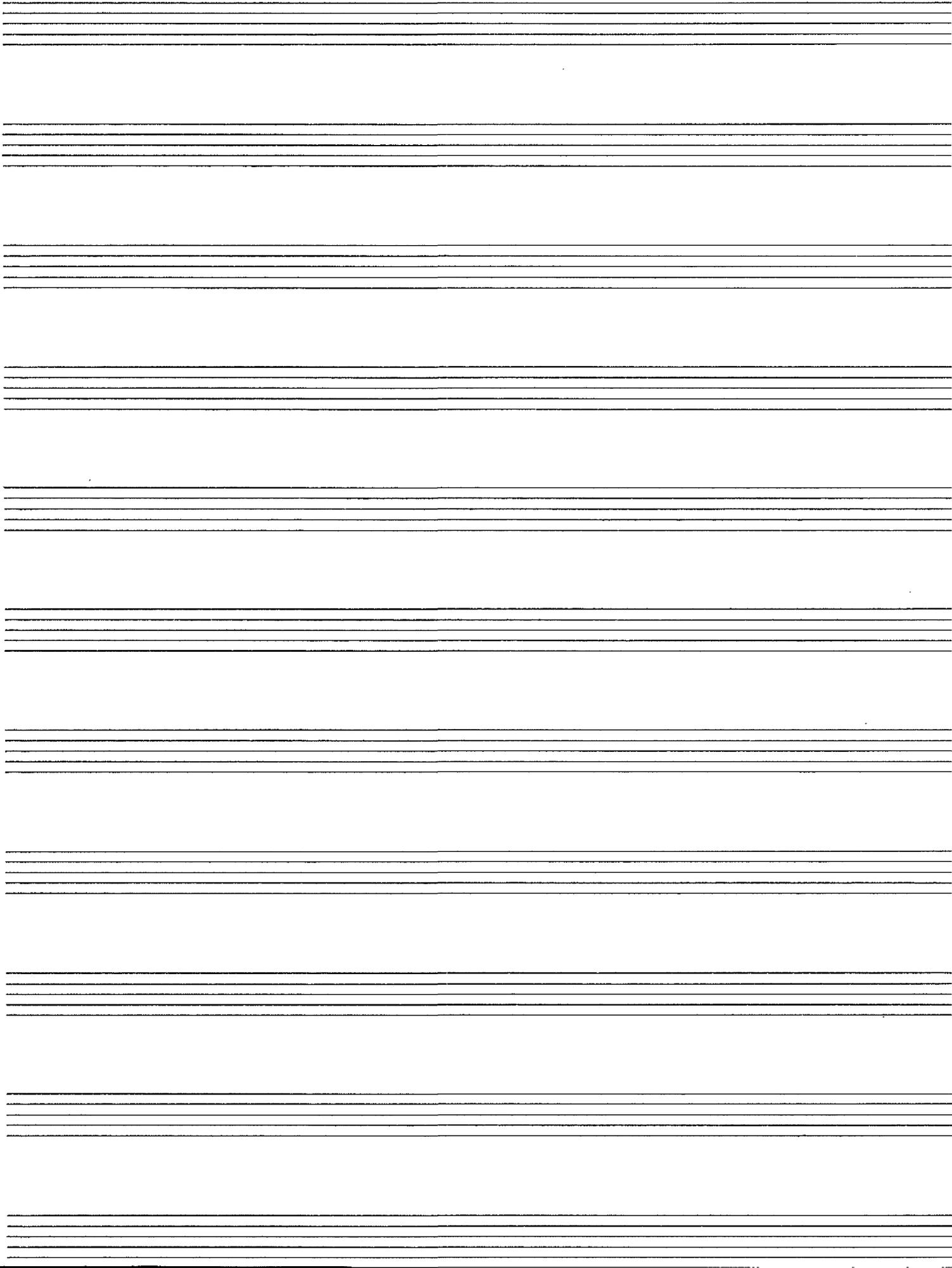


- Yamunākalyāṇi -

"Etāvunarā" TK, I, 94

- Yamankalyāṇ -

Sthāyī KPM, II, 28



of the South Indian Yamunākalyāṇī is Tyāgarāja's kriti, "Etāvunarā" which also tends to the downward movement. The kriti occupies the more usual range of mandra Dhatarā Ga but both the SC lakṣaṇagīta and Tyāgarāja's kriti cover a range of twelve notes. Ma in the SC rāga does not proceed directly in ascent but first resolves to Pa and in descent is omitted. This is not quite the pattern in the other Yamunākalyāṇī illustrations here. However, in none of them do Ma and Ni play a particularly important part. This restraint on Ma and Ni is apparently a continuance of the tradition attached to the early Kalyāṇī rāga.

