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Contributions to Current Research in Indology

Volume 1

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Edited by

Nina Mirnig
Péter-Dániel Szántó
Michael Williams

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Fifteen

The *gaṇacchandās* in the Indian metrical tradition

Andrew Ollett

1.1 The Sanskrit term *gaṇacchandās* refers to a family of metres (*chandās*) which are counted by units known as *gaṇas* or ‘groups’.¹ These *gaṇas* are themselves made up of a certain number (most commonly four) of *mātrās*. A *mātrā* is a sub-syllabic prosodic constituent which determines syllable weight: heavy syllables have two *mātrās*, and light syllables have one. (It is useful, though inaccurate, to think of *mātrās* as units of relative duration, such that heavy syllables last twice as long as light syllables.) *Gaṇacchandās* metres and other metres that count by *mātrās* are sometimes called *jātis*, as opposed to *vṛttas*, or metres that count by syllables (*akṣaras*).

1.2.1 By the ‘Indian metrical tradition’ I mean texts in Sanskrit, Prakrit and Apabhraṃśa which define metrical forms. A quick survey of these texts will be useful; the editions are cited in the bibliography. Many belong to the tradition of *Chandaḥśāstra*, the technical discipline of metrics. It is impossible to give precise boundaries to *Chandaḥśāstra*, but it is characteristic of this tradition to locate authority in the *sūtras* of Piṅgala. These *sūtras*, which are themselves often called the *Chandaḥśāstra*, classify and define both Vedic (*ārṣa*, 4.9) and non-Vedic (*laukika*, 4.8) metres. Thus *Chandaḥśāstra*, though in origin an auxiliary discipline to the study of the Veda

¹In this essay I use symbols familiar from Western metrical notation, i.e. ∪ = light syllable, – = heavy syllable, ∞ = two light syllables or one heavy syllable, | = word-break, || = line or *pāda*-break.

(*vedāṅga*), had thus widened its scope to include non-Vedic metres before or at the time of its earliest systematic text. (Piṅgala's *termini ad quem* are furnished by references to him in the Turfan *Chandoviciti* and Śabara's *Mīmāṃsāsūtrabhāṣya*, both probably of the third century CE. I have found no reference to him in the *Mahābhāṣya*, as mentioned by Pollock 1977: 106). In principle this is not surprising: *chandas* simply refers to metre, and the Vedas and their associated texts by no means contained the only metrical verse in India around the turn of the first millennium. What is not clear is why Piṅgala or his precursors chose to include *laukika* metres: what were the 'target texts' of their analysis? Weber 1863 inferred from the names of many metres in Piṅgala's *sūtras* which referred to female beauty that at least some of these hypothetical 'target texts' had erotic themes; these texts might plausibly be described as *kāvya* or proto-*kāvya*. After Piṅgala, authors in the tradition of *Chandaḥśāstra* certainly had *kāvya* in mind, and theorists of *kāvya* in turn recognized the importance of *chandas*.²

1.2.2 The discussion of 'target texts' might seem irrelevant to a general survey of the metrical tradition, but it is important for at least two reasons: (1) the emphasis on metres from *kāvya*, a literary style shared between Buddhists, Jains, and Brahmanical authors, allowed *Chandaḥśāstra* to become a 'nondenominational' tradition; (2) as we will see, some metrical texts seem to have different 'target texts' than those of the *Chandaḥśāstra*-tradition, which allows us to ascribe them at least in part to an independent tradition. These two points are consonant with the general picture of the 'Indian metrical tradition' presented below, in which a mainstream Sanskritic tradition of *Chandaḥśāstra*, itself composite, coexisted with and interacted with a distinct Prakritic tradition.

1.2.3 The mainstream tradition, which we may also call the Piṅgala tradition, is not difficult to trace. Besides Piṅgala's *sūtras*, there are the commentaries of Halāyudha (*Mṛtasamjīvanī*, 10th c.), Yādavaprakāśa (11th c.), and Bhāskarācārya (12th c.), and a summary in the *Agnipurāṇa* (chapters 327-334). The *Jānāśrayī Chandoviciti* (late 6th c.) and the related *Ratnamañjūṣā* (early 6th c.: cf. Tripathi 1977) are both written in *sūtras* with an autocommentary and example-verses. The *Jayadevacchandas* of Jayadeva, also of the 6th c., uses the *lakṣya-lakṣaṇa* method whereby a metre is defined and exemplified by the same verse; it was particularly influential, since it was cited by Halāyudha and Bhaṭṭotpala in his commentary to Varāhamihira's *Bṛhatsamhitā* (Velankar 1946). The *Chandonuśāsana* of Jayakīrti (11th c.) also uses the *lakṣya-lakṣaṇa* method. Hemacandra's *Chando-*

²E.g. Daṇḍin in *Kāvyaḍarśa* 1.12: *chandovicityāṃ sakalas tatprapañco nidarśitaḥ / sā vidyā naur vivikṣūṇāṃ gambhīraṃ kāvyasāgaram ||*.

nuśāsana (12th c.), a *sūtra*-text with autocommentary and example-verses, is a synthetic and encyclopedic work. Both Jayakīrti and Hemacandra draw from Prakritic traditions, discussed below, as well as the Paiṅgala tradition. The author of the *Ratnamañjūṣā* was a Jain, as were Jayadeva, Jayakīrti, and Hemacandra. Uncited by Hemacandra is Kedārabhaṭṭa's popular *Vṛttaratnākara* (11th or 12th c.), a practical collection of *lakṣya-lakṣaṇa* verses which inspired a host of commentaries. The *Śrutabodha*, falsely ascribed to Vararuci and Kālidāsa, is another such practical collection of unknown date. Ratnākaraśānti's *Chandoratnākara* and Jñānaśrīmitra's *Vṛttamālā-stuti*, both 11th c., are some of the very few Buddhist works on metrics to survive, but they follow Jayadeva closely (Hahn 1993b).³ The *Vuttodaya* of Saṃgharakkhita, a metrical text written in Pali in the 12th or 13th c., seems to be closely based on the *Vṛttaratnākara* (but cf. Wright 2002). Other works in this tradition include the *Chandomañjari* of Gaṅgādāsa (18th c.) and the *Vāṇībhūṣaṇa* of Dāmodara Mīśra (prior to 16th c.).

1.2.4 Other Sanskrit texts deal with metre, but stand somewhat outside of the Paiṅgala tradition. Here belong the 15th *adhyāya* (in the 'Southern' recension: cf. Kavi's introduction) of Bharata's *Nāṭyaśāstra*, an encyclopedic text on dramaturgy, and the closely related Turfan *Chandoviciti*, both of which date to the early 1st millennium CE. The 103rd *adhyāya* (in Bhat's edition) of Varāhamihira's *Bṛhatsaṃhitā*, an astrological treatise of the 6th c., mentions various metres by way of *mudrālaṃkāra*, i.e., in describing the effects of planetary movements, Varāhamihira mentions the name of the metre in which he has written the verse. The commentators of the *Nāṭyaśāstra* and the *Bṛhatsaṃhitā*, Abhinavagupta and Bhaṭṭotpalā respectively, both belong to 10th c. Kashmir; only the latter gives a systematic overview of the metres discussed. Kṣemendra's *Suvṛttatilaka* (11th c.) defines a selection of metres, and also uniquely discusses their aesthetic properties and different poets' metrical propensities.

1.2.5 A number of Prakrit and Apabhraṃśa texts also deal with metre. While in some respects they also stand outside of the Paiṅgala tradition, certain Prakrit texts appeal to Paiṅgala's authority, and the major compendium of Apabhraṃśa metres, the *Prākṛtapaiṅgala* (14th c.), bears his name. The *Prākṛtapaiṅgala* incorporates material from several earlier texts: the *Gāthālakṣaṇa* of Nanditādhyā (mid-1st millennium), which limits itself to discussion of the *gāthā*; the *Svayambhūchandas* of the renowned Apabhraṃśa poet Svayambhū (probably 9th c.); the *Vṛttajāṭisamuccaya* of Viraḥaṅka (7th c.). Ratnaśekhara's *Chandaḥkośa* (15th c.) postdates and refers

³The two scholars were colleagues at Vikramaśīla (Hahn 1971: 6). For another Buddhist text, the *Chandomañikya* of Tathāgatadāsa, see Dimitrov (2007).

to the *Prākṛtapīṅgala*. In his edition of the *Svayambhūchandās*, Velankar mentions a fragmentary *Chandaḥśekhara* by Rājaśekhara which seems to be a Sanskrit rendition of the *Svayambhūchandās*. Finally, the *Kavidarpaṇa* (probably 13th c.) discusses Prakrit and Apabhraṃśa metres; it is quoted by Jinaprabha in his *Gāthāchandāsraḷlakṣaṇa* (15th c.), and its commentary (referred to here as the *Kavidarpaṇa-tīkā*) has some analysis that is not found elsewhere.

1.2.6 These are, in overview, the texts that constitute the ‘Indian metrical tradition’. Obviously not everything cited in this tradition survives, in particular the metrical authorities mentioned by Pīṅgala (Yāska, Krauṣṭuki, Tāṇḍin, Saitava, Kāśyapa, Rāta and Māṇḍavya) or Virahāṅka (Sātavāhana, Vṛddhakavi). I have excluded two kinds of texts: (1) pre-systematic metrical analysis contained in Vedic texts, which is reviewed in Mitra (1989), and (2) texts primarily concerned with languages other than Sanskrit, Prakrit, or Apabhraṃśa. The discourse here circumscribed obviously abuts the metrical discourses of the modern Indo-Aryan and Dravidian languages, but at present I assume that it developed independently of them.

