

(...)
which are at an interval, of nine or thirteen Śrutis from each other are mutually Consonant (*saṃvādin*) e.g. Śadja and Madhyama, Śadja and Pañcama, Rṣabha and Dhaivata, Gāndhāra and Niṣāda in the Śadja Grāma. Such is the case in the Madhyama Grāma, except that Śadja and Pañcama are not Consonant while Pañcama and Rṣabha are so. [On these there] is a [traditional] Śloka :

23. In the Madhyama Grāma, Pañcama, and Rṣabha are Consonant while Śadja and Pañcama are so in the Śadja Grāma [only].

The Dissonant Notes

The notes being at an interval of [two or] twenty Śrutis are Dissonant¹ e.g. Rṣabha and Gāndhāra, Dhaivata and Niṣāda.

The Assonant Notes

Now Sonant, Consonant and Dissonant notes having been determined (lit. established) the remaining ones are to be called Assonant², e.g. Rṣabha, Gāndhāra, Dhaivata and Niṣāda to Śadja; Madhyama, Pañcama and Niṣāda to Rṣabhā; and Madhyama, Pañcama and Dhaivata to Gāndhāra; Dhaivata, Pañcama and Niṣāda to Madhyama;

(23)¹ Mātāṅga (p. 15. ll 11-12) says : ह्यन्तरत्वाद विवादिलम् उक्तम् and Dattila (19) too says : ह्यन्तरौ तु विवादिनौ Kn. says एकेन श्रुत्यन्तरितौ परस्परं विवादिनौ इति लक्षणं सूचितं भवति and reconciles this with the view of the NS, and other earlier writers as follows : 'ह्योरिकखाधारश्रुत्या सह ह्यन्तरत्वस्य विवक्षितत्वादिकश्रुत्यन्तरितत्वमेवार्थः' (on SR. I. 3. 49). SR. (I. 3. 49) defines *vivādī* notes differently. It makes *ni* and *ga*, *vivādī* to *ri* and *dha* respectively.

² Mātāṅga (p. 144ff.) says that the 'mutually *anuvādī* pairs of notes are : *sa* and *ri*, *pa* and *dha*, *sa* and *dha*, *pa* and *ri* in the Śadja-grāma. Sbh. adds one more pair (*ma* and *ri*) to these (on SR. I. 3. 50).

³ The Grāma may be translated as 'scale'. Strangway's theory about its meaning does not appear to be sound (see MH. p. 106). Weber thinks that the Greek word *gamma* in its musical sense, is nothing but a derivation from the Sanskrit word *grāma*. Indische Streifen, I.3. (Ref. MM. p. 10). According to Nārada there is one more Grāma named Gāndhāra (NāŚ. I. 2. 8). SR (I. 4. 5) too mentions this. For more about Grāma see MH. pp. 108-112.

Dhaivata and Niṣāda to Pañcama ; Rṣabha, Pañcama and Madhyama to Dhaivata. [All these are] in the Śaḍja Grāma. In the Madhyama Grāmā too, Pañcama, Dhaivata and Niṣāda [are Assonant] to Madhyama ; Rṣabha Śaḍja, and Gāndhāra to Pañcama ; Śaḍjā, Rṣabha and Gāndhāra to Dhaivata ; the same (Śaḍja, Rṣabha and Gāndhāra) to Niṣāda. As a note [prominently] sounds it is called Sonant ; as it sounds in cōsonance [with another] it is Consonant ; as it sounds discordantly [to another] it is Dissonant, and as it follows [another note] it is called Assonant. These notes become low or high according to the adjustment of the strings, and the varying condition (lit. diversity) of the beam of the Viṇā and of the sense-organs. So much about the aspects of four classes of notes.

Description of the Two Grāmas

Now, there are two Grāmas³ : Śaḍja and Madhyama. Each of these two (lit. there) include twentytwo Śrutis in the following manner :

24. Śrutis in the Śaḍja Grāma are shown as follows :— three [in Rṣabha],¹ two [in Gāndhāra], four [in Madhyama], four [in Pañcama], three [in Dhaivata], two [in Niṣāda] and four [in Śaḍja].

