mark after *t* is not at all distinct, but looks more like a detached dot, and the *u* mark of the *ku* of *kumāra* in line 14 is longer than the *u* mark of Mr. Banerji's *kuturiya*. The *u* mark of *ka* and *ta* is not recognised by Mr. Banerji's colleague, Mr. Jayaswal, who reads *kaṁtariyaṁ*. (2) Fleet objects to Bhagavanlal's rendering of *vōchhinē* as *vichchhinnē* (*vichchhinnāyāṁ*) and recognises it as the Jain technical term *vōchchhinne=vyavachchhinnāni* applied to the sacred texts which have been "cut off, interrupted," or, in other terms, which have been neglected and lost sight of. Mr. Banerji writes, "The word *vōchchhinnē* need not be taken in that technical sense in which it is used in modern Jain literature," and that as *rāja-Muriya-kālē* "shows that a date has been expressed in the same line," "the only possible translation of the word (*vōchchhinnē*) is "expired," a meaning derived secondarily from its primary meaning "severed" or "cut" (p. 502). The correct Sanskrit rendering of the Prākṛit *vōchhina* (*vōchchhinna*) is *vyavachchhinna*, the dictionary meanings of which are, "(1) cut off, rent asunder, torn off; (2) separated, divided; (3) particularised, specified; (4) marked, distinguished; (5) interrupted. (Apte)" In a Jain text, the *Kalpasūtra* of Bhadrabāhu[1], the word is thus used :—

(1) *Nāyaē pijjabaṁdhanē vōchchhinnē* (*Jinacharitra*, 127). Sanskrit commentary :—*Jñātajē śrī Mahāvīravishayē prēmabandhanaṁ vyavachchhinnē truṭitē*, "having cut asunder the tie of friendship which he had for the scion of the Jñātṛi clan[2]."

(2) *Vōchchhinna-dōhalā* (*Jinacharitra*, 95) "A pregnant woman whose desires have been fulfilled."

(3) *Avasēsā ganaharā niravachchhā vōchchhinnā* (*Sthavirāvalī*, 2). "The rest of the Gaṇadharas died leaving no descendants."

Such examples of the use of *vōchchhinna* as these do not warrant us in holding that *vōchhina* (*vyavachchhinna*) may also be used in the sense of a year being ended. In Indian epigraphic records *gata* or *atīta* is used to denote the expired year, but *vyavachchhinna* is nowhere else used in this sense. In the early Brāhmī and Khāroshṭhi inscriptions of Northern India the date is expressed by *saṁvatsarē* or *sabatsarē*, or briefly by *sāṁ* or *sa*, and in the Brāhmī inscriptions of Western and Southern India by *vasē*, *varshē*, *saṁvachchharē* or its variants, but never by any terms like *rāja-Muriya-kālē*. The mention again of both the expired and the current years of the same era side by side is both unique and superfluous. Evidently to avoid this difficulty and to provide the verb *upādayati* (*utpādayati*) with an object, Mr. Jayaswal proposes to read and translate the second part of the sentence as follows :—

chhē-yaṭhi Argasi ti kaṁtariyaṁ upādayati

"The cave (*kantari*, *kandara*), of six poles, called the *arkasi* (Skt. *arkāsikā*) is made."

But Plate IV attached to Mr. Jayaswal's article shows that the reading *chhē-yaṭhi* for *chōyaṭha* is impossible. As regards the next word *argasi*, in a Prākṛit inscription the language of which is so much akin to Pali, conjunct *rga* is phonetically impossible, and the mark on the left side of *ga* in Mr. Jayaswal's Plate cannot be mistaken for the superscript *r*. The *i*-mark of *sa* also is not visible in the facsimile, and Bhagavanlal and Banerji failed to notice it on the rock.

[1] Jacobi's edition, Leipzig, 1879 (*Abhandlungen für die Kunde des Morgenlandes*, VII, Band, No. 1).

[2] *Ibid* p. 113.

The reading of the first part of the sentence is even more uncertain. The word between *panatariya* and *rāja-Muriya-kālē* is enigmatical. In the facsimile the letter after *sa* looks rather like *cha* or *chi* and the next letter is evidently *ta* and not *va*, for the lower part of it consists of a semi-circle opening below instead of a circle. The three letters that follow *ta* looks like *satato*. But whatever may be the correct reading or meaning of *sachi* (*cha*) *ta sa ta to*, no date can be denoted by this group of letters.[1]

Mr. V. A. Smith works out the date of Khāravēla in a different way. In line 6 of the Hāthigumphā inscription occurs this sentence.

Paṁchamē cha dāni vasē Na(ṁ)da-rāja-tivasasata-ō(ghā ?)ṭitam Tanasuliyavāṭā panāḍiṁ nagaraṁ pavēsa.....

Dr. Lüders translates this sentence thus:—"In the fifth year he had an aqueduct (*panāḍi*) that had not been used for 103 years since king (*rājan*) Naṁda (or since the Naṁda Kings ?) conducted into the city." Mr. V. A. Smith writes, "If we assume 322 B.C. as the end of the Naṁda dynasty, the fifth year of Khāravēla would be 103 years later, namely 219 B.C., and his accession should be placed about 223 B.C."[2] But the wide difference in form between the alphabet of the edicts of Aśoka on the one hand and that of the Hāthigumphā inscription on the other, already noted by Bhagavanlal, renders this estimate of Khāravēla's date quite untenable. The most notable characteristics of the Hāthigumphā alphabet are:—(1) A considerable number of letters with thick-headed vertical or *serif*; (2) *ka* with the lower part of the vertical prolonged; (3) invariably rounded *ga*; (4) *chha* of the butterfly type with two loops; (5) *ta*s having in most cases rounded lower part. These characteristics that the Hāthigumphā inscription shares, to a considerable extent, with the inscriptions on the Sāñchī gateways, indicate that this epigraph is later in date not only than Aśoka's edicts and the Besnagar Garuḍa pillar inscriptions, but also later than the Bharhut *tōraṇa* inscription, and the Nānāghāt inscriptions of the time of the Andhra King Siri Sātakaṇi I. Therefore Sātakaṇi mentioned in the Hāthi-

[1] Since the above was in type Mr. Jayaswal has published in J. B. O. R. S., Vol. IV, Part IV, a second article entitled *Hāthigumphā Inscription revised from the Rock* (pp. 364-403), wherein, in place of *thaṁbhe patiṭhāpayati* [;] *Pān-aṁtariya-sāṭhi-vasa-sate Rāja-Muriya-Kāle vachhinecha chheyathi Argasi ti kaṁtariyaṃ upādiyati* in line 16, he now proposes to read, *thaṁbhe patiṭhāpayati* [,] *pānatariya sata-sahasehi* [,] *Muriya Kālaṁ vochhinaṁ (neṁ ?) cha choyathi-agasatikaṁtariyaṁ upādāyati* [|] (p. 402). (a) The substitution of *sata-sahasehi* for *saṭhi-vase-sate-Rāja* shows that the old reading is very doubtful. But it is also difficult to accept Mr. Jayaswal's new reading, particularly *he* instead of *rāja*, as against the impressions published by himself with his first article and against the reading of Bhagavanlal and Mr. R. D. Banerji both of whom examined the rock. The elimination of the term *rāja* renders the acceptance of this solitary instance of *Muriya-Kāla* as a royal era still more difficult. (*b*) Mr. Jayaswal's rendering of the expression beginning with *Muriya-Kāla* is also open to objection. He translates it, "He (the king) completes the Muriya time (era), counted, and being of an interval of sixty-four with a century" (p. 395). The rendering of *vochhine* as "counted" is even more far-fetched than 'expired.' The particle *cha* after *vochhine* makes it difficult to read it as *vochhinaṁ* qualifying the substantive *Muriya kālaṁ*. Even if we overlook *vochhine*, the passage appears to be a very unusual way of stating a date. Still more unusual is the statement of a date as an independent achievement in a *praśasti*, for this is how Mr. Jayaswal takes it to be by treating *Muriya-kālaṁ* as accusative to *upādāyati*. The root *di* from which Mr. Jayaswal proposes to derive *upādāyati* means 'to perish, die, waste, decay, diminish' (Apte). So the rendering of *upādāyati* as 'completes' is also very far-fetched. What, again, is the significance of, "He (Khāravela) completes the Muriya time (era)"? Khāravela was not a Muriya (Maurya) but a Cheta, a name not unknown to literature, as Cheta princes are mentioned in the Vessantara Jātāka (No. 5), and it is not clear how a king of one line could complete the era of another line.