1.3 In what follows I will examine the treatment of the *gaṇacchandās* in the Indian metrical tradition. First I will review the early history of the *gaṇacchandās* in Indian literature. Then I will exposit the traditional analysis of the metres of this family, sometimes with reference to empirical data, while attempting to historicise the texts in which this analysis is found and understand their *modus operandi*. At each stage I will briefly mention some relevant problems of Indian intellectual and literary history—viz. the relationship between literary theory and poetic practice, and the origins of *kāvya*—with the hope of showing that metrical research may still prove useful in navigating them.

1.4.1 At the onset I will address two methodological questions: how can we justify looking at only one family of metres, and why should we look at the *gaṇacchandās* family in particular? There are certain indications of a ‘modular’ organization in every metrical text and in the metrical discourse as a whole. To use the *gaṇacchandās* as an example: modularity means that the coherence and distinctiveness of these metres was a cognitive fact for Indian metrical writers, and was reflected in their texts. There are several ways of motivating a *gaṇacchandās* module in this sense. (1) For writers that provide a taxonomy, *gaṇacchandās* metres belong to the same taxon (*mātrāvṛtta* or *jāti*). (2) One metre serves as the basis for deriving the others (usually the *āryā*, but in Svayambhū the *skandhaka*). (3) Consequently, the metres are grouped together, and hence form a discrete and continuous unit of the text. (4) Perhaps also in consequence of (2), the names for the metres are similar, being based on the words *gīti* or *gāthā*. (5) Nan-

ditāḍhya discusses *only* the *gaṇacchandās* metres, while Kṣemendra omits them. (6) Distinct analytic units—*gaṇas*—are specially employed for their description.

1.4.2 The *gaṇacchandās* holds particular interest as a module of the metrical tradition for two main reasons. First, the relevant unit of measure for these metres is the *mātrā*, whereas in most Sanskrit metres it is the *akṣara* or syllable; further, the *gaṇacchandās* metres observe complex restrictions on syllabic patterns and word-boundaries. In other words, the *gaṇacchandās* metres are structurally unique, and *a priori* we would expect them to receive a correspondingly unique description in the metrical tradition. Secondly, the *gaṇacchandās* metres have a unique history in literature. Unlike Vedic metres, they are not inherited from Proto-Indo-European (cf. Meillet 1923), and when they do appear, they have affiliations with particular communities and genres, as the following section will show in outline.

2.1.1 The history of the *gaṇacchandās* in literature actually begins with forms which were unknown to the Indian metrical tradition and to Carl Cappeller in his 1872 *Habilitationsschrift* on the *gaṇacchandās*.⁴ Hermann Jacobi (1884: 596) discovered, while working on texts of the Śvetāmbara Jain canon (*Āyāraṅga* 1.9 and *Sūyagaḍaṅga* 1.4), that many verses were composed in a metre which bore clear similarities to the classical *āryā* (viz. organization into *gaṇas*, differences between odd and even *gaṇas*). Unlike the classical *āryā*, however, this metre was composed of four *pādas*; word-break was obligatory at the end of each *pāda*, and the syllable before the break could be either light or heavy. Jacobi called this final syllable a close ('Schlusstact') because it followed three complete *gaṇas*. The even *pādas* were like the odd, except that in addition to the close they had a pickup ('Auftact') of one or two syllables before their first *gaṇa*, and as Alsdorf (1958) later observed, the odd and even *pādas* allowed different syllabic patterns in their second *gaṇa*. Jacobi called this metre the 'old *āryā*'. Subsequent research (Schubring 1966 [1910]; Alsdorf 1958; Oldenberg and Pischel 1966; Alsdorf 1966; Alsdorf 1967; Alsdorf 2006 [1965]; Warder 1967) found old *āryās* also in *Uttarajjhāyā* 8 and in several texts of the Theravāda Buddhist canon (primarily in the *Mettasutta*, the *Tuvaṭakasutta*, the *Buddhastotra* of Upāli, and some of the *Theragāthās*). The structure, as given by Alsdorf (1958), is given in Table 15.1.

As an example, verse 1.1 of the *Itthīparinnā* (*Sūyagaḍaṅga* 1.4), from Alsdorf (1958):

⁴The *ārṣā gāthā* mentioned in *Jānāśrayī* 7.74 has nothing to do with the old *āryā*; it appears to be a cover-term for any irregular *gaṇacchandās* metre.

Table 15.1:

<i>gaṇa</i>	odd <i>pādas</i>					even <i>pādas</i>			
	1	2	3	close	pickup	1	2	3	close
line 1	∪—	∪—∪ ∪—	∪—	∪	∪— —∪	∪—	∪—∪ ∪—∪	∪—	∪
line 2	∪—	∪—∪ ∪—	∪—	∪	∪— —∪	∪—	∪—∪ ∪—∪	∪—	∪

jē māyaram ca piyaram ca vippajahāi puṇṇa-saṃjōgaṃ
ēgē 'sahiē carissāmi āraya-mēhuṇō vivittēsī

‘(A monk) who leaves mother and father (and his) former (family) connection, (resolving:) “I will live alone, without companion, as one for whom sexual pleasure has ceased, seeking solitary places”—’

2.1.2 Though a detailed discussion of the old *āryā* is beyond the scope of this essay, a few points deserve mention. (1) In many cases we can point to ‘transitional forms’ between the old and classical *āryā*, viz. verses of which the pickup to the even *pādas* consists of a full four *mātrās* (i.e., a complete *gaṇa*), or verses with one line composed according to the old and one according the classical schema. (2) Especially in the Pali texts, there is a tendency for *pādas* of the *āryā*—both the old and classical varieties—to combine with *pādas* of the *śloka*, no doubt because the sequence —∪—∪— could be analysed as either an *āryā*- or a *śloka-pāda*. Some of the apparent ‘instability’ of the old *āryā* is due to the transmission of the texts, but some is original (hence Smith 1949-1950 recognized the mixed *āryā-vaktra* as a separate metre). Randle (1960) attributed this instability, probably correctly, to ambiguity of metrical analysis: the old *āryā* was in some respects a syllabic metre (it tolerated less variation in syllabic shapes per *gaṇa* than the classical *āryā*, as shown by comparison of the schemata in examples 15.1 and 15.3) and in others a *mātrā*-based metre (its *gaṇas* are defined in terms of *mātrās*, and hence in certain positions — alternates with ∪). This structural instability might help to explain the fact that the metre is only found in the older parts of the Śvetāmbara and Theravāda canons—hence only in Ardhamāgadhī and Pali—and therefore, according to Norman (1987: 206), in texts which ‘were probably composed in the Magadha region’. Norman

argues that the old *āryā* was a transitional metre and had fallen out of favor already by the time of the Ardhamāgadhī and Pali texts.

2.1.3 The rest of Norman's argument is worth summarizing, because it is the most recent and most detailed contribution to the history of the *āryā* metre. Observing that the classical *āryā* also appears in older texts of the Śvetāmbara and Theravāda canons, he infers that this metre had already reached Magadha (from a putative western region of metrical experimentation) by the 4th c. BCE. He speculates that the Jains, who remained in India, continued to use it, while the Buddhists lost the knowledge of composing in classical *āryās* as well when they moved to Sri Lanka. Like Jacobi (1884) and Warder (1967), Norman maintains that the old *āryā* developed from *mātrāchandas* metres, which count *mātrās* towards the beginning of the line and syllables towards the end. But he also adduces the *vedha* (*veṣṭaka* in Sanskrit), a metre used in descriptive passages (*varṇakas*) in Ardhamāgadhī, Pali, and Buddhist Hybrid Sanskrit: this metre consists of any even number of *gaṇas*—usually four or eight—with the differentiation between odd and even *gaṇas* characteristic of other *gaṇacchandās* metres, though in the case of the *vedha* it is the odd *gaṇas* which take the shape ∪_∪. Together, the *mātrāchandas* metres, the *gaṇacchandās* metres, and the *vedha* constitute a variety of 'popular' metrical practice based on the commensurability of ∪ and _ , and in the case of the latter two, on *gaṇas*. Norman is willing to admit some Dravidian influence for this 'popular' metrical practice, but his acceptance of the Jacobi-Warder theory of how the *gaṇacchandās* metres developed within Old and Middle Indic amounts to a rejection of Hart's (1975) theory that Dravidian metres were their direct ancestors. Most interestingly, he suggests that these 'popular' metres were developed by 'travelling folk musicians' (210) in an area between Maharashtra and Magadha who brought them to both areas; some such metres, like the old *āryā*, never quite caught on, while others, like the classical *āryā*, became especially popular in certain areas. Norman suggests that Buddhists and Jains adopted these metres precisely because they were 'popular'.

2.1.4 For now I would like to focus on the characterization of the *gaṇacchandās* metres as 'popular'. It seems to depend on (1) the characterization of Śramaṇical religions as 'popular' in opposition to Brahmanical exclusivity, since *gaṇacchandās* metres are reasonably frequent in Buddhist and Jain texts but are completely absent from Vedic texts; (2) the characterization of Prakrit poetry, represented by the *Sattasaī*, as 'popular', since in this literature *gaṇacchandās* metres dominate; (3) the notion that a new prosodic concept, the commensurability of ∪ and _ , can only have been introduced through a 'popular' (in the sense of 'indigenous' or 'non-Indo-Aryan') element. There is nothing extremely problematic in combining these three

senses, but individually they are open to doubt. (1) might be too simplistic; (2) depends on a reading of Prakrit poetry which does not call its ‘popular’ self-presentation into question (in other words, there are plenty of reasons to doubt that Prakrit poetry was produced by villagers on the shores of the Godāvarī river who were ignorant of Sanskrit); (3) is false, in my view, since commensurability may well have arisen from within Indo-Aryan, and the similarities between the *gaṇacchandās* metres and Tamil metres such as the *veṅpā* are mostly superficial (Ollett 2012).