In the Madhyama Grāma Pañcama should be made difficient in one Śruti. The difference which occurs in Pañcama when it is raised² or lowered by a Śruti and when consequential slackness³ or tenseness [of strings] occurs, will indicate a typical (*pramāṇa*) Śruti.⁴ We shall

(24) ¹Probably due to the exigency of metre, the NS. in describing here the Śrutis of each note, begins from Rṣabha.

²*Utkarsas* (increase) *tivratā*, *apakarṣo* (decrease) *mandatā*, Ag.

³*Mārdavam* (slackness) *tantryāḥ śīthīkaraṇam*, *vīparitatvam āyatatvam* (tenseness) Ag.

⁴*Śruti* may be translated as 'interval'. Early authorities differed from one another as to the nature and number of Śrutis. Viśvāvasu thought they were two, some authority considered that their number was three,

explain the system of these [Śrutis]. The two Vīṇās with beams (*danda*) and strings of similar measure,⁵ and with similar adjustment of the latter in the Śaḍja Grāma should be made [ready]. [Then] one of these should be tuned in the Madhyama Grāma by lowering Pañcama [by one of Śruti]. The same (Vīṇā) by adding one Śruti (lit. due to adding of one Śruti) to Pañcama will be tuned in the Śaḍja Grāma. This is the meaning of decreasing a Śruti (lit. thus a Śruti is decreased). Again due to the decrease of a Śruti in another [Vīṇā] Gāndhāra and Niṣāda will merge with Dhaivata and Rṣbha respectively, when there is an interval of two Śrutis between them. Again due to the decrease of a Śruti in another (Vīṇā) Rṣbha and Dhaivata will merge with Śaḍja and Pañcama respectively when there is an interval of [three] Śrutis. Similarly the same [one] Śruti being again decreased Pañcama, Madhyama and Śaḍja will merge with Madhyama, Gāndhāra and Niṣāda respectively when there is an interval of four Śrutis between them. Thus according this system of Śrutis, [each of] the two Grāmas should be taken as consisting of twentytwo Śrutis. [The following] are the Ślokas to this effect :

Śrutis in the Śaḍja Grāma

25-26. In the Śaḍja Grāma, Śaḍja, includes four Śrutis, Rṣabha three, Gāndhāra two, Madhyama four, Pañcama four, Dhaivata three and Niṣāda two.

some twentytwo, some sixtysix and some infinite. Views of the anonymous authorities are known from the following couplet of Kohala :

द्वाविंशति केचिदुदाहरन्ति श्रुतौः श्रुतिज्ञानविचारद्वयाः । षट्षष्टिभिर्नाः खलु केचिदासामानन्त्यामेव प्रतिपादयन्ति ॥

See Bd. pp. 4, 5 ; Sbh on SR. I. 3. 8. 9. For an elaborate discussion on the nature of Śrutis in relation to the seven notes in the ancient Hindu scale see GS. I. pp. 298-379 ; GS. II. pp. 138-143. The following passage in NS. from निदर्शनं त्वासां तु द्वाविंशति श्रुतयः प्रत्यवगन्तव्याः occurs in the Bd. (pp. 5-6) with a slight modification. SR. too follows this (See I. 3. 11-22).

⁵Ag. explains this 'measure' (*prāmaṇa*) as length and thickness, others include the number of strings also in this (प्रमाणम् यानां परिमाणौ; सन्धीणां तुल्यत्वं संख्यया स्त्रीत्यादिना चेति केचित्),

Śrutis in the Madhyama Grāma

27-28. [In the Madhyama Grāma] Madhyama consists of four Śrutis. Pañcama three, Dhaivata four, Niṣāda two, Ṣaḍja four, Ṛṣabha three and Gāndhāra two Śrutis¹. [Thus] the system of [mutual] intervals (*antara*) has been explained.

The Mūrchanās

Now about the Mūrchanās². They are of fourteen kinds in the two Grāmas³.

Mūrchanās in the Ṣaḍja Grāma

29-30. Based on the Ṣaḍja Grāma there are seven Mūrchanās : the first Uttaramandrā, the second Rajanī, the third Uttarāyatā, the fourth Śuddhaṣaḍjā, the fifth Matsarikṛtā, the sixth Aśvagrāntā and the seventh Abhirudgatā. The first notes of these are [respectively] : Ṣaḍja, Niṣāda, Dhaivata, Pañcama, Madhyama, Gāndhāra and Ṛṣabha in the Ṣaḍja Grāma.