[2] Vincent Smith, *Early History of India*, p. 42, note 2 (3rd Ed.).

gumphā inscription, without taking heed of whom Khāravēla sent a large army to the west in the second year of his reign, should also be identified with Sātakarṇi II whose reign may be tentatively dated between B.C. 75—20. The rise of Sātakarṇi II and Khāravēla probably synchronised with the fall of the Suṅga dynasty and the consequent weakening of the power of Magadha. Sātakarṇi II evidently claimed some sort of suzerainty over the states that lay to the west of Kaliṅga and consequently Khāravēla's expeditions to the west involved defiance of the Andhra power. Khāravēla probably never again did so after the second year of his reign. His later expeditions were led to the north. In the eighth year Khāravēla raided Magadha and compelled the king of Rājagaha (Rājagriha) to retire to Mathurā. In the twelfth year he again invaded Magadha and made the Magadha king bow at his feet.

One grave objection to this calculation of the date of Khāravēla based on palæographic considerations is *ti-vasa-sata* in the clause *Naṁdarāja tivasasata o:ṭitam*. Bhagavanlal reads it as *tivasa-sataṁ* and Mr. Jayaswal as *ti-vasa-sata(ṁ?)* and evidently Dr. Lüders also does the same and translates it as "103 years." Stems *satā* (hundred) and *sahasa* (1,000) take plural suffixes in the edicts of Aśoka as well as in the Hāthigumphā inscription when denoting plurality of hundreds or thousands. In the Rock Edict I we have *vahuni pānasatasahasāni*, "many hundred thousand animals;" in the Rock Edict IV, *vahuni vasasatāni*, "many hundreds of years."

Hāthigumphā inscription :—

L. 4. *panatisāhi satasahasēhi*, "by 3,500,000."

L. 7. *anēkāni satasahasāni*, "many hundreds of thousands."

L. 10. *aṭhatisa satasahasēhi*, "by 3,800,000."

If the reading is *ti-vasa-sataṁ*, it must denote 103 and not 300. But, as the facsimile shows, there is no anusvāra sign either above or beside the final *ta* of *tivasasata*. The absence of *vibhakti* (suffix) after *tivasasata* is due to the fact that it forms part of a compound word, *Naṁdarāja-tivasasata-o* (*ghā?*) *ṭitaṁ* qualifying *panāḍiṁ* (aqueduct). An objection that may be made to such a construction is that *tivasasata* and *oghāṭitaṁ* are not combined according to the rule of Sandhi. But this is not the only instance in which the writer of this epigraph has ignored the rules of Sandhi in writing a compound word. In the first line we have *chaturaṁtala-ṭhuna-guṇa-up(ē)tēna*). Bhagavanlal and Jayaswal read *gunopagatēna*. But in the facsimile the letter after *gu* looks more like *ṇa* than *no*, and the two letters after *na* are *upa* and not *paga*. So here *ṇa* and *u* have not been combined. The non-elision of *a* of *guṇa* and *sata* may be due to the fact that in both cases it is followed by verbs beginning with a vowel. *Tivasasata* as a part of the compound may mean either 300 or 103 years. If we take it in the sense of "300 years," the whole compound denoting, "made by king Naṁda 300 years before," the historical evidence contained herein agrees well with the indications of palæography. Mr. Banerji proposes to identify this Nandarāja with Nandivardhana, the ninth king of the Śiśunāga dynasty. There is nothing in the Purāṇas, our only sources of information for Nandivardhana, to show that he ever had anything to do with Kaliṅga. On the contrary we are distinctly told in the Purānas that when the kings

of the Śiśunāga dynasty and their predecessors were reigning in Magadha, 32 Kaliṅgas, that is to say, 32 kings, reigned in Kaliṅga in succession synchronously. It is not Nandivardhana but Mahāpadma Nanda, son of Nandivardhana's son Mahanandin by a Śūdra woman, who is said to have brought "all under his sole sway" and "uprooted all Kshatriyas" or the old reigning families. So we should identify Naṁdarāja of the Hāthigumphā inscription who held possession of Kaliṅga either with the all-conquering Mahāpadma Nanda or one of his sons. According to the Purāṇas Mahāpadma Nanda lived or reigned for 88 years and his 8 sons in all reigned 12 years.[1] A total reign of 12 years for eight sons indicates confusion. So it appears more reasonable to identify the Nandarāja of the Hāthigumphā inscription with Mahāpadma Nanda than with any of his sons. The last Nanda was overthrown by Chandragupta the Maurya in about 321 B.C. Assuming that Mahāpadma Nanda reigned for 50 years—not an inordinately long period for a monarch who reduced all the ancient kingdoms of Northern India to subjection,—we have 321+12+50=383 B.C. as the year of his accession; and, further, assuming that the author of the Hāthigumphā inscription, in putting down "300 years" as the interval between Nanda's rule in Kaliṅga and the fifth year of Khāravēla has used a round number, we may put down the accession of Khāravēla to about 70 B.C. and that of Sātakarṇi II a few years earlier.

A similar conclusion regarding the date of the Sāñchī *tōraṇa* inscriptions may also be arrived at by working backward from the alphabet of the Sāñchī image inscription of the year 28 of Shāhi-Vāsishka (*Ep. Ind.*, Vol. II, p. 369 and Plate; A. S. R., 1910-11, Pt. II, p. 42), and inscriptions of the time of Kanishka and of the great satrap Śōḍāsa. All records of the time of Vāsishka and other Kushan kings are evidently dated in the era of Kanishka. There is a great divergence of opinion among scholars regarding the initial year of this era. Most authorities tentatively put it down at 78 A.D. But according to Fleet, "Kanishka certainly founded the Mālava-Vikrama era, commencing B.C. 58," while Sir John Marshall places the accession of Kanishka in about 125 A.D.[2] If the question of the age of Kanishka, like that of Khāravēla, admits of such wide differences of opinion fluctuating within a range of about two centuries, indications of palæography must be considered valueless for settling chronological problems. Palæography will not enable one to discriminate between such narrow limits as 78 and 125 A.D., but it certainly proves that Fleet's view is based on an erroneous arrangement of the order and dates of the different varieties of the Brāhmī alphabet. A comparison of the alphabet of the Kushan inscriptions (Pl. VI, Nos. 7 and 8) on the one hand, and that of the Mōra and the Mathurā inscriptions of the time of Śōḍāsa (Pl. VI, Nos. 5 and 6) on the other, with the alphabet of the Girnar inscription of Rudradāman of A.D. 150,[3] indicates that Śōḍāsa's inscriptions[4] must be assigned to an earlier age than the inscriptions of Kanishka.

[1] Pargiter's *Purāṇa Texts*, p. 69.