2.2.1 Outside of Pali and Ardhamāgadhī, the classical *gaṇacchandās* metres occur in Buddhist Hybrid Sanskrit (Smith 1949-1950) and in a number of technical genres in Sanskrit.⁵ The earliest *gaṇacchandās* verses in Sanskrit are probably the *śloka-vārttikas*, verses which comment on the *sūtras* of Pāṇini, that Patañjali cites and discusses in his *Vyākaraṇa-mahābhāṣya* (2nd-1st c. BCE). Of 240 verses, around 40 are *āryās*, and one and a half are *gītis* (Kielhorn 1886). The following example (*ad Aṣṭādhyāyī* 1.4.51 *akathitam ca*) is typical in that it is essentially a versified commentary rather than a mnemonic verse:

etena karmasaṃjñā sarvā siddhā bhavaty akathitena
tatrepsitasya kiṃ syāt prayojanaṃ karmasaṃjñāyāḥ

‘By this (rule) *akathitam (ca)* every *karman*-designation can be justified. This being so, what purpose is served by the designation *karma* for the *īpsita* (object)?’ (Joshi and Roodbergen 1975: 226)

In philosophy, Nāgārjuna (2nd c. CE) also used the *āryā* in his *Śūnyatāsaptati* (Erb 1990: xxii; only extant in Tibetan translation), *Vigrahavyāvartanā*, and *Pratītyasamutpādahṛdaya*, and Īśvarakṛṣṇa (3rd-4th c. CE) used it for his *Sāṃkhyakārikās*. In astronomy, the *āryā* was used by Āryabhaṭa in his *Āryabhaṭīya* and by Varāhamihira in his *Brhatsaṃhitā*, both of the 6th c. CE. Smith (1949-1950) remarked that ‘L’*āryā* bouddhique, comme celle de Varāhamihira et d’Īśvarakṛṣṇa, est capable de loger tout terme (et toute forme) de la langue scientifique et religieuse dans ses 12, 13, 17, 18 ou 15 mores...’. Once the *āryā* was available, its flexibility made it a natural choice for technical literature; what is not clear, however, is how the *āryā* became available in the first place. It may have been introduced into

⁵The following summary updates Cappeller (1872: 15ff.); more detailed information about the metrical practice of particular poets can be found in Kühnau (1890) and Velankar (1948-1949). I will not discuss here early inscriptions which may or may not present **gaṇacchandās** verses (for which see, e.g., Falk 1991).

technical discourses by Buddhists, who knew it from their canonical and non-canonical literatures. In any case, the *Vyākaraṇa-mahābhāṣya* shows relatively clearly that in its milieu—which was, among other things, Sanskritic—the *āryā* was a technical rather than a poetic metre: *āryās* make up 40 of 240 or one-sixth of the *śloka-vārttikas*, but none of the 41 poetic citations collected by Kielhorn (1885).

2.2.2 *Gaṇacchandās* metres are absent in the *Rāmāyaṇa* and *Mahābhārata*, but for a handful of late verses in the latter (Hopkins 1901: 354). They start to appear, however, in other types of poetry in the first centuries CE. In drama, their earliest occurrence is probably in a fragment of Aśvaghoṣa's *Śāriputraprakaraṇa* (no. 8 in Lüders 1911): introduced by *kiṃ khu dāni*, it is spoken by a courtesan in a form of Prakrit, and could be the beginning of an *āryā*:

suradavimaddakkha[ma]...⁶

Enduring the tramlings of lovemaking. . .

Gaṇacchandās metres are also found in the Trivandrum plays of Bhāsa and the *Mṛcchakaṭikā*, and are favoured by Kālidāsa; in all of these texts, the metres are used for both Sanskrit and Prakrit. They also appear in inscriptional *praśastis* of the Gupta period (for example, the Mandasor inscription of Vatsabhaṭṭi).

2.2.3 The *gaṇacchandās* metres are, however, most strongly associated with Prakrit lyric and narrative poetry. The *Sattasāī* (also known as the *Gāhākosa*, or *Gāthāsaptasatī*), an influential anthology of mostly erotic verses compiled by Hāla (also known as Sātavāhana) around the 2nd-3rd c. to 1st c., consists of seven hundred *āryā* (*gāthā*) verses. It was the model for Govardhana's *Āryāsaptasatī* (12th c.). Other early anthologies include Jayavallabha's *Vajjālagga* (Prakrit, pre-10th c.), the Buddhist *Āryākośa* (pre-9th c., Sanskrit, and extant only in Tibetan translation and some quotations: cf. Hahn 1993a: 53-56), and the *Chappaṇṇaagāhā* (mid-1st millennium: Balbir and Besnard 1992-1993). Narrative literature in Prakrit includes the *Setubandha* (also known as the *Rāvaṇavaho*) ascribed to Pravarasena, 5th c. (and in *āryāgīti* or *skandhaka* verses); the *Gaūḍavaho* of Vākpatirāja, 8th c.; the *Līlāvaī* of Koūhala, 8th c. In Sanskrit, the *Kuṭṭanīmata* of Dāmodara Gupta (8th c.) is, like the *Gaūḍavaho* and the *Līlāvaī*, written in *āryās*.

⁶Aśvaghoṣa is probably punning on *vimardakṣamā*, literally 'patient of trampling', which is an epithet of the earth (cf. the final verse of the fifth *aṅka* of the *Uttararāmacarita*).

3.1.1 The metrical tradition is another source for the *gaṇacchandās*; it has not been effectively utilized in part because the relationship of texts within this tradition has only been partially set out (as in, e.g., Hahn 1971: 49), so some summary remarks on its history are in order. Piṅgala is certainly the starting-point for most authors in this tradition. But one of the implications of the modularity of Indian metrics mentioned above is that different components of a text might reflect different influences, and this is true of Piṅgala's *Chandaḥsūtras*. The text is broadly divided into Vedic (2.1-4.7) and non-Vedic (4.8-8.35) sections. The Vedic section probably derives from the analysis of the Vedic *śākhās*, but in both sections Piṅgala quotes previous metrical authorities, which confirms the assumption that families of metres in different texts were subject to analysis at different times. The texts of these authorities no longer survive, but some are cited as late as the 10th c.⁷ Thus, while the metrical tradition—especially the Piṅgala tradition—tends to look back no further than Piṅgala's synthetic text, elements prior to or independent of Piṅgala continue to appear.

3.1.2 The *gaṇacchandās* module of the tradition has been motivated in 1.4.1. Its specific content presents differences across texts which are not likely to be due to authorial preferences alone. This suggests that the authors had different ideas of what the *gaṇacchandās* module actually contained, which they in turn received from different stages of a tradition or even different traditions. Investigating the differences might help to establish the chronology of and relations between texts in the metrical tradition, and to relate the metrical tradition to actual practices of versification. This essay will draw some modest conclusions along these lines from the treatment of the *gaṇacchandās*, but I hope it will show that Indian metrics in general is deserving of a more detailed archaeology.

3.2.1 I start with Piṅgala. After beginning the section on non-Vedic metres, he introduces the term *gaṇa* (4.12-13) and begins defining the metres as follows (his *trika*-designations are boldfaced and glossed in the translation):

- 4.14 *svārā ardhaṃ cāryārdham*
 'Seven and a half (*gaṇas* constitutes the first) half of an *āryā*.'
- 4.15 *atrāyurñ na j*
 'Of these (seven and a half *gaṇas*), the odd-numbered ones cannot be **J** (◡◡).'
- 4.16 *ṣaṣṭo j*
 'The sixth (*gaṇa* is) **J** (◡◡).'
- 4.17 *nlau vā*

⁷Bhaṭṭotpala cites Rāta and Māṇḍavya, who are also mentioned by Piṅgala, in his *Samhītāvivṛti* (Velankar 1946). It is possible that Varāhamihira also used their work.

- ‘Or (the sixth *gaṇa* is) **NL** (◡◡◡◡).’
- 4.18 *nlau cet padaṃ dvitīyādi*
‘If (the sixth *gaṇa* is **NL** (◡◡◡◡)), a word must start on the second syllable.’
- 4.19 *saptamaḥ prathamādi*
‘(If) the seventh (*gaṇa* is **NL** (◡◡◡◡)), a word must start on the first syllable.’
- 4.20 *antye pañcamah*
‘(If) the fifth (*gaṇa*) in the latter half (of the *āryā* is **NL** (◡◡◡◡)), a word must start on the first syllable.’
- 4.21 *ṣaṣṭaś ca l*
‘And (in the latter half of the *āryā*) the sixth (*gaṇa*) must be **L** (◡).’
- 4.22 *triṣu gaṇeṣu pādaḥ pathyādye ca*
‘(If in the latter half of the *āryā*) as well as in the previous half, the first three *gaṇas* make a *pāda*, it is called *pathyā*.’
- 4.23 *vipulānyā*
‘Otherwise it is called *vipulā*.’
- 4.24 *capalā dvitīyacaturthau gmadhye jau*
‘It is called *capalā* if the second and fourth *gaṇas* are **J** (◡◡◡) with a **G** (◡) on either side.’
- 4.25 *pūrve mukhacapalā*
‘(If the conditions in 4.24 hold) in the first half, it is called *mukhacapalā*.’
- 4.26 *jaḥanacapaletaratra*
‘(If the conditions in 4.24 hold) in the other half, it is called *jaḥanacapalā*.’
- 4.27 *ubhayor mahācapalā*
‘(If the conditions in 4.24 hold) in both halves, it is called *mahācapalā*.’
- 4.28 *ādyardhasamā gītiḥ*
‘The *gīti* is (a metre of which both halves are) the same as the first half (of the *āryā*).’
- 4.29 *antyenopagītiḥ*
‘The *upagīti* is (a metre of which both halves are the same) as the second half (of the *āryā*).’
- 4.30 *utkrameṇodgītiḥ*
‘The *udgīti* is (a metre of which the halves are) in reverse order (to that of the *āryā*).’
- 4.31 *ardhe vasugaṇa āryāgītiḥ*
‘If a half has eight (four-*mātrā*) *gaṇas*, it is *āryāgīti*.’