Mūrchanās in the Madhyama Grāma

In the Madhyama Grāma [occur the following Mūrchanās].

(27-28) ¹The Gāndhāra Grāma became obsolete at the time of the NŚ., which ignores it. For its Śrutis see SR. I. 4. 4-5 and MM. p. 10.

²The 'Mūrchanā' has often been translated as 'mode' of the Western music (See GS. I. p. 284 ; MH. p. 106 ; MM. pp. 10-11). But we are not sure about the accuracy of this. For further details about the term see GS. I. pp. 285ff ; GS. II. pp. 14, 83ff. Matanga explains the term as follows :

मूर्च्छनाशब्दव्यापत्तिमूर्च्छामोहि समुच्छये । मूर्च्छते येन रागो हि मूर्च्छन्त्यभिसञ्ज्ञिता (Bd. p. 22). Sbh. further explains this as follows :

स्वराणामिव मूर्च्छनालं न त्वारीदृशावरीदृशरूपाया क्रियाया इत्युक्तं तेनेव (— मतङ्गिनेव) चारीदृशावरीयशक्रमेण स्वरसप्तकम् । मूर्च्छनाशब्दवाच्यं हि विज्ञेयं तद्विचक्षणैः (on SR. I. 4. 9-11). But curiously enough Ag. writes : क्रमान् चतुर्क्रमेणोर्ध्वं यच्च वसाणम् अव(वा)रीदृशं तदुपलक्षितं स्वरसप्तकसङ्गपवहो (हा) मूर्च्छना । मूर्च्छना हि समुच्छाये पठ्यते ।

³For the Mūrchanās of the Gāndhāra Grāma see NāŚ. I. 2. 9 and SR. I. 4. 25-26.

31-32. Based on the Madhyama Grāma there are seven Mūrchanās : the first Sauvirī, the second Hariṇāśvā, the third Kalopanatā, the fourth Śuddhamadhyā, the fifth Mārgavī, the sixth Pauravī and the seventh Hṛṣyakā.

[The first] notes¹ of these are respectively Madhyama, Gāndhāra, Rṣabha, Śaḍja, Niṣāda, Dhaivata and Pañcama.

Initial Notes of the Mūrchanās in the two Grāmas

[Thus] the first notes of these serially are : in the Śaḍja Grāma—Uttaramandrā [is to begin] with Śaḍja, Rajanī with Niṣāda, Uttarāyatā with Dhaivata, Śuddhaśaḍjā with Pañcama, Matsarikṛtā with Madhyama, Aśvakrāntā with Gāndhāra, and Abhirudgatā with Rṣabha.

And in the Madhyama Grāma—Sauvirī [is to begin] with Madhyama, Hariṇāśvā with Gāndhāra, Kalopanatā with Rṣabha, Śuddhamadhyamā with Śaḍja, Mārgī (Mārgavī) with Niṣāda, Pauravī with Dhaivata, and Hṛṣyakā with Pañcama.

The Four classes of Mūrchanās

Thus combined in [different] orders, the notes constitute fourteen Mūrchanās of four classes, such as heptatonic (*pūrṇa*, lit. full), hexatonic (*śāḍavakṛta*), pentatonic (*audavitikṛta*)² and that including the Overlapping note (*sādhāranakṛta*).

33-34. The seven notes combined in [different] orders (lit. having an order) are called [full or heptatonic] Mūrchanās. Tānas¹ consisting of six and five notes are [respec-

(31-32) ¹Though NŚ. is silent on the point, the SR. gives the differing pitch of notes as they appear in the Mūrchanās. (See I. 12-14 and Sbh. thereon).