[2] *A Guide to Taxila*, Calcutta, 1918, p. 22.

[3] *Ep. Ind.*, Vol. VIII, Plate.

[4] Eye copies only of the Mathura (Jail Mound) stone-slab inscription of the time of *Svāmin Mahākshatrapa Sōṁsa* are now available. The whereabout of the stone is not known. For reference see Lüder's *List*, 82.

1. The base-line of *na* is straight () in the inscriptions of the time of Śōḍāsa as in decidedly earlier inscriptions. In the inscriptions of Kanishka Vasishka, Huvishka and Vāsudeva (*Ep. Ind.*, Vol. I, Mathura Inscriptions, with Plates, etc.) as well as in the Girnar inscription of Rudradāman (*Ep. Ind.*, Vol. VIII, Plate facing p. 44) we come across a new type of *na* with curved base-line ().

2. The *ya* of the inscriptions of the time of Śōḍāsa differs from the *ya*s of the oldest Brāhmī inscriptions in having equalised verticals. But in the inscriptions of Kanishka and his successors, in the Girnar inscriptions of Rudradāman and in the early Gupta inscriptions, the *ya* has a hook or a circle on the left limb ( ) and an angular right limb. So the Mathurā inscription of Śōḍāsa should be assigned to a date earlier than the beginning of the era of Kanishka. Sir John Marshall places the reign of Sōḍāsa between A.D. 10 and 20.[1]

Fleet, on the contrary, places the dated Brāhmī inscriptions of the Indo-Scythian period in the following order,—Kanishka, (Vāsishka), Huvishka, Śōḍāsa and Vāsudeva.[2] His reasons for doing so may be gathered from the following extract from his contribution to the discussion on the date of Kanishka :—

"The fact is, palæographic inquiries are a rather complicated business. They require not only a knowledge and use of the published tables, but also a close scrutiny of the records themselves. And the difficulties attending them, and the necessity of not accepting apparent results too quickly, are well illustrated by the point that Mr. R. D. Banerji, who went into this branch of our study somewhat deeply, could not account for the Mathurā inscription of the year 299, except by referring its date either to a Maurya era which never existed, or else to the Selucidan era, which was never used in India, or else to some other era (not specified by him) beginning in the third or fourth century B.C. But I must not be understood as decrying the value of Mr. Banerji's inquiries : while there are various points in which we cannot at all accept his results, he has done some very useful work in this line; especially in bringing out the point that the Jain Brāhmī inscriptions of the Kushan period, as compared with the Buddhist and Brahmanical inscriptions, show decidedly advanced forms, which seem due, as suggested by him, to the mercantile habits of the Jains, creating a tendency to abandon archaic forms of writing and adopt a more cursive style."[3]

The inductions embodied in my present paper are based not on the "published tables," but on a "scrutiny of the records themselves," and the accompanying plates are intended to help students to draw their own conclusions by following the same method. The complicated character of palæographic inquiries is due to the fact that in inscriptions on metal or stone engraved by the hand of man we are likely to meet with both regular monumental and irregular forms of different letters, and among the irregular letter-forms some may approach the more archaic type and others the current advanced forms used in the transactions of every day life. As Bühler writes, "In accordance with the results of all palæographic research, the epigraphic alphabets are mostly more archaic than

[1] *A Guide to Taxila*, p. 21.

[2] *Ind. Ant.*, Vol. XXXIII, App., Introductory Note, p. 3.

[3] *J. R. A. S.*, 1913, pp. 977-78.

those used in daily life, as the very natural desire to employ monumental forms prevents the adoption of modern letters, and as, in the case of coins, the imitation of older specimens not rarely makes the alphabet retrograde."[1] In palæographic inquiry, therefore, the most difficult part is the selection not only of the test letters, but of the test forms,—the regular contemporary monumental forms. For ascertaining the relative chronological position of the Sāñchī gateway inscriptions, inscriptions of the time of the Śaka satraps, and the Kushan inscriptions, I have chosen two test letters, *na* and *ya*. The peculiarly Kushan forms of such letters,—*na* with a curved base-line and *ya* with a hook or a circle on the left limb and an angular or nearly angular right limb—are met with not only in the Mathurā Jaina inscriptions of the time of Kanishka and his successors, but also in the Buddhist and Brahmanic inscriptions of the time of Kanishka and Vāsishka, such as the British Museum stone inscription of the 10th year of Kanishka (*Ep. Ind.*, Vol. IX, p. 240 and Pl.), Saheth Maheth image inscription of the year 19 of the reign of Kanishka (*Ep. Ind.*, Vol. VIII, p. 181 and Pl.), and the Iśāpur sacrificial post inscription of the year 24 (A. S. R., 1910-11, Pt. II, p. 41, and Pl. XXIV), and Sāñchī inscription of the year 28 of the reign of Vāsishka. In the Sarnath inscription of the year 3 of Kanishka also all the *ya*s and some of the *na*s are of the regular Kushan monumental types (*Ep. Ind.*, Vol. VIII, p. 176 and Plate). Judged by these tests the Mathurā inscription of the year 299 (*Ind. Ant.*, Vol. XXXVII, p. 33, Pl. III) having *na*s with curved base-line but *ya*s of the pre-Kushan type may be assigned to the time of some predecessor of Kanishka who was called *Mahārāja* and *rājātirāja* but not *dēvaputra* like Kanishka and his successors. May this *mahārāja rājātirāja* be Kadphises II, who, as his coin legends show, had assumed these titles?

As the forms of *na* and *ya* show that the Brāhmī inscriptions of the time of Śōḍāsa are earlier than the inscriptions of the time of Kanishka, other test forms, such as the angular forms of *gha*, *pa*, *ma*, *va*, *la*, and *ha*, and broadened form of *bha*, met with in both these classes of epigraphs, but not in the records of the Maurya and Suṅga periods, as well as in the inscriptions on the Sāñchī *tōraṇas*, indicate that the latter (the Sāñchī *toraṇa* inscriptions) are considerably older than the inscriptions of the time of Śōḍāsa.

To sum up, the Brāhmī inscriptions from the third century B.C. to the second century A.D., may be chronologically arranged in the following order:—

1. Edicts of Aśoka.
2. Nāgārjunī Hill cave inscriptions of Aśoka's grandson Daśaratha.
3. Besnagar Garuḍa pillar inscriptions.
4. (*a*) Inscriptions on the railings of Stūpa I at Sāñchī.
   (*b*) Inscriptions on the railings of Stūpa II at Sāñchī.
   (*c*) Bharhut railing inscriptions.
   (*d*) Inscriptions on the remnants of the old Bodh-Gayā railing.
5. (*a*) Besnagar Garuḍa pillar inscription of the year 12 after the installation of *mahārāja* Bhāgavata.

[1] *Indian Palæography*, p. 30 (Sec. 14).

(*b*) Inscription of Nāyanikā, widow of the Andhra king Sātakaṇi I in the Nānāghāt cave.

(*c*) Bharhut *tōraṇa* (gateway) inscription.

6. Hāthigumphā inscription of Khāravēla, king of Kaliṅga.
7. Sāñchī *tōraṇa* inscriptions.
8. Inscriptions of the time of Śōḍāsa.
9. Inscriptions of the time of Kanishka.

The conclusions arrived at above as to the relative ages of these early monuments would perhaps carry conviction enough if they were based on considerations of palæography alone; but when we find that they are borne out by another and wholly independent line of evidence, then the conviction of their correctness becomes almost a certainty. It was Sir John Marshall who first essayed a serious critical analysis of the sculptures carved upon these monuments, and used their style and technique as criteria to determine their date.