Sūtras 14-21 define the basic form of the *āryā*, which can be presented schematically in Table 15.3:

Table 15.3:

<i>gaṇa</i> :	1	2	3	4	5	6	7	8
line 1:	uuu	uuu uuu	uuu	uuu uuu	uuu	uuu	uuu uuu	uuu uuu
line 2:	uuu	uuu uuu	uuu	uuu uuu	uuu uuu	u	uuu	uuu

3.2.2 The *āryā* is the derivationally basic form. The other metres, however, share the element *gīti* in their names. Warder (1967: §203) took this to mean that the *gīti* was the ‘original metre from which the others evolved’, and since he quite reasonably sees the *gīti* as a continuation of the old *āryā*, this statement is borne out by the chronological precedence of the old *āryā* in Pali and Ardhamāgadhī texts. In partial agreement with Warder, I propose that the Pāṇḍala terminology developed in several stages. In the first stage, the most common *gaṇacchandāsa* metre was a ‘balanced’ stanza consisting of two lines of the same length. At this stage it matters little whether we call this stanza an old *āryā* or a *gīti*. They differ only in that the *gīti* has been subject to *Katametronisierung*, a complete reanalysis of the old *āryā*’s pickups and closes in terms of *gaṇas* or parts of *gaṇas*.⁸ Crucially, the reanalysis is cognitive: it reflects how versifiers and theorists would have thought about the metre. This means that any synchronic classification would have been blind to the distinction between the old *āryā* and the classical *gīti*. What distinctions might a synchronic classification have captured, then?

3.2.3 The individual metres treated in the *Chandaḥśāstra* differ in their stanzaic structure; any combination of ‘long’ lines and ‘short’ lines (i.e., lines with a full sixth *gaṇa* and lines with a single-*mātrā* sixth *gaṇa*) is licensed. In the pre-classical period, a stanza of two long lines (i.e., an old *āryā*) is most common; in the classical period, a long first and a short second line (an *āryā*) is overwhelmingly dominant. One might assume an intermediate stage in which lines of either type could be freely combined into stanzas. If the most common stanza-type was called the *gīti*, prefixes might have

⁸The term *Katametronisierung* is from Berg’s (1978) discussion of the origin of the Greek dactylic hexameter.

been an easy way of labelling the other types. Specifically, the prefixes used in the Piṅgala tradition refer to the position of the short line—in *udgīti*, the short line is what is ‘on top’—and thus the Piṅgala *āryā* might have originally been called something like the **avagīti*. This scenario would put the *gīti*-names in the 4th or 5th c. BCE, since the *āryā* is already dominant in texts of the 3rd c. The word *gīti*, which means ‘song’ or ‘singing’, is probably the most directly-signifying name in the Piṅgala tradition, which might be another argument in favor of an early date for this nomenclature.

3.2.4 At a later stage, when this **avagīti* had become the standard form of the *gaṇacchandās* stanza, it was felt to be a fixed form rather than a particular stanzaic configuration of the *gīti*. And as a fixed form, it received its own name. The name *āryā*—the feminine form of the word for ‘noble’, hence probably ‘noble lady’—evokes lyric poetry, like the names for many other non-Vedic metres related in the *Chandaḥsūtras*. Probably the metre received this name around the same time as them, i.e. at the time that the discipline of metrics turned its attention to *laukika* literature. This ‘*laukika* turn’ occurred at least several generations before Piṅgala, in view of his citations of earlier authorities. The *āryāgīti* is a special case. It differs from the other metres in having a complete eighth *gaṇa*. Under an analysis similar to that of the old *āryā*, this would mean that the even *pādas* had an extra *gaṇa* instead of a monosyllabic close. It seems more likely that the *āryāgīti* arose only when *Katametronisierung* of the other metres had occurred, and thus when their final syllable was analysed as a half-*gaṇa*. In any case, it falls outside of the old *gīti*-system, and judging from its later use as a narrative metre (e.g. in the *Setubandha*), it, like the *āryā*, attained some popularity as a fixed form. When this metre was brought under analysis—which might have been at the same time as the *āryā* or afterwards—it received a name which reflected its similarity to the primary metre of the family (*āryā*); the *gīti*-element might come from the fact that both lines of the *āryāgīti* are equal, like the *gīti*, or simply from the fact that the names of the other metres of the family contain this element.

3.2.5 Piṅgala thus knew a metre called the *āryā* and several similar metres with names based on the word *gīti*. His *Chandaḥsūtras* treat the *āryā* as derivationally basic because by his time it had already become the most common *gaṇacchandās* metre, but perhaps also because it included both types of lines and therefore made the derivation more economical: starting from the *gīti* or *upagīti* would only provide a model for long or short lines, respectively, and the other type would have had to be introduced in the discussion of another form.

3.2.6 A characteristic feature of Piṅgala’s analysis is his use of metrical ‘subvarieties’: a metre that fits a structural description might receive a

certain name, but it can receive other names if it fits more specific descriptions. The *gaṇacchandās* metres are necessarily either *pathyā* or *vipulā*, and optionally either *mukhacapalā*, *jaghanacapalā*, or *mahācapalā*. Piṅgala also uses the terms *pathyā*, *vipulā*, and *capalā* in his discussion of the *vaktra* (i.e., the *anuṣṭubh śloka*), where they refer to different syllabic configurations at the end of each *pāda* (cf. Steiner 1996). With reference to the *gaṇacchandās* metres, the terms *pathyā* and *vipulā* refer not to syllabic configurations but to the presence and absence, respectively, of a word-break after the third *gaṇa*. The sense of the terms, however, is the same: the *pathyā* is the ‘normal’ form, and the *vipulā* is an ‘extension’ (adapting the terminology of Hahn *apud* Steiner 1996: 228). These meanings are suggested by the words themselves and by the fact that the *pathyā* form dominates in all texts where the distinction is possible (i.e., excluding old *āryās*). The idea that a form may deviate from the ‘normal’ pattern but still be metrical is quite original: I know of nothing similar in the Greco-Latin metrical tradition, but it bears some similarity to the idea of ‘gradient metricality’ in modern statistical and generative metrics (e.g. Hayes 2010). Interestingly, Piṅgala does not distinguish between verses that are *vipulā* in their first, second, or both halves, though Halāyudha and later writers do. The fact that Piṅgala relates different opinions about the application of the term *pathyā* in 5.15 guarantees that the use of the terms *pathyā* and *vipulā* predate him, although he may have been the first to apply them to the *āryā*.

3.2.7 The wording of *sūtra* 4.22 was a matter of some consternation: it says that the name *pathyā* applies when the first three *gaṇas* constitute a *pāda*. This might be taken to mean that *pathyā* verses have four *pādas*, while *vipulā* verses have only two (so Velankar on p. 45 of his edition of the *Ratnamāñjūṣā*). This would entail a violation of the *de facto* principle that *pāda*-structure hierarchically characterizes metres, or more accurately families of metres, such that subvarieties of a metre inherit the *pāda*-structure of that metre. But this is precisely the descriptive crux: How can we assign structure to a metre on the basis of one of its subvarieties? Mitra (1989: 294-295) argued that Sanskrit metrical texts considered the *āryā* a two-*pāda* metre, while Prakrit texts considered it a four-*pāda* metre. If this were true, it would mean that Sanskrit texts ignored the major break of the *pathyā* in order to make their definition of the *āryā* as inclusive as possible, and that Prakrit texts took the major break of the *pathyā* to be representative of the *āryā* in general. But this does not seem to be the case. Some Prakrit texts (the *Chandaḥkośa* and the *Kavidarpaṇa*) explicitly mention four *pādas*, and all divide it into four groups of *mātrās*, but nowhere is the *āryā* explicitly described as consisting of only two *pādas*. It is always described as consisting of two parts or halves (*dala*, *ardha*), but these units cannot be equated

with *pādas*, since even texts which recognize four *pādas* still refer to the two halves. I submit that Piṅgala viewed the *āryā*, and hence the other *gaṇacchandās* metres, as consisting of four *pādas* in accordance with *Chandaḥśāstra* 4.10 *pādaś caturbhāgaḥ* ‘the *pāda* is a fourfold division’. Since *pādas* are marked by word-breaks, specifying a *pāda*-boundary at the end of the third *gaṇa* in the *pathyā* variety has the effect of fixing a word-break in that position, which is why Halāyudha *ad loc.* says *pādagrahaṇam yatyupalakṣaṇārtham*, ‘the word *pāda* is used to indicate word-break (*yati*)’. The *vipulā* is then defined as a verse in which a *pāda*-boundary does not coincide with the end of the third *gaṇa*. In other words, in the general schema of the *āryā*, there were four *pādas*; the boundaries between odd and even *pādas*, however, were not fixed. The tendency for such a boundary to occur at the end of the third *gaṇa* was expressed by specifying a normative subvariety with this property.