(33-34) ¹Tānas or pure Tānas are included into the Mūrchanās. Difference between them seems to be that the latter includes all the seven notes, while in the former, one or two notes except Madhyama in all Grāmas, and Dhaivata in the Śaḍja Grāma, and Pañcama in the Madhyama Grāma are so very weakly 'worked' that they are considered as dropped. For the two ways of working such Tānas see below. NŚ. does not seem to be quite clear about the function of Mūrchanās, and Tānas which they include. But Ag. says तानाश्च कृत्य उपयुज्यन्ते. It is doubtful whether the modern use of the term Tāna, is very old. The Mūrchanā in its original sense seems to have disappeared from the later Indian music (see MH. p.

tively] called hexatone (*ṣāḍava*)² and pentatone (*audavita*).³ Besides these, there is another kind of Mūrchanā which includes the Overlapping notes or is combined with the Kākālī notes or the intermediate notes (*antarasvara*), and this belongs to both the Grāmas (Śadja and Madhyama).

The same Mūrchanā is produced (lit. accomplished) in two ways. In this connexion, Gāndhāra being reduced to Dhaivata by an increase of two Śrutis in it, [the two terms] the Grāma and the Mūrchanā become differentiated in the Śadja Grāmā, and due to that, Madhyama and the notes following it, become serially reduced to Niṣāda and the notes following it. In the Madhyama Grāma too, Dhaivata being softened (curtailed in Śrutis) and Niṣāda being augmented, the two [terms] are differentiated. [In case of this Grāma too] there being an interval of the same [number of] Śrutis, the difference of terms [becomes justified]. The interval between Pañcama and Dhaivata is of four Śrutis ; similarly due to an increase of Gāndhāra, the interval will be of four Śrutis. The remaining Madhyama, Pañcama, Dhaivata, Niṣāda, Rṣabha and Śadja become reduced [serially] to Madhyama and the notes following it. This is due to an interval of the same number of Śrutis.

The system of [mutual] intervals has been explained in connexion with the system of Śrutis.

106). About the function of the Mūrchanā and Tāna, Sbh. says : ननु मूर्चनास्तावज् जातिरागभाषादिषुपयोगिन्य इति युक्तं तासां कथनम् ; तानाम् कुर्वीष्युज्यन्ते ? उच्यते । इदोर्ध्वमधीर्जातिरागान्यत्वप्रतिपादपानार्थं प्रयोगस्तानानामित्युक्तं सतङ्गेन (on SR. I. 4. 29-31). But Maṭaṅga's view given here, is not quite clear.

²The term *audavita* and *audava* have often been read respectively as *auḍvita* and *auḍuva* with a notion about their connection with *uḍu* (= star). *Oḍava* or *auḍava* which lies at the basis of these terms, appears to be a non-Aryan word meaning probably 'five', and *ṣāḍava* too may likewise be of the same origin, and may mean 'six', and its another form might have been *ṣoḍava* connected with *ṣoḍa* in *ṣoḍaśa*. This hypothesis may better explain in case of *ṣaṭ*, the appearance of a cerebral sound in place of I-E k.

³See note 2 above.

Eightyfour Tānas of the Mūrchanās

Tānas which depend on Mūrchanās are eightyfour in number. Among these the hexatonic ones are forty-nine, and the pentatonic ones thirty-five.

The Hexatonic Tānas

The hexatonic ones have seven varieties, e.g. four Tānas devoid of Śaḍja, Ṛṣabha, Niṣāda and Pañcama in the Śaḍja Grāma; three Tānas devoid of Śaḍja, Ṛṣabha and Gāndhāra in the Madhyama Grāma. Thus these being worked in all, the Mūrchanās [in the two Grāmas] will give rise to forty-nine Tānas.

The Pentatonic Tānas

The pentatonic ones have five varieties e.g. three Tānas devoid of Śaḍja and Pañcama, of Ṛṣabha and Pañcama, and of Gāndhāra and Niṣāda in the Śaḍja Grāma, two Tānas devoid of Ṛṣabha and Dhaivata, and of Gāndhāra and Niṣāda in the Madhyama Grāma. Thus these being worked in all, the pentatonic Mūrchanās [in the two Grāmas] will give rise to thirty-five Tānas, twenty-one in the Śaḍja Grāma and fourteen in the Madhyama Grāma.