Sir John Marshall's results were embodied in an essay entitled "A Sketch of Indian Antiquities" destined for the forthcoming *Cambridge History of India*, Vol. I, which was in proof in 1914 but the publication of which has been postponed by the war. From the primitive image of Parkham (now in the Mathura Museum) and the "memory reliefs" of Bharhut the author traces the history of early Indian art step by step through the first four centuries of its evolution. The sculptures on the railing of the Bharhut stūpa he assigns to the middle of the second century B.C., and those on the gateway to a later date; the original sculptures on the ground rail of Stūpa II at Sāñchī to about the same time; the railing of Bodh Gayā to the earlier years of the first century B.C.; the sculptures in the Mañchapurī Cave at Udayagiri, in the upper storey of which the inscription of Khāravela's queen is incised, to a date considerably posterior to the sculptures of Bharhut; the reliefs on the four gateways of Sāñchī to the latter half of the first century B.C.; and the sculptures of the time of the Śaka Satraps of Mathurā to about the beginning of, or a little before, the Christian era.

It is very gratifying to note that these conclusions of Sir John Marshall, who initiated the present inquiry and impressed upon the author the necessity of working out the dates of the ancient monuments of India from palæographic indications afresh and without preconceived notions in the light of otherwise dateable documents that have become known since Bühler wrote his *Indian Palæography* are in substantial agreement with those set forth in this Memoir. It is to be hoped that the use of the style and technique of sculptures as criteria for determining the dates of the Indian monuments of the later periods will yield as good results and help us to place Indian monumental history on a firmer basis.

APPENDIX.

Plate I.

Nāgārjunī Hill Cave Inscriptions of Daśaratha. (Bühler, *Ind. Ant.*, Vol. XX, 1891, pp. 364-365.)

I.

1. Vahiak [ā] Kubhā Dashalathēna[1] devānaṁpiyēna
2. anaṁtaliyaṁ abhishitēnā [Ājivikēhi].
3. bhadaṁtēhi vāsha nishidiyāyē nishiṭhē
4. a-chaṁdama-shūliyaṁ

II.

1. Gōpikā Kubhā Dashalathēna dēva [na] ṁpi-
2. yēnā anaṁtaliyaṁ abhishitēnā Aji-
3. vikē [hi bhadaṁ] tēhi vāsha ni [shi] diyāyē
4. nisiṭhā a-chaṁdama-shūliyaṁ

III.

1. Vaḍathikā Kubhā Dashalathēnā dēvānaṁ
2. piyēnā ānaṁtaliyaṁ abhishitēnā
3. [Ajivi] kēhi bhadaṁtēhi va [sha-ni] shidiyāyē
4. nishiṭhā a-chaṁdama-shūliyaṁ

Plate II.

Besnagar Pillar Inscription of Heliodoros. (For the latest version see Rapson's *Ancient India*, Cambridge, 1914, p. 157.)

I.

1. Dēvadēvasa Vā [sudē] vasa Garuḍadhajē ayaṁ
2. Kāritē i[a] Hēliōdōrēṇa bhāga-
3. vatēna Diyasa putrēṇa Takhkhasilākēna[1]
4. Yōna-dutēna āgatēna mahārājasa
5. Aṁtalikitasa upā[ṁ]tā sakāsam rañō
6. Kāsiput[r]asa Bhāgabhadrasa trātārasa
7. Vasēna [chatu] dasēṁna rājēna vadhamānasa

Plate III.

Typical Inscriptions from the ground railing of Stūpa I at Sāñchī.

No. 1.

(Bühler, *Ep. Ind.*, Vol. II, p. 104, No. 66.)

L. 1. Dēvagirinō pachanēkayikasa

L. 2. bhichunō sa atēvāsika sa Khaṇō

[1] The double consonant, *khkha*, is remarkable. In literary Prākrit an aspirate is doubled by prefixing the non-aspirated sound : as kkh.

No. 2.

(*Ibid*, p. 376, No. 184.)

aya-Dhanakasa bhichhunō dānaṁ

No. 3.

(*Ibid*, p. 104, No. 69.)

Ujēniyē Agisimayē dānaṁ

No. 4.

(*Ibid*, p. 99, No. 18.)

Arahagutasa Sāsādakasa bhichhunō dānaṁ

No. 5.

(*Ibid*, p. 385, No. 266.)

thērasa aya-Nāgasa bhichhunō Ujēnakasa dānaṁ

No. 6.

(*Ibid*, p. 113, No. 54.)

L. 1. sāmanērasa Ābēya-
L. 2. kasa seṭhinō dānaṁ

No. 7.

(*Ibid*, p. 98, No. 10.)

Aṭhasa kaṁmikasa dānaṁ

No. 8.

(*Ibid*, p. 109, No. 112.)

L. 1. Yakhilasa bhichhunō aya-Dēvagirinō atē-
L. 2. vāsinō dānaṁ

No. 9.

(*Ibid*, p. 103, No. 58.)

Nadigutasa dānā bhichhunō

No. 10.

(*Ibid*, p. 105, No. 153.)

Jōṇhakasa bhichhunō dānaṁ

No. 11.

(*Ibid*, p. 379, No. 208.)

aya-Jētasa bhichhunō dānaṁ

No. 12.

(*Ibid*, p. 108, No. 105.)

Pusayē bhichhuniyē Nadinagarikāyē dānaṁ

Plate IV.

Typical Inscriptions from the Railings of Stūpa II at Sāñchī.

No. 1.

(*Ibid*, p. 112, No. 13.)

Agilasa dānaṁ Adhapōrikasa

No. 2.

(*Ibid*, p. 111, No. 7.)

L. 1. N[ā]gapiyasa Achhā[v].
L. 2. sa seṭhisa dānaṁ

No. 3.

(*Ibid*, p. 397, No. 27.)

L. 1. Balakasa ayasa Arahagutasa Sāsā-
L. 2. daṁkasa atēvasinō dānaṁ

No. 4.

(*Ibid*, p. 398, No. 39.)

L. 1. Sagharakhitasa bhichhunō dānaṁ Kōrara-
L. 2. sa

No. 5.

(*Ibid*, p. 398, No. 36.)

Arahakasa bhichhunō bhāṇakasa dānaṁ

No. 6.

(*Ibid*, p. 112, No. 14.)

Yasōgirinō dānaṁ bhichhunō

No. 7.

(*Ibid*, p. 111, No. 4.)

Isilasa bhikhunō dānaṁ

No. 8.

(*Ibid*, p. 111, No. 10.)

Nāgapālitaya dāna thabhō

No. 9.

(*Ibid*, p. 400, No. 53.)

L. 1. Nadinagarā
L. 2. Asad[e]vaya bhikhuya dana

No. 10.

(*Ibid*, p. 398, No. 38.)

Nāgarakhitasa bhichhunō Pōkhareyakasa dānaṁ

PLATE V.

Typical Inscriptions from the Railing of Bharhut

No. 1.

(Hultzsch, *Ind. Ant.*, Vol. XXII, pp. 227-242, No. 122.)

aya-Apikinakasa dānaṁ

No. 2.

(*Ibid*, No. 25.)

aya-Gōrakhitasa thabhō dānaṁ

No. 3.

(*Ibid*, No. 141.)

Avisanasa dānaṁ

No. 4.

(*Ibid*, No. 81.)

L. 1. Mōragiriṁha Nāgilāyā bhikhuniyā dānāṁ thabhō
L. 2. Bhagavatō Vipasinō bōdhi

No. 5.

(*Ibid*, No. 85.)