3.2.8 This schema implies a ‘floating’ *pāda*-boundary in the *vipulā* form. If we start from the assumption that *pāda*-boundaries are (1) fixed, (2) marked by word-break, and (3) marked by heaviness of the preceding syllable whatever the weight assigned by the general rules of syllabification, the structural articulations of the *āryā* hardly resemble *pādas*: the *pathyā āryā* violates (3), and the *vipulā āryā* potentially violates (1) and (2) in addition. But the *pāda*-boundaries of the old *āryā* fulfill all three requirements. In 3.2.2 the difference between the old *āryā* and classical *gīti* was framed in terms of *gaṇa*-structure alone; the *gīti* could therefore reflect the *pāda*-structure of the old *āryā*. Alternation between the old *pāda*-structure and the *pathyā* form, and a diachronic tendency towards the latter, has been noted in Pali texts by Warder (1967: §232). Informally, one might say that the weakly-marked *pāda*-structure of the classical *āryā* is due to the fact that *Katametronisierung*, the imposition of *gaṇa*-structure throughout the line, has made the line (the ‘half’) a more structurally significant unit than the *pāda*. There are, however, indications that the *pāda* remained structurally significant, at least in the earlier history of its literary deployment and its theoretical description.

3.2.9 *Sūtra* 6.1 defines *yati* as *viccheda*, ‘break’, and it is commonly understood as ‘word-break’ or ‘caesura’. But Pollock (1977: 43) noted that Piṅgala does not use the term *yati* at all in his discussion of the *gaṇacchandās* and suggested that, in the *Chandaḥśūtras*, *yati* in part serves to articulate structural units smaller than the *pāda*. Piṅgala’s avoidance of the term (followed by the *Ratnamañjūṣā* and Jayadeva, and Jayadeva by Kedārabhaṭṭa) suggests that he was concerned with a ‘structural’ description of the *gaṇacchandās*: for him, the *pathyā* and *vipulā* varieties differed primarily with respect to the location of the *pāda*-boundary; further, he probably

wanted to maintain the general distinction between *pādas* and the smaller units articulated by *yati*. Other writers, for whom *yati* primarily signified ‘word-break’, were content to describe the *pathyā* form of the *āryā* using this term: these include Bharata, whose approach we have independent reason to consider more practical and less theoretical than Piṅgala’s, as well as Jayakīrti and, probably following him, Hemacandra.

3.2.10 Another argument in favor of ascribing structural significance to the word-break of the *pathyā* form revolves around Jacobi’s ‘law of *vipulā*’ (Jacobi 1886):

‘Wenn die Cäsur vor dem vierten Fusse fehlt, muss dieser ein Amphibrachys [◡_◡, AO] oder der gleichwerthige Proceleusmaticus mit Cäsur nach der ersten Kürze [◡|◡◡◡, AO] sein.’

Jacobi formulated this law, which significantly restricts the possibilities of word-break and syllabic structure in *vipulā* verses, for the *Sattasaī*. The fact that the law is observed relatively strictly in earlier texts and loosely in later texts might be taken to support Jacobi’s own view that the law is a relic of the old *pāda*-structure.⁹ The problem with this interpretation is that Jacobi’s law does not categorically require a word-break in the fourth *gaṇa* of *vipulā* verses; it requires either ◡_◡ and ◡|◡◡◡, and the word-break of the latter is not an indication of *pāda*-structure but a feature which makes the two forms rhythmically equivalent. Jacobi’s law is therefore best considered as a rhythmic law. But its conditioning factors must be structural rather than rhythmic: word-break may be a rhythmic feature, but absence thereof hardly is; also, it is uniquely the absence of word-break after the third *gaṇa* that triggers the law, not after the first. (Absence of word-break after the fifth *gaṇa* is not probative, since the sixth *gaṇa* must have the form ◡_◡ or ◡|◡◡◡ anyway.) Thus Jacobi’s law generally supports Piṅgala’s view that the *āryā* was made up of four *pādas*.

3.2.11 Jacobi’s law went unnoticed by the entire Indian metrical tradition, probably because it applied to *vipulā* forms, which were marginal to begin with and became even more marginal as time went on (the *Sattasaī* contains many times more *vipulā* verses than its imitation, the *Āryāsaptasāti*). But the *vipulā* form is never entirely absent (except in Bhāsa’s plays, perhaps accidentally), and hence the requirement that the target-text of the analysis which produced the *pathyā*/*vipulā* distinction shows variation

⁹Warder’s (1967: §232) claim that it is not observed in Pali *āryās* rests on a misunderstanding of the law (‘if the forms ◡_◡ or ◡◡◡◡ occur in the fourth *gaṇa* there must instead be a caesura after the first syllable of that *gaṇa*’).

odd *gaṇas* would be surface-true, but it would leave unstated the principle of alternation which motivates this very exclusion. That is why the *capalā* forms are introduced: in these ideal patterns, the alternation between un-syncopated and syncopated rhythms in the odd and even *gaṇas* is made explicit by setting the even *gaṇas* as ◡◡ and flanking them with heavy syllables. In embodying this alternation, the *capalā* forms arguably indicate a distinct metrical constituent, composed of an odd and even *gaṇa* in sequence, which is the domain of rhythmic alternation. (Two other pieces of evidence for an awareness of such a constituent can be found: the first is in the *Kavidarpaṇa-tīkā*, of which verse 5, on *Kavidarpaṇa* 2.8, distinguishes four subvarieties of *gāthā* named *gāḍhā*, *agāḍhagāḍhā*, *daragāḍhā*, and *saralagāḍhā*, which are composed of the units ◡◡◡◡, ◡◡◡◡, ◡◡◡◡, and ◡◡◡◡◡ respectively; the second are the ‘extensions’ to the *gāthā* discussed in 3.7.6, which extend the first line by an odd followed by an even *gaṇa*.) The names of the forms have an erotic double-meaning (*mukhacapalā* is both ‘modulating in the front’ and ‘talkative’; *jaghanacapalā* both ‘modulating in the back’ and ‘with swaying hips’), which suggest they, like the name *āryā*, come from an analysis for which lyric poetry was the primary target-text. It is much less clear why Piṅgala distinguishes three types of *capalā* if these forms only existed to imply certain structural details about the metre.

3.2.14 The last important part of Piṅgala’s analysis is his specification of places in the verse where a word must begin, conditional upon certain syllabic configurations. These are ostensibly word-break rules (hence they are called *yati* in *Chandoratnākara* 5.4), but because they depend on certain syllabic configurations, they have somewhat of a different status than unconditionally obligatory word-breaks or even the major word-break of the *pathyā*; hence it is not a surprise that Piṅgala does not use the term *yati* for them. Cappeller referred to them as ‘Nebencäsuren’, again on the model of Greco-Latin metrics. Their purpose, informally stated, seems to be the maintenance of the *gaṇa*’s rhythmic qualities. A sequence of light syllables is generally rhythmically ambiguous: ◡◡◡ might be parsed as ◡(◡)◡ or as (◡)(◡); the first parse is rhythmically equivalent to ◡◡◡, and the second to ◡◡◡. Word-break, however, can decide in favor of one or the other parse. Thus where a ‘syncopated’ rhythm is structurally required (i.e. in the sixth *gaṇa*), ◡◡◡ must have a word-break after the first light syllable in order to rule out the parse (◡)(◡). The parse ◡(◡)◡ seems to have been the ‘default’ parse for the sequence ◡◡◡, which explains why the assistance of a word-break before the first light syllable is only required in two locations: in the seventh *gaṇa* of the first line and the fifth *gaṇa* of the second (i.e., precisely those locations where the following syllable does not belong to a

complete *gaṇa* and therefore might affect the parse of the preceding light syllables). See Ollett (2012) for a detailed analysis of these patterns.

3.2.15 Poets had other ways of enforcing certain rhythms (e.g., by proscribing word-break in certain positions), but these went unnoticed in the metrical tradition. The identification of these ‘Nebencäsuren’, however, is remarkable and unique (Pollock 1977: 61 even claimed that Indian metrists had not noticed any ‘Nebencäsuren’). Two points about their position in the metrical discourse must be made: (1) they are discussed in all Sanskrit metrical texts (excluding those whose discussion of the *gaṇacchandās* is obviously based on Prakrit texts, such as the *Vāṇībhuṣaṇa* and presumably the *Chandaḥśekhara*), but no Prakrit metrical texts; (2) they ought to have been present in the target-text. A preliminary survey of the literature shows that the seventh *gaṇa* almost never consists entirely of light syllables in most early texts (Nāgārjuna, Īśvarakṛṣṇa, Kālidāsa, Bhāsa, the *Sattasāi*), but in the *Āryāsaptasāi* such a pattern is roughly as common in the seventh as it is in the other odd *gaṇas*. The rules of the *Chandaḥsūtras* seem to presuppose a practice in which seventh *gaṇas* could consist of four light syllables, but no contemporary text seems to fit this description.