To end the survey, we are including further evidence of discrepancy between musical theory and illustrations. Following is a table giving the ascending and descending pattern of a rāga in the SC¹ and the opening phrase of its lakṣaṇagīta. The theoretical graha note is marked by the letter G below it in the first column. It will be noted that in some instances the two svāra patterns agree.

¹After the description of the rāga in Part I of the text.

- Discrepancy between theoretical graha and initial phrase -

Ascent-descent lineLakṣaṇagīta

Bhūpāla SC, I, 3:8/2 SC, II:26

Śuddhasāmanṭa :8/4 :28

Śuddhasāmantī :8/7 :31

Sāraṅganāṭa :15/5 :62

Māruvadhanyāsī :22/15 :149

Darbāru :22/24 :158

Velāvalī :23/1 :166

Jañjhūṭi :28/11 :190

Kuntalavarālī :28/15 :194

- Cont'd -

Blank musical staff

(Discrepancy cont'd)

Nīlābarī :28/17 :196

Pūrṇacandrikā :29/9 :223

Aṭhāṇa :29/13 :227

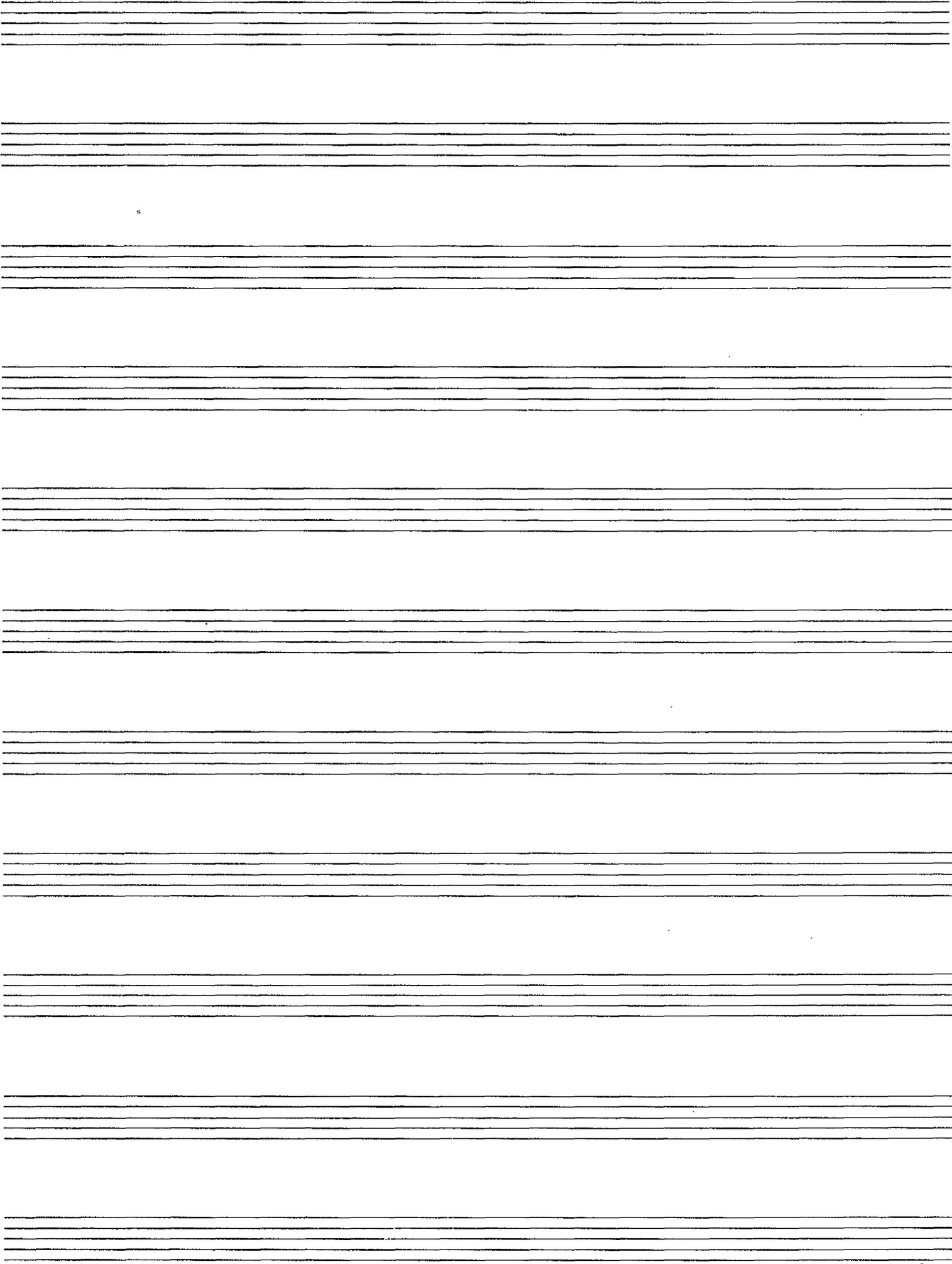
Julāvu :29/14 :228

Bilahari :29/16 :230

Kalahansa :31/1 :242

Kokilapañcama :39/1 :261

Abhīru :47/3 :285



Our short survey shows a change of svāra patterns in some rāgas and a close adherence to their likely tradition in others. Musical treatises are the source of many a rāga's historical background and discrepancies between theory and illustration in our survey might mean the usual difficulty of making theory catch up with practice and/or the author's reluctance to deviate from past descriptions of some rāgas. The practice of making Sa the rāga's all-purpose note quite often found in the SS and SC appears to be one cause for the disagreement between the author's theory and his illustrations. Compared to past texts, the SP, SS and SC, however, take more care to indicate the omission of a note or notes in a rāga's ascent or descent, in paying particular attention to a rāga's opening note or phrase, and in making known what a choice in a rāga's initial and final note may entail.

Generally, the illustrations from our four texts give a fair picture of the change over the years that apparently develops in a rāga's svāra patterns or show traces of the past in the later examples of the rāga, and determine to some extent what phrases might possibly distinguish one rāga from another among rāgas of the same mela and scale-size. The later texts contain practical

information and useful directions which authors and scholars of the 20th centuries are to adopt in subsequent theories and collections of notated music of the rāgas. For instance, the SP is perhaps one of the first, if not the first, after the codification of the svāra system, to denote the use of accidentals in at least two of its rāgas; the SS says which tānas are or are not permissible in a rāga; and the SC gives in notation the ascending and descending pattern of 294 rāgas (i.e., excluding the seventy-two heptatonic mela-rāgas whose svāra patterns move more or less in a straightforward manner).

The use of illustrations in musical treatises is not new. The early BD and SR illustrate their jātis and rāgas with ākṣīptikās or prastāras. But musical illustrations are only useful when the scale of a rāga can be determined with some degree of accuracy. This is the drawback the researcher faces when notating the BD and SR rāgas. At best our notation of their illustrations is speculative. The SMK and CDP, on the other hand, offer no illustration of their rāgas although their rāga scales may be identified in Western notation with some measure of certainty. Hence, as far as our resources are concerned, it is only the RV, SP, SS and SC that depict the rāga's characteristics in true musical terms, even if