L. 1. Vēdisā Anurādhāya dānaṁ
L. 2. Chhadaṁtiya jātakaṁ

No. 6.

(*Ibid*, No. 97.)

L. 1. Māharasa aṁtevāsinō aya-Sāma-
L. 2. kasa thabhō dānaṁ

No. 7.

(*Ibid*, No. 133.)

Jēṭhabhadrasa dānaṁ

No. 8.

(*Ibid*, No. 30.)

Bhagavatō Kōnāgamēnasa bōdhi

No. 9.

(*Ibid*, No. 135.)

Budharakhitasa rupakārakasa dānam

No. 10.

(*Ibid*, No. 60.)

L. 1. Ērapatō Nāgarāja
L. 2. Bhagavatō vadatē

No. 11.

(*Ibid*, No. 69.)

bhadata-Mahilasa thabhō dānaṁ

No. 12.

(*Ibid*, No. 27.)

L. 1. Dabhinikāya Mahamukhisa dhitu Badhika-
L. 2. ya bhichhuniya dānaṁ

No. 13.

(*Ibid*, No. 98.)

Bhagavatō ūkraṁti

No. 14.

(*Ibid*, No. 45.)

aya-Isadinasa bhānakasa dānaṁ

No. 15.

(*Ibid*, No. 16.)

Karahakaṭa-nigamasa

No. 16.

(*Ibid*, No. 38.)

Jētavana Anādhapēḍikō dēti kōṭisaṁthatēna kētā

No. 17.

(*Ibid*, No. 84.)

Bhagavatō Kakusadhasa bōdhi

No. 18.

(Cunningham, *Stūpa of Bharhut*, p. 141, No. 46.)

Agirakhitasa Bhōjakaṭakasa suchi dānaṁ

No. 19.

(Hultzsch, *Ind. Ant.*, Vol. XXII, pp. 227-242, No. 101.)

Kākaṁdiya Sōmāya bhichhuniya dānaṁ

No. 20.

(*Ibid*, No. 1.)

Bharhut Toraṇa Inscription.

L. 1. Suganaṁ raje raño Gāgīputasa Visadēvasa
L. 2. pautēṇa Gōti-putasa Āgarajusa putēṇa
L. 3. Vāchiputēna Dhanabhūtinā kāritaṁ toraṇaṁ
L. 4. silā-kaṁmaṁtō cha upaṁ ṇa

No. 21.

Sāñchī Stūpa I, Western Gate.

(Bühler, E. I., Vol. II, p. 106, No. 88.)

aya-Chuḍasa atēvāsinō Balamitrasa dāna thabhō

No. 22.

Sāñchī Stūpa I, South Gate.

(*Ibid*, p. 378, No. 200.)

Vēdisakēhi daṁtakārēhi rupakaṁmaṁ kataṁ

PLATE VI.

No. 1.

Sāñchī Stūpa I, South Gate.

(Lüder's *List*, No. 346.)

L. 1. rāñō siri-Sātakaṇisa
L. 2. āvēsanisa Vāsiṭhiputrasa
L. 3. Ānaṁdasa dānaṁ

No. 2.

Sāñchī Stūpa I, West Gate.

(Bühler, *Ep. Ind.*, Vol. II, p. 378, No. 201.)

Kurarāya Nāgapiyasa Achhāvaḍe seṭhisa putasa cha Saghasa [dānaṁ] thabhō

No. 3.

Sāñchī Stūpa I, North Gate.

L. 1. .....-kapālakārisa vēmalapaḍi (?).....
L. 2. .....-riya kārakāna cha gati-gachhēya yō itō

No. 4.

Sāñchī Stūpa I, East Gate.

(*Ep. Ind.*, Vol. II, p. 106, No. 85.)

Kōrarasa Nāgapiyasa Achhāvaḍe seṭhisa dāna thabhō

No. 5.

Mōrā stone-slab inscription.

(Vogel's *Catalogue of the Archœological Museum at Mathura*, p. 184.)

L. 1. Maha[ksha]t(rapasa Rājūvulasa putra).....

L. 2. Bhagavatā Vṛi(sh)ṇe(na pamcha Vīrānāṁ pratimā śailatṛivagra)...

L. 3. yastoshayā ś(ai)le (śrimadgrahamatula muda-dhasa)....

L. 4. archā daśaṁ śailaṁ pachajvala(ta iva parama vapusha)....

No. 6.

Mathurā (Kaṅkāli Tilā, now Lucknow Provincial Museum.)

Inscription of the time of Śōḍāsa of the year 72.

(Bühler, *Ep. Ind.*, Vol. II, p. 199 ; *Ep. Ind.*, Vol. IV, p. 55.)

L. 1. nama arahatō Vardhamānasa

L. 2. sv[ā]misa mahakshattrapasa Śōḍāsasa savatsarē 70 2 hēmaṁtamāsē 2 divasē 9 Haritiputrasa Pālasa bhayāyē samasāvikāyē

L. 3. Kōchhiyē Amohiniyē sahā putrēhi Pālaghoshēna Pōṭhaghoshēna Dhanaghoshēna Āyavati pratithāpitā prāya-[bha]-

L. 4. Āyavatī arahatapujāyē

No. 7.

Mathurā (Kaṅkāli Tilā, now Lucknow Provincial Museum)

Jaina image inscription of the time of Kaṇishka of saṁ 5

(Lüders, *Ind. Ant.*, Vol. XXXIII, p. 35*f*.)

A. L. 1. Dēvaputrasya Ka[ṇi]shkasya sa[ṁ] 5 hē 1 di 1 ētasya pūrv-v[ā]yaṃ Koṭṭiyātō gaṇātō Bahmadāsikātō [ku]-

L. 2. lātō[U]chēnāgaritō śākhātō Sēthi[niha]..sya śi[ś]ini Sēnasya saḍhachari Khuḍāyē nirva[r]ta[nā]

B. L. 1. Pālasya dhita.....ya....ū.....

L. 2. Vādhamanasya prati[mā].....

No. 8.

Mathurā (Kaṅkāli Tilā, now Mathurā Museum) Jaina image inscription of the time of Kaṇishka of saṁ 7. (Bühler, *Ep. Ind.*, Vol. I, p. 391.)

L. 1. [siddhaṁ‖] mahārājasya rājātirājasya dēvaputrasya shāhi-Kaṇishkasya saṁ 7 hē 1 di 105 ētasya pūrvvāyāṃ Aryyodēhikiyātō

L. 2. gaṇātō Aryya-Nāgabhutikiyātō kulātō gaṇisya Aryya-Buddhaśirisya śishyō vāchakō Aryya-Sa[ndhi]kasya bhagini Aryya-Jayā, Aryya Gōshṭha.....