3.3 Other texts of the Sanskrit metrical tradition present the same analysis of the *gaṇacchandās* metres as Piṅgala in content; the form of the analysis, of course, differs (including its presentation in *sūtras* or *ślokas*, the choice of terminology and symbols, etc.). The main exception is the *Jānāśrayī*. This work presents the *āryā*, *gīti* and *āryāgīti*, but it calls the *upagīti* the *vāmanikā* (5.39), defines the *dhruvā* as a *gīti* with a word-break after the fourth *gaṇa* (5.41), and adds a *gītikā* (5.42), which is a *gīti* with ◡◡◡_ or _◡_ in its seventh *gaṇa*. After this, it defines a number of other metres which are ‘current among the people’ (5.45 *loke pracarantyaḥ*): though based on *gaṇas*, these are different from the *āryā*-type metres, but similar to Prakrit and Apabhraṃśa metres. The author of the *Jānāśrayī* evidently wanted to update and extend the *gaṇacchandās* module by incorporating some popular names and variants. The sources on which he drew, however, do not seem to belong to the Prakrit tradition discussed below; this tradition knows the *gītikā*, but does not call the *upagīti* the *vāmanikā*.

3.4 *Ratnamañjūṣā* 2.16, which appears to also extend the *gaṇacchandās* module by including the *galatika* metre, is an interpolation (Tripathi 1977: §3.3). The text, however, is a good example of the modularity of Indian metrics, since it draws example-verses from an earlier text (the Turfan *Chandoviciti*, which Tripathi 1977 has called the *Sāmudrika-chandoviciti*) but only for certain kinds of metres. Its Jain author apparently composed his own examples for the *gaṇacchandās* metres. Verses from the *Sāmudrika-*

chandoviciti, however, have found their way into the *Nāṭyaśāstra*'s section on the *gaṇacchandās*.

3.5.1 The *Nāṭyaśāstra*'s text is famously jumbled and corrupt, and the section on metre is no exception. Since it largely follows the Piṅgala analysis of the *gaṇacchandās*, it would not merit discussion here at all, but scholars have drawn different conclusions about its position in the metrical discourse, which in turn bear on the history of the *gaṇacchandās* module. Jacobi (1933) concluded that Bharata's analysis must be more recent than Piṅgala's, because Bharata uses the *trika*-symbols which Piṅgala is supposed to have invented. But Bharata may have used Piṅgala for some sections, and cited other, possibly older authorities for other sections. Further, Abhinavagupta suggests that the *trika*-symbols have been introduced into the *Nāṭyaśāstra* secondarily.¹¹ The *gaṇacchandās* section has been suspected of being an interpolation, either in whole (Ghosh) or in part (Kavi), primarily on the grounds that the details given therein are irrelevant, in varying degrees, to the composition of verses for plays. The example-verses are also absent in some manuscripts (e.g. the one from which Regnaud prepared his edition of the metrical portions of the *Nāṭyaśāstra* in 1880). But Schlingloff (1958) has argued that Bharata relied on the *Sāmudrika-chandoviciti* for both its organization and for its example-verses, which indicate the name of the metre by way of *mudrālaṃkāra*.

3.5.2 After Bharata says (15.193-194)¹² that certain metres are only to be used in songs, he proposes (15.195-197) to discuss the *āryās* (referring to the *āryā* and its subvarieties, not to the other *gaṇacchandās* metres). But the following discussion is somewhat of a mess. It starts without a clear definition of the *āryā*; half-verses are rearranged and repeated; verses from a probably-interpolated section of *prastāra* interrupt the exposition; information is repeated in different words. What is clear is that this discussion contains (1) the rules of Piṅgala, expressed in the form of *śloka*s, regarding the *āryā*, and (2) example-verses similar to those found in the Turfan text.¹³ Less likely to be original are (3) a rule expressed in *āryā* (212), which is redundant with a *śloka*-rule (220), and (4) rules regarding

¹¹ *tatrehādhyāye bharatamunīkṛtam iti trikair makārādibhir kaiścit kiṃcillakṣaṇaṃ svīkṛtam iti dvividhaḥ (pustaka)pāṭho dṛśyate | madhye ca cintanāya (cirantaneṣu Kane 1961) pustakeṣūbhayam api paṭhayata iti* 'In this chapter, the readings of the text are divided in two: one part written by Bharata, and a certain method of definition with *trika*-signs such as *m* that has been interpolated; among them, both are read in the most ancient texts.'

¹²I follow the numeration of Kavi, who edits a 'Southern recension'; the 15th *adhyāya* in this recension corresponds to the 16th in the 'Northern recension'.

¹³Interestingly the *Nāṭyaśāstra*'s example-verse at 15.216 lacks the reference to a monastery (*vihāra*) in verse 6 of the Turfan text.

prastāra, or calculation of syllables, which are neither found in Piṅgala nor relevant for Bharata's expository purposes. (1) and (2) can be understood on the assumption that Bharata decided to relate what had already become by his time the traditional rules for the formation of the *āryā*, and exemplify those rules by citing a text which conveniently 'labelled' each metre through *mudrā*. He might have limited himself to the *āryā* because it had already become the only *gaṇacchandās* metre in common use. (3) is probably due to interference from a text that used the *lakṣya-lakṣaṇa* method. (4) is likely to come from a text of the Prakrit tradition, as discussed below, though the *śloka*s are in Sanskrit. The source for this content is perhaps the *Gāthālakṣaṇa*, one verse of which (4, on Prakrit phonology) has made its way verbatim into the *Nāṭyaśāstra* (Nitti-Dolci 1972 [1938]: 72).

3.6 Two other Sanskrit authors who have been influenced by the Prakrit tradition regarding the *gaṇacchandās* are Jayakīrti and Hemacandra. Though both relate the Piṅgala rules, they use some of the Prakrit names, as shown below. Jayakīrti had a relatively wide outlook—he is notable for defining Kannada metres alongside Sanskrit metres (the first work of Kannada metrics in Kannada, the *Chandombudhi* of Nāgavarman, is roughly contemporaneous)—which could explain why his account of the *gaṇacchandās* is somewhat synthetic of both Sanskrit and Prakrit traditions. Hemacandra envisaged his work as a complete synthesis of Prakrit and Sanskrit metrics. It is perhaps not a coincidence that both authors were Jains, since Jains participated in the Sanskrit tradition but were also critically engaged in the Prakrit and Apabhraṃśa traditions. Two other texts are written in Sanskrit but adapt their treatment of the *gaṇacchandās* from Prakrit texts: as mentioned in 1.2.4, the *Chandaḥśekhara* follows the *Svayambhūchandās*, and the *Vāṇībhūṣaṇa* probably follows the *Prākṛtapiṅgala* or a similar text.

3.7.1 The first difference to note between the Sanskrit and Prakrit traditions is their terminology. The difference was already in place by the 6th c., since Varāhamihira refers to it in *Bṛhatsaṃhitā* 103.54:

*sūryasuto 'rkaphalasamaś candrasutaś
chandataḥ samanuyāti yathā
skandhakam āryāgītir vaiṭālīyaṃ ca
māgadhī gāthāryām*

'Just as Saturn has the same effects as the Sun, and Mercury follows at the will (of its coplanet), so the *āryāgīti* (follows) the *skandhaka*, the *māgadhī* (follows) the *vaiṭālīya*, the *gāthā* (follows) the *āryā*.'

The parallelism is systematic, i.e. it applies not to one or two metres, but throughout the *gaṇacchandās* module. The names given for the individual metres are given below (Table 15.6) in Sanskrit form (excluding the *Jānāśrayī*, discussed in 3.3).

The Paiṅgala nomenclature was discussed in 3.2.2-4. The nomenclature in Prakrit texts presents some variety, but of a transparent kind: each text relates some of the Paiṅgala names, based on the word *gīti*, and some non-Paiṅgala names, based on the word *gāthā* (except for the *skandhaka*). The exception is Nanditādḥya's *Gāthālakṣaṇa*, which only relates the non-Paiṅgala names. The most likely explanation is that Nanditādḥya relates the original Prakrit names, which other authors have changed in varying degrees under influence from the Paiṅgala tradition, moving from right to left on the table. This would entail giving Nanditādḥya priority in the Prakrit discourse, in time, in influence, and in independence from the Sanskrit discourse. There are several reasons for granting him this priority anyway. (1) Unlike Virahāṅka and the *Prākṛtapīṅgala*, Nanditādḥya does not appeal to the authority of Piṅgala. (2) Nanditādḥya's concern was specifically with the Prakrit discourse, as indicated by his mention of *pāiyakavva* in verse 2 and his contempt of Apabhraṃśa in verse 31. (3) Nanditādḥya discusses only the *gāthā* and its varieties, which, as noted in 2.2.3, is the Prakrit metre *par excellence* and the most common metre of Jain texts. (4) Nanditādḥya is quoted in a number of other works, such as Hemacandra's *Chandonuśāsana*, the *Prākṛtapīṅgala*, and even the *Nāṭyaśāstra*. Nanditādḥya's Jainism, evident in his *maṅgalācaraṇa* and example-verses, might constitute another reason for his non-engagement with the Sanskrit metrical discourse, but only if he lived at a time when this discourse was still largely Brahmanical, i.e. before Jayadeva and the *Ratnamañjūṣā* established the Jains as major contributors to the Sanskrit metrical discourse. If such is the case, Nanditādḥya might have written around the 5th c. CE.