their illustrations are limited in scope.

The musical illustrations clarify ambiguous statements that appear in a rāga's description, prove a rāga's theoretical tessitura, or, confirm a rāga's range. They also show how chromaticism is handled in such modes as Śuddhanāṭa, Varālī and Sāraṅga. And it is the rāgas' illustrations that lend credence to our hypothesis that the nyāsa in the 18th century, and perhaps earlier, refers to a pause within the music, not to the rāga's final, Sa having become the rāgas' common denominator of the final. Features not mentioned in theory but revealed by the illustrations are: the presence of leaps in such rāgas as Āsāvarī, Śaṅkarābharāṇa and Toḍī, the tendency to omit a note or notes in ascent in an otherwise heptatonic rāga such as Pūrvī, or, the shape of a rāga when different sets of notes are omitted in ascent and in descent, as in Deśākṣī. The illustrations further show that the concept of alpatva is not necessarily related to the restricted movements of a note in a rāga but that the note can, in fact, be the rāga's aṃśa, as in the SP Kāmbodhī.

While the NS, BD and SR explain the structure and nature of their jātis or rāgas by means of ten or thirteen lakṣaṇa, the progressive development of stringed and other

musical instruments brings about the dissolution of their rāga's classic structure and renders obsolete some lakṣaṇa. The subsequent preoccupation of the SMK, RV and CDP with the codification of the svara system and with the establishment of a mela system to replace the former grāma-deśī method of rāga classification, limits their attention on the rāga's lakṣaṇa to its graha, aṁśa, nyāsa and scale size. Finally, the inclusion in the SP, SS and SC of other guidelines, such as, accidentals in a rāga's scale, tānas, prayogas and prastāras typical of a rāga as well as its ascending and descending svara pattern in notation, points to the development of other criteria for rāga identification and marks the beginning of a new concept of rāgalakṣaṇa.

The importance of notated music is made clear by the discrepancies that arise among our four texts concerning a rāga's scale or lakṣaṇa, whose illustrations of the rāga's svara patterns nevertheless coincide, or, whose illustrations disagree despite agreement on the rāga's scale and lakṣaṇa. While the guru remains the means to the assimilation and transference of rāgas, notated music generates in the musician a critical sense of analysis that includes the assessment of a rāga's svara patterns in all their ascending, descending and oblique movements.

Critical analysis invites discrimination that leads to the conservation of only the best that is traditional in a rāga and allows scope for further creativity and fancy. Above all, critical analysis of a rāga's svara patterns may open the way to the development of lakṣaṇa or criteria that ought to make the ever-continuing identification of rāgas a source of stimulation for the intellectual and music aficionado alike.

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