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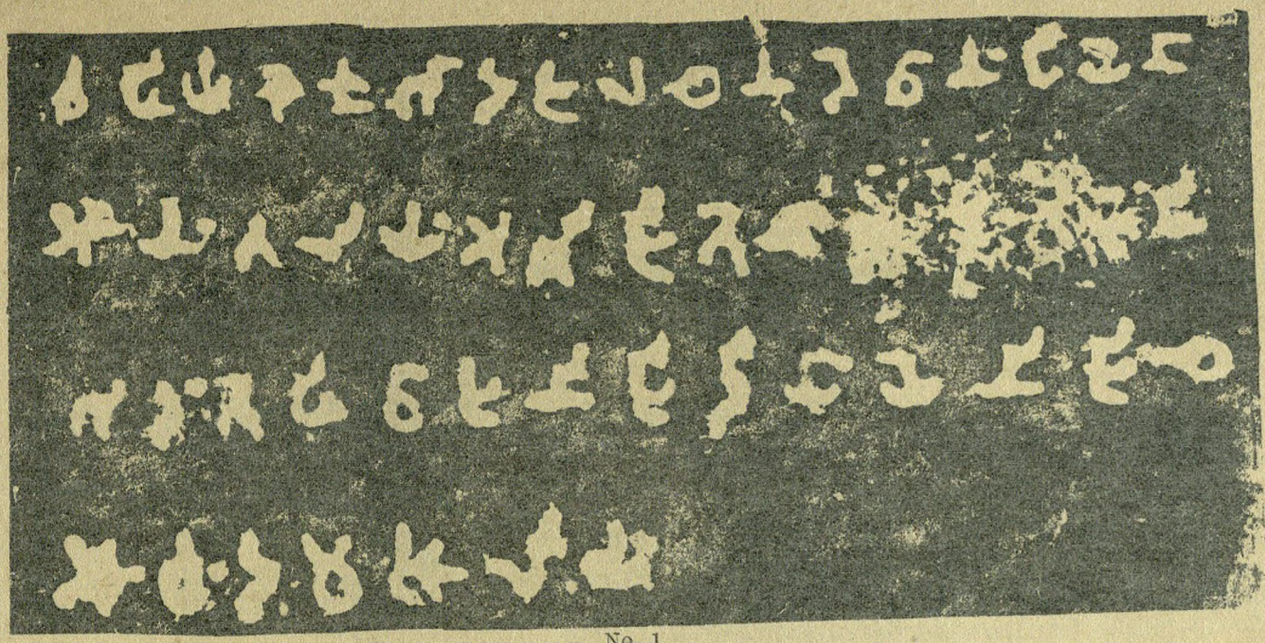
NAGARJUNI HILL CAVE INSCRIPTIONS OF DASÁRATHA.



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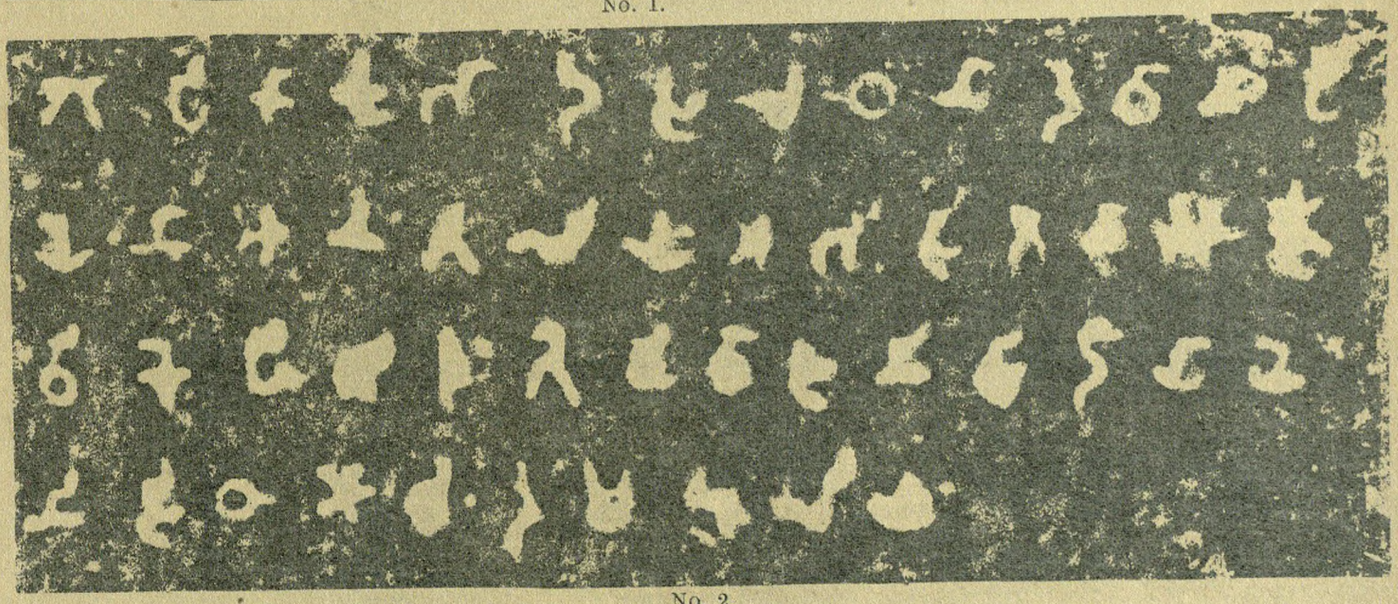

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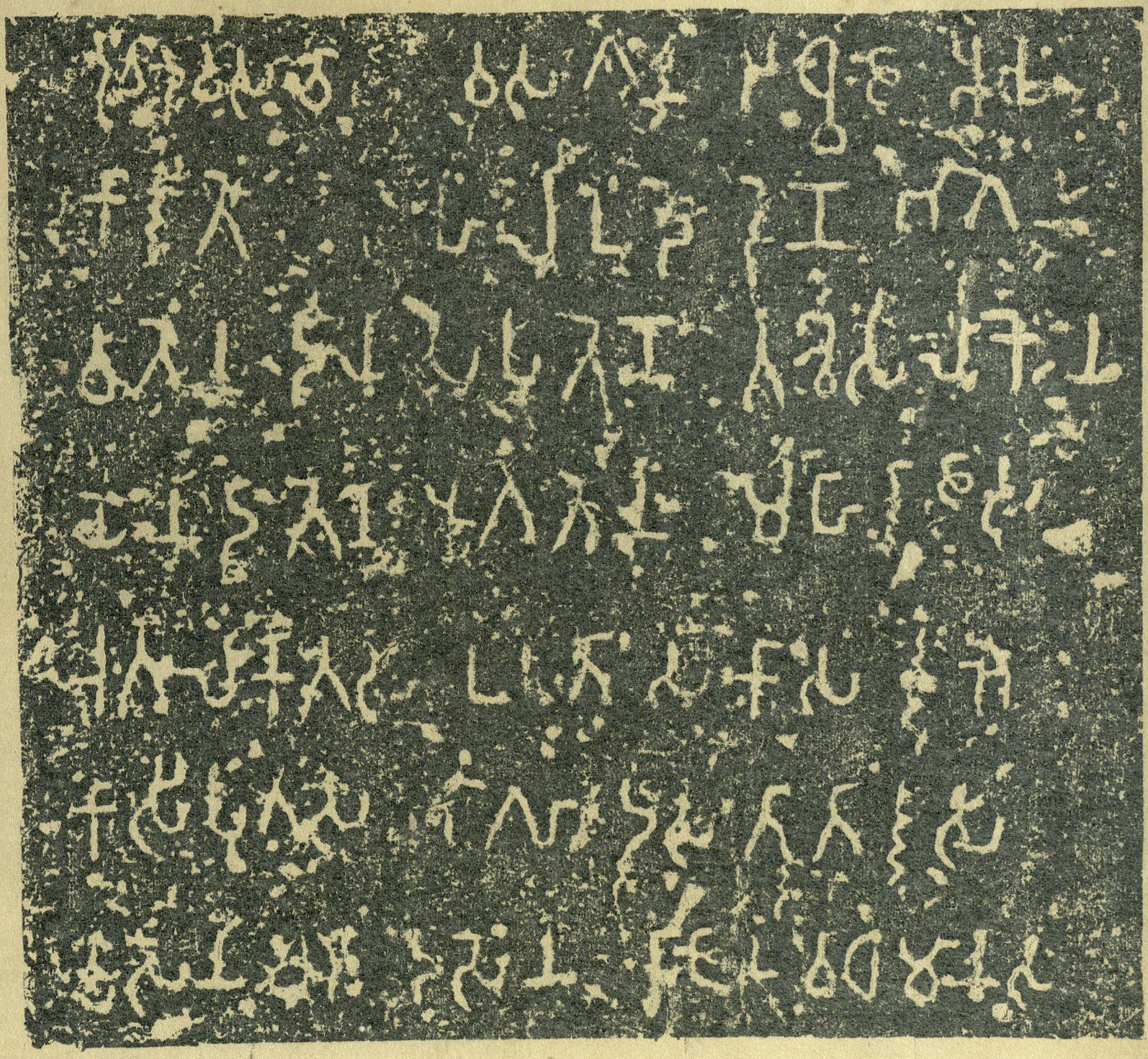
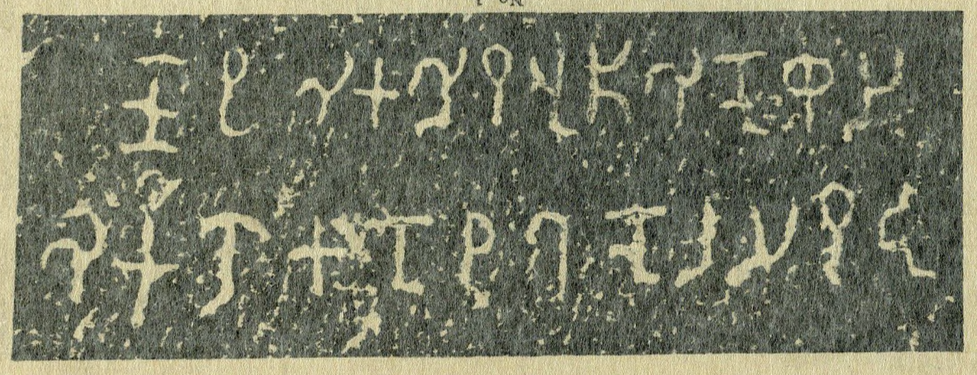


TYPICAL INSCRIPTIONS FROM THE GROUND RAILING OF STUPA I AT SANCHI.

No. 1.



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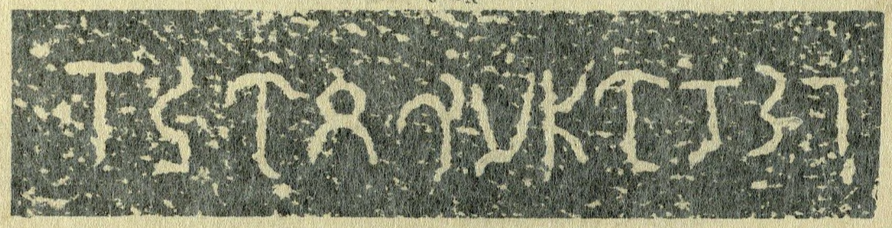
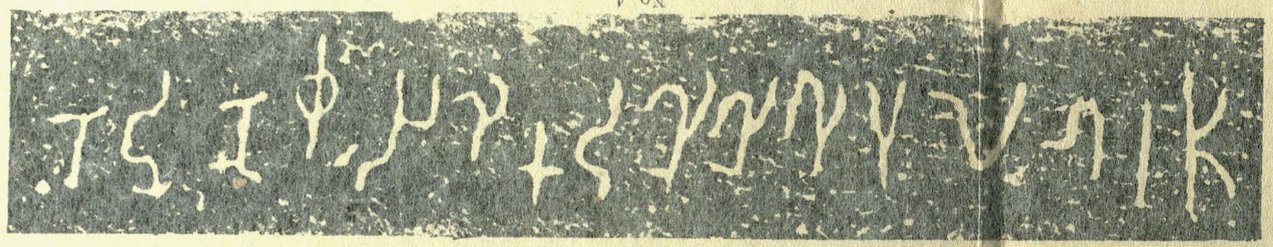


No. 4.



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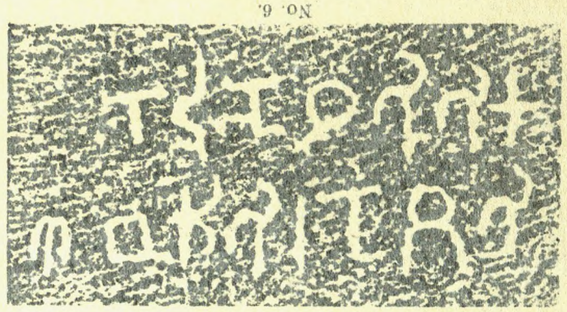
No. 6.



No. 7.

No. 8.

No. 9.

No. 10.

No. 11.

No. 12.

Typical Inscriptions from the Railings of Stupa II at Sanchi.

No. 1.

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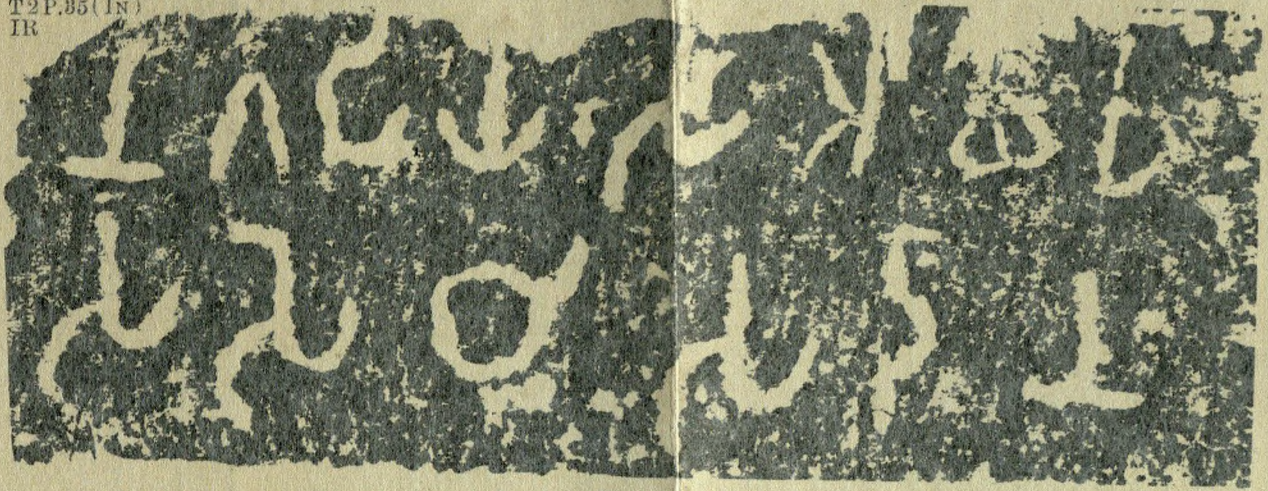

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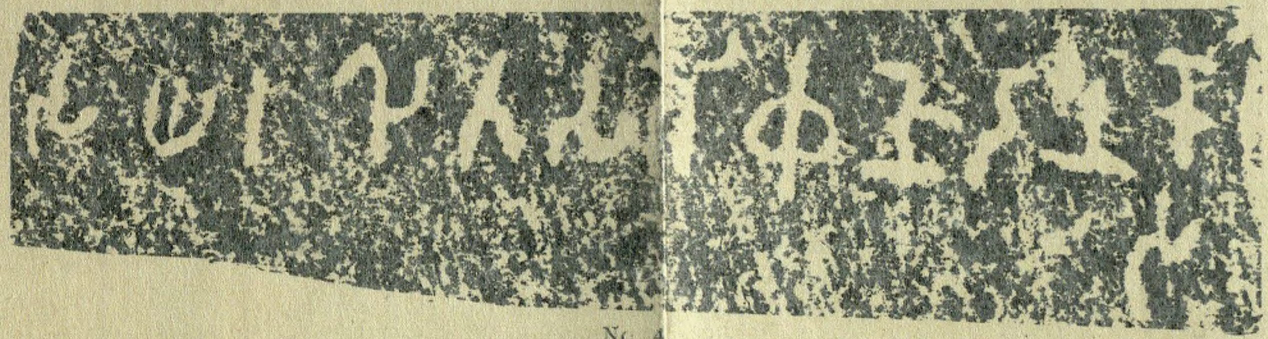

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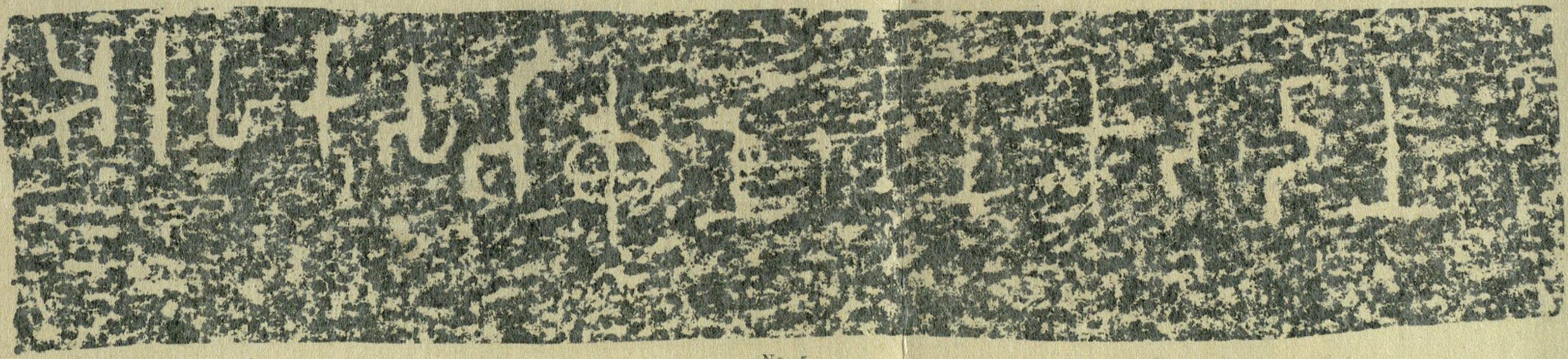

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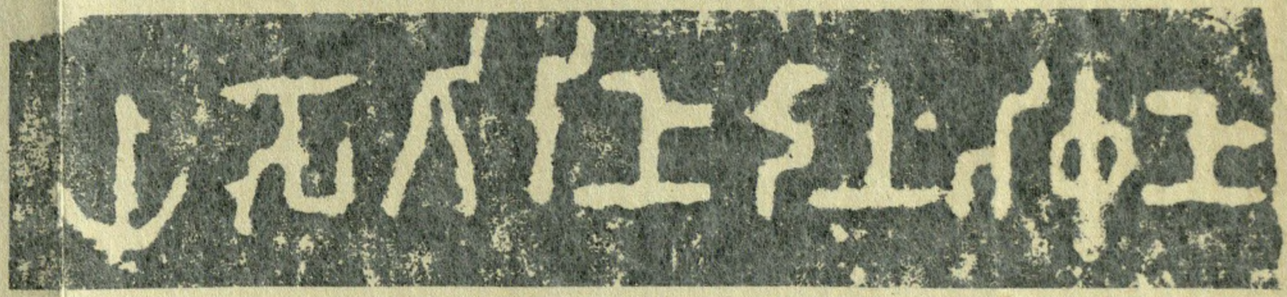

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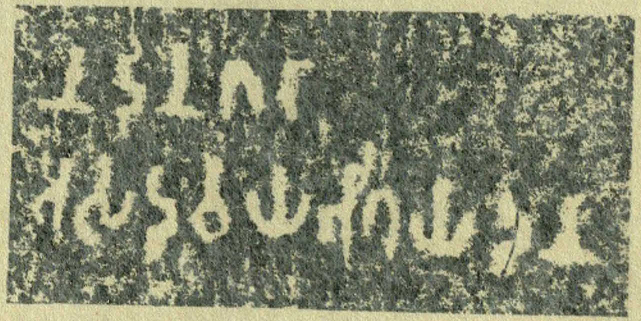
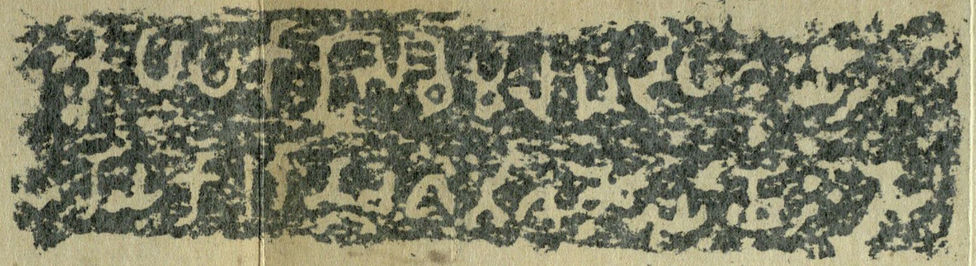


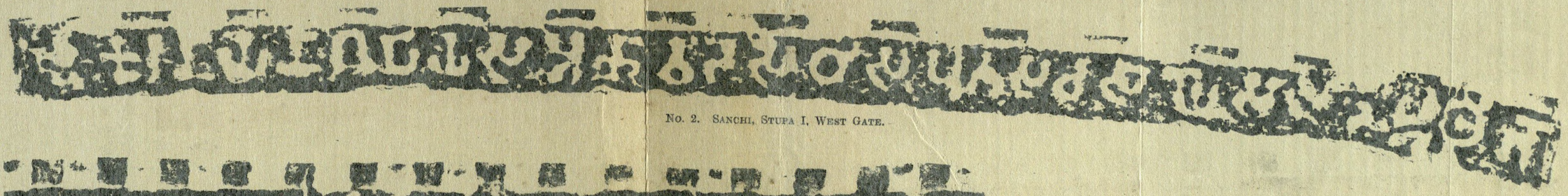
No. 9.

No. 10.

No. 1. SANCHI, STUPA I, SOUTH GATE.



No. 3. SANCHI, STUPA I, NORTH GATE.



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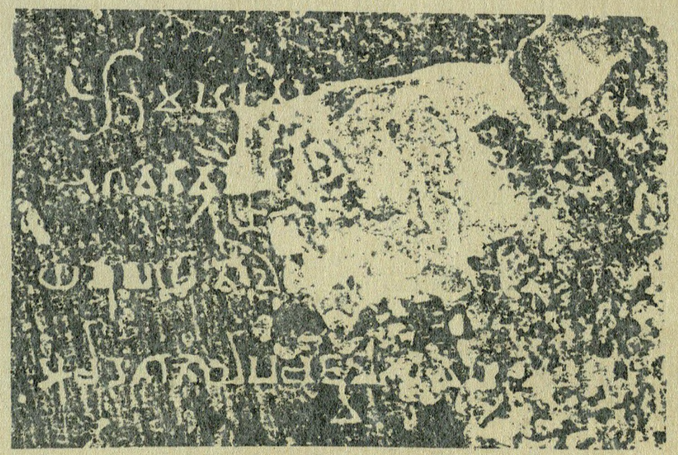