3.7.2 Nanditādḥya, however, almost certainly did not invent the Prakrit names for the metres. *Gāthā*, which like *gīti* derives from the root \sqrt{gai} 'sing', is a generic term for a verse or a composition in verse; the *Chandaḥ-sūtras* (in a *sūtra* that is, however, certainly later than Piṅgala: cf. Weber 1863) refer to any metre not defined in the text as *gāthā* (8.1 *atrānuktaṃ gāthā*). Its Avestan cognate *gāθā* refers to the metrical compositions of Zarathushtra; in the later Vedic period *gāthā* refers to verses (mostly *ślokas*) which are not affiliated with a particular Vedic text (Horsch 1966); in Pali *gāthā* refers to the songs—some in the old *āryā* or *āryā* metre—of Buddhist monks and nuns; in Prakrit *gāthā* refers to verses in this metre such as those of the *Sattasaī* (also, and probably originally, known as the

Table 15.6:

	Piṅgala <i>et al.</i>	Jayakīrti, Hemacandra	<i>Kavidarpana</i> , Virahāṅka, Svayambhū	Ratnaśekhara, Dāmodaramisra	<i>Prākṛtapīṅgala</i>	Nanditādhyā
<i>mātrās</i>	Piṅgala <i>et al.</i>	Jayakīrti, Hemacandra	<i>Kavidarpana</i> , Virahāṅka, Svayambhū	Ratnaśekhara, Dāmodaramisra	<i>Prākṛtapīṅgala</i>	Nanditādhyā
27 + 27	<i>upagīti</i>	<i>upagīti</i>	<i>upagīti</i>	<i>upagīti</i> (D)	—	<i>gāthā</i>
27 + 30	<i>udgīti</i>	<i>udgīti</i>	—	<i>vigāthā</i>	<i>vigāthā</i>	<i>vigāthā</i>
30 + 27	<i>āryā</i>	<i>gāthā</i>	<i>gāthā</i> , <i>āryā</i>	<i>gāthā</i>	<i>gāthā</i>	<i>gāthā</i>
30 + 30	<i>gīti</i>	<i>gīti</i>	<i>gīti</i>	<i>gīti</i>	<i>udgāthā</i>	<i>udgāthā</i>
30 + 32	—	—	—	<i>gāhinī</i>	<i>gāhinī</i>	<i>gāhinī</i>
32 + 30	—	—	—	<i>siṃhīni</i> (D)	<i>siṃhīni</i>	—
32 + 32	<i>āryāgīti</i>	<i>skandha(ka)</i>	<i>skandhaka</i>	<i>skandhaka</i>	<i>skandhaka</i>	<i>skandhaka</i>
29 + 29	—	<i>upa.skandhaka</i>	—	—	—	—
29 + 32	—	<i>ut.skandhaka</i>	—	—	—	—
32 + 29	—	<i>ava.skandhaka</i>	—	—	—	—

Gāhākosa: cf. Mirashi 1960); its Tamil version, *kātai*, refers to a poetic composition or a chapter of a longer composition.¹⁴ The use of the word *gāthā* as the name of a particular metre is probably due to a semantic development of VERSE > VERSE-FORM. This development almost certainly took place in a Prakrit discourse, but further specificity is possible. Virahāṅka refers (2.8-9) to Bhuaāhiva (Bhujagādhipa), Sālāhaṇa (Sātavāhana), and Buḍḍhakai (Vṛddhakavi or Harivṛddha) as metrical authorities.¹⁵ Sātavāhana—also cited as an authority on Prakrit lexicography in Hemacandra’s *Deśināmamālā*—is probably identical with the editor of the *Sattasaī*, under the *biruda* or *nom-de-plume* of Hāla. The fact that nearly all of the verses in the *Sattasaī* are *gāthās* implies that the editor had metrical criteria for inclusion.¹⁶ If he can be credited with establishing a Prakrit metrical discourse, his first task would have been the naming and description of the primary Prakrit metre. The term *skandhaka* is somewhat more difficult to explain. Its meaning (‘aggregate’, ‘grouping’) fits with its use as a kind of composition in Prakrit—narrative poems such as the *Setubandha*—from which a semantic shift similar to the one posited for the *gāthā* is possible (COMPOSITION > COMPOSITIONAL FORM).¹⁷ It seems to have been more important in the Prakrit analysis than the *āryāgīti* was in the Piṅgala analysis, since Virahāṅka devotes roughly equal attention to the *gāthā* and *skandhaka*, and since Svayambhū uniquely treats the *skandhaka* as the derivationally basic metre.

3.7.3 Mitra (1989: 295) noted that Sanskrit texts define the metre first in terms of *gaṇas*, while Prakrit texts tend to specify the number of *mātrās* in each *pāda* before anything else (e.g. *Gāthālakṣaṇa* 6, *Prākṛtapīṅgala* 1.54). *Gaṇas* are indispensable for the analysis of any *gaṇacchandās* metre, and are common to both Sanskrit and Prakrit texts, but the *mātrā*-specification is unique to Prakrit texts (excluding the verses of the *Nāṭyaśāstra* mentioned in 3.5.2). Implicit in the *mātrā*-specification is the recognition of four *pādas*. From a practical point of view, this *mātrā*-specification is unnecessary, since the number of *mātrās* can be derived from the number of *gaṇas*, which are far more important to the structure of the metre. But concern for the ‘the-

¹⁴I thank Jean-Luc Chevillard for alerting me to the use of *kātai*.

¹⁵The identity of Bhujagādhipa is uncertain. Velankar thought it referred to Piṅgala (who is conventionally considered to be a *nāga*). But the commentator glosses the name as *Kambalāśvatarau*, so joint authors are possible; it is even possible that Rāta and Māṇḍavya are meant (if Piṅgala can be considered a *nāga*, his predecessors might be as well).

¹⁶The authors who contributed to the *Sattasaī* also composed verses in other metres, as citations in the *Svayambhūchandās* indicate (e.g., a *śārdūlavikrīḍita* verse by Hāla at 1.97).

¹⁷Cf. *Kāvyaḍarśa* 1.37; I thank Csaba Dezső for alerting me to this.

ory' of the metre, its numerical properties and possibilities, is characteristic of the Prakrit discourse. Unique to and common within Prakrit texts is the *prastāra* of the *gāthā*, an enumeration of the possible combinations of light and heavy syllables, in which every possibility is assigned a name. The *Gāthālakṣaṇa* additionally assigns each possibility in the *prastāra* a number (the number of light syllables less one divided by two) and a corresponding *nakṣatra*-name (53-55). The number of configurations is different across texts, but 26, the number related by Nanditāḍhya and Ratnaśekhara, is correct, and permits a close mapping of the different configurations to the 27 *nakṣatras*. The assumption that Virahāṅka's *prastāra* is incorrect is supported by the observation that his *prastāra* of the *skandhaka* is also inaccurate (cf. Velankar's note *ad* 4.9-12).¹⁸

heavy	light	total	<i>Prākṛtapīṅgala</i>	Virahāṅka	Nanditāḍhya, Hemacandra	Ratnaśekhara
27	3	30	<i>lakṣmī</i>	<i>lakṣmī</i>	<i>kamalā</i>	<i>lakṣmī</i>
26	5	31	<i>ṛddhi</i>	<i>śraddhā</i>	<i>lalitā</i>	<i>kīrti</i>
25	7	32	<i>buddhi</i>	<i>buddhi</i>	<i>līlā</i>	<i>kānti</i>
24	9	33	<i>lajjā</i>	<i>lajjā</i>	<i>jyotsnā</i>	<i>gaṅgā</i>
23	11	34	<i>vidyā</i>	<i>vidyā</i>	<i>rambhā</i>	<i>gaurī</i>
22	13	35	<i>kṣamā</i>	<i>kṣamā</i>	<i>māgadhi</i>	<i>taraṃginī</i>
21	15	36	<i>dehī</i>	<i>dīrghā</i>	<i>lakṣmī</i>	<i>tārā</i>
20	17	37	<i>gaurī</i>	<i>gaurī</i>	<i>vidyut</i>	<i>siddhiḥ</i>
19	19	38	<i>dhātrī</i>	<i>rāji</i>	<i>mālā</i>	<i>ṛddhiḥ</i>
18	21	39	<i>cūrṇā</i>	<i>jyotsnā</i>	<i>haṃsī</i>	<i>buddhiḥ</i>
17	23	40	<i>chāyā</i>	<i>chāyā</i>	<i>śaśilekhā</i>	<i>gandharvī</i>
16	25	41	<i>kānti</i>	<i>kānti</i>	<i>jāhnavī</i>	<i>kiṃnarī</i>
15	27	42	<i>mahāmati</i>	<i>mahāmāyā</i>	<i>śuddhā</i>	<i>jyotsnā</i>
14	29	43	<i>kīrti</i>	<i>kīrti</i>	<i>kālī</i>	<i>mālā</i>
13	31	44	<i>siddhi</i>	<i>mugdā</i>	<i>kumārī</i>	<i>vālā</i>
12	33	45	<i>mānini</i>	<i>manoharā</i>	<i>medhā</i>	<i>haṃsī</i>
11	35	46	<i>rāmā</i>	<i>rohiṇī</i>	<i>siddhi</i>	<i>vīṇā</i>
10	37	47	<i>gāhinī</i>	<i>viśālā</i>	<i>ṛddhi</i>	<i>vāṇī</i>
9	39	48	<i>viśvā</i>	<i>suhāsikā</i>	<i>kumudinī</i>	<i>kuraṅginī</i>
8	41	49	<i>vāsītā</i>	<i>hariṇī</i>	<i>dharāṇī</i>	<i>kṣoṇī</i>
7	43	50	<i>śobhā</i>	<i>cakravākī</i>	<i>yakṣiṇī</i>	<i>līlā</i>
6	45	51	<i>hariṇī</i>	<i>sārasikā</i>	<i>vīṇā</i>	<i>lalitā</i>
5	47	52	<i>cakrī</i>	<i>kurarī</i>	<i>brāhmī</i>	<i>rambhā</i>
4	49	53	<i>sārasī</i>	<i>haṃsī</i>	<i>gandharvī</i>	<i>brāhmānī</i>
3	51	54	<i>kurarī</i>	<i>haṃsavadhū</i>	<i>mañjarī</i>	<i>māgadhi</i>

¹⁸Virahāṅka begins to differ from the *Prākṛtapīṅgala* after *kīrti*. Since the preceding 13 names are related in the same verse, it seems likely that Virahāṅka and the *Prākṛtapīṅgala* share a source for these 13 names, but one of them—presumably Virahāṅka—did not have the second verse at hand, and either supplemented the list with a different text or made it up himself.