The Two Ways of Tānas

There are two ways of working the Tāna in the string (*tantrī*): Entrance (*praveśa*) and Arrest (*nigraha*). The Entrance is made by sharpening (lit. emphasizing) the preceding (*adhara*) note and by softening (*mārdava*) the succeeding (*uttara*) note. And the Arrest is non-touching, i.e., not touching the Madhyama note. The Mūrchanā is indicated by the Madhyama note of the Vīṇā, because it is constant (*anāśī*, lit. not perishable). Hence the Entrance and the Arrest [do not] relate to the Madhyama note. The variety of the Tānas and the Mūrchanās thus [arising], provides enjoyment to the hearer as well as to the musician (*prayoktr*, lit. producer). The Mūrchanā [and Tāna] are also of use [because their practice helps] the

attainment of the voice-registers (*sthāna-prāpti*).⁴ There are three voice-registers. Their description has been given in the rules regarding the Intonation (*kākū*).⁵

The Overlapping

I shall now relate the rules regarding the Overlapping of notes (*sādhāraṇa-vidhi*). The Overlapping (*sādhāraṇa*) means the quality of a note rising between two [consecutive] notes [in a Grāma]. Why? The thing which exists between the two [similar things, partly merging into each other] is overlapping (*sādhāraṇa*), e.g., the transition of a season.

35. In the shade one feels cold, but while staying in the sun one sweats (lit. the sweat comes out). [It seems that at this time] neither has the spring come [fully], nor has the winter gone away completely.

This is an example of the overlapping season.

Two kinds of Overlapping

There are two kinds of Overlapping: Overlapping in notes (*savarasādhāraṇa*) and Overlapping in Jātis (*Jātisādhāraṇa*).

The Overlapping Notes

The Kākālī and the transitional note (*antarasvara*) are the Overlapping notes (*svarasādhāraṇa*). Now if two Śrutis are added to Niṣāda, it is called Kākālī Niṣāda and not Ṣaḍja; as it is a note rising between the two (pure Niṣāda and Ṣaḍja), it become Overlapping. Similarly [the two Śrutis being added to it] Gāndhāra becomes transitional Gāndhāra and not Madhyama, because it is a transitional note (*antarasvara*) between the two (Madhyama and Gāndhāra). Thus the Overlapping notes [occur].

Why is Niṣāda called Kākālī? Because it is an indistinct second, or it is produced with [slight] pulling (*akṛṣṭatva*¹) or due to its very fineness (*saukṣmya*²) or be-

¹It appears from this that by imitating the Murchanās and Tānas produced in the Viṇā, singers attained the facility of producing notes from any voice-register they liked. See above note 2 on 13-14.

²See XIX. 37ff before.

(35) ¹चक्रट = ईषत्कट (तद्व्याये नञ्) । ²सौक्ष्म्यं वैचित्र्यं निपुणसाध्यता च, Ag.

cause it behaves like the crow's eye (*kākākṣi*)² and relates to the two [notes, *Niṣāda* and *Ṣaḍja*], it is called (*kākalī*). Just as salt among the six [kinds of] taste (*rasa*), is called *Kṣāra* (corrosive), so *Niṣāda* is called *Kākalī*, and the Overlapping note is called the transitional note.

The Overlapping Jāti

The "Overlapping Jāti"² (*jātisādhāraṇa*) [arises] from observing in another *Grāma* the notes which belong to the minor limbs of two or more Jātis which are in the same *Grāma* and have common *Aṃśas*. The Overlapping note (*svarasādhāraṇa*) belonging to the two *Grāmas* (*Ṣaḍja* and *Madhyama*) is of two kinds. Why? For, occurring in the *Ṣaḍja* *Grāma* it is the Overlapping *Ṣaḍja*, and in the *Madhyama* *Grāma* it is Overlapping *Madhyama*. The Overlapping here is a special nature of the note. This is so in the *Ṣaḍja* *Grāma*, and the same [also] is the case in the *Madhyama* *Grāma*. Due to the delicacy of its production (*proyoga-saukṣmya*) it is fitly called *Kaiśika* (capillary). This is the Overlapping note which is used in Jātis where *Niṣāda* and *Gāndhāra* are weak (*alpa*). On these points there are the two Ślokas :

36. The transitional note (*antarasvara*) should always relate to the ascending scale (*ārohin*) and be made especially weakened (*alpa*), but it should never be in the descending scale (*avarohin*).

37. If it is made in the descending scale whether weak or strong, the transitional notes will lead Śrutis to the Jāti-rāgas.