2	53	55	<i>siṃhā</i>	—	<i>gaurī</i>	<i>medhā</i>
1	55	56	<i>haṃsī</i>	—	—	—

If these varieties are merely theoretical configurations, it is not clear why they should be assigned names. Cappeller had the idea that the *prastāra* had axiological significance: the greater the number of heavy syllables, the more beautiful the verse was supposed to be. He adduced *Prākṛtapīṅgala* 1.58:

sattāsā hārā sallā jassammi tiṇṇi rehāi |
sā gāhāṇaṃ gāhā āā tīsakkharā lacchī ||

The first *gāthā* of the *gāthās* is the *lakṣmī* with thirty syllables, in which there are twenty-seven praiseworthy heavy syllables and three light syllables.

If theorists considered heavy syllables ‘praiseworthy’ (*salla*), Cappeller could explain the prevalence of the rhythm — even in the even *gaṇas*, which were fixed as ◡_◡ on his ‘underlying’ schema, as due to these general rhythmic preferences. While the *Prākṛtapīṅgala*, a 14th-c. compilation, is itself too late to have influenced any of the texts Cappeller discussed in *Die Gaṇachandas*, the preference for heavy syllables may be much older. I am unwilling, however, to assign much significance to this passage of the *Prākṛtapīṅgala*, since the occurrence of heavy syllables is likely to be due to the high proportion of heavy to light syllables in the Prakrit language (in a 3000-word sample of the *Āyāraṅga*, 64% of the syllables are heavy; compare 46% for the *Sattasāi*). The Prakrit metrical tradition places a value on heavy syllables, but such a value is difficult to motivate on the basis of Prakrit versification. It seems, rather, that this value was purely notional, based on the fact that heavy syllables were ‘worth’ twice as many *mātrās* as light syllables.

3.7.4 The notion that heavy syllables are preferable to light syllables finds expression in other passages: *Gāthālakṣaṇa* 33 mentions the *vippī*, *khattiṇi*, *vaiśi*, and *suddi* (*viprā*, *kṣatriyā*, *vaiśyā*, and *sūdrā*): on this axiological scale are mapped, respectively, a *gāthā* with both lines maximally heavy, a *gāthā* with the first line maximally heavy and the second maximally light, a *gāthā* with the first line maximally light and the second maximally heavy, and a *gāthā* with both lines maximally light. The *Prākṛtapīṅgala* (1.64), somewhat obscurely, assigns these names to *gāthās* of 13, 21, 27 and more (?) light syllables, respectively. Nanditādhyā, a Jain, could hardly be the originator of this distinction, which lends support to the idea that the core of

the Prakrit *gaṇacchandās* module comes from a Brahmanical milieu. The *varṇa*-varieties are certainly not common in literature, and they actually neutralize the characteristic alternating rhythms of the *gāthā*. But like the *prastāra*-varieties, they are constructs illustrative of the metre's possibilities, except that here precise configurations of syllables are on display.

3.7.5 Other purely theoretical explorations of the possibilities of the *gāthā* include *Prākṛtapīṅgala* 1.63, which puns on the use of *nāyaka* as a metrical symbol for $\cup\cup$ by saying that a *gāthā* with one such pattern is a faithful woman (*kulamamṭī*); with two, a remarried widow (*saṃgahīnī*); with none, a whore (*raṃḍā*); and with many, a prostitute (*vesā*). The remarks of the *Kavidarpaṇa-ṭīkā* on *gāḍhā* or 'compact' subvarieties have been mentioned above (3.2.13). Since these distinctions are isolated, they are likely to be late.

3.7.6 Svayambhū, Jayakīrti, and Hemacandra all recognize a number of 'extensions' to the *gāthā*, which are formed by adding $2n$ *gaṇas* (i.e., an odd followed by an even *gaṇa*, multiplied n times) to the first line, and are named by prefixing *ud-*, *vi-*, *ava-*, *sam-*, and *upa-* to the term *gātha* (in Hemacandra also $1n$, with the prefixes attached to the term *dāma*). An arbitrarily long extension of the *gāthā* goes by the name *mālāgātha* (*mālādāma*). Svayambhū and Jayakīrti do not go in for the theoretical distinctions mentioned above, which suggests that they had a practical reason for including these 'extensions'. Although the matter requires further investigation, I suggest that the metres described in this section are 'hypermetres' like the *vedha* (2.1.3), and possibly used, like the *vedha*, for long descriptions (Hemacandra's example-verses are *praśastis*).

3.7.7 The main characteristics of the *gaṇacchandās* module in Prakrit texts therefore include a definition in terms of *mātrās*, an elaborated *prastāra* and several other distinctions of theoretical interest, and names based on the words *gāthā* and *skandhaka*. Often elements of the Pīṅgala analysis are included as well, such as the definition of *pathyā*, *vipulā*, and *capalā* forms. But these elements were not associated specifically with Pīṅgala: they are present, for example, in the *Gāthālakṣaṇa*, which makes no reference to Pīṅgala, but absent in the *Vṛttajāṭisamuccaya*, which often refers to him. Interestingly, the 'Nebencäsuren' are never mentioned in Prakrit texts. The Prakrit analysis exhibits, in contrast to the Pīṅgala analysis, a preoccupation with the *gāthā* (and to a lesser extent, the *skandhaka*) as a way of relating and organizing light syllables, heavy syllables, and *mātrās*—as a matrix of prosodic calculation. It seems likely that this analysis was not conceived independently of the Pīṅgala (or pre-Pīṅgala) tradition, but as a competitor to it. This would account for its pretensions to exhaustivity in its various subdivisions, and also its assignment of names to each *pra-*

stāra-variant: inflating its inventory of metres might have been one way of rivalling the rich metrical inventory of the Sanskrit tradition. I suggested (3.7.2) that Sātavāhana may be responsible for the basic Prakrit analysis, not simply to pick out a πρῶτος εὐρέτης for the tradition, but because the attempt to give Prakrit metrics a distinct character, which is undermined by the normativity of Piṅgala in later Prakrit texts, might plausibly be assigned to the person who defined Prakrit literary culture through his poetic, scholarly, and editorial efforts.

4 I thus propose the following line of development. The ‘core’ of the *gaṇacchandās* module dates back to the 4th c. BCE, and consists of a taxonomy of stanzaic forms: *gīti*, *udgīti*, *upagīti*, **avagīti*. This taxonomy was probably used by poets; it was not incorporated into the discourse of *Chandaḥśāstra* until a century or so later, when *Chandaḥśāstra* turned its attention towards *laukika* literature. At this point, the **avagīti* had become the standard *gaṇacchandās* metre (the old *āryā* having fallen into desuetude) and hence merited its own name, the *āryā*. The *gaṇacchandās* module now included a basic definition of the *āryā*, from which it derived the other *gīti*-metres. Later, but before Piṅgala, the terms *pathyā*, *vipulā*, and *capalā* were introduced. These are the only distinctions made in the Turfan (*Sāmudrika*) *Chandovicitī*, and the earliest Prakrit metrical writers probably were acquainted with this form of the *gaṇacchandās* module. Piṅgala completed his synthesis of metrics in the 1st c. BCE or CE, in which he astutely added rules for the *āryā*’s ‘Nebencäsuren’. Around the 1st c. CE, Prakrit authors—including Sātavāhana and Harivṛddha—initiated a Prakrit metrical discourse, and formulated an analysis of the *gaṇacchandās* metres that differed, somewhat superficially, from the Sanskrit analysis that they knew. Some later authors in this Prakrit discourse were less concerned with maintaining their independence from the Sanskrit discourse, and drew on Piṅgala’s work to a greater or lesser extent. This story, parts of which are certainly speculative, should be considered a hypothesis: a history of the *gaṇacchandās* module, and the history of the Indian metrical tradition reflected therein, constructed from clues in the metrical texts themselves and subject to revision as new evidence (or better interpretations) becomes available.

Primary Texts (Metrics)

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- Chandaḥkośa* of Ratnaśekhara: ed. in Schubring (1921) and as an appendix (pp. 54-61) to Velankar (1933) and pp. 99-110 in his 1962 edition of the *Kavidarpaṇa*.
- Chandaḥśāstra* of Piṅgala: Kedāranāth (ed.) *Chandas Śāstra by Śrī Piṅgalanāga with the Commentary Mṛtasasañjīvanī by Śrī Halāyudha Bhaṭṭa*. Bombay: Nirṇaya Sāgar Press, Kāvyaṃālā no. 91, 1938. (Reprint of 1906 Nirṇaya Sagar Press edition.)
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- Chandonuśāsana* of Jayakīrti: see Velankar (1949).
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- Jayadevacchandas* of Jayadeva: see Velankar (1949).
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- Mṛtasamjīvanī* of Halāyudha: see *Chandaḥśāstra*.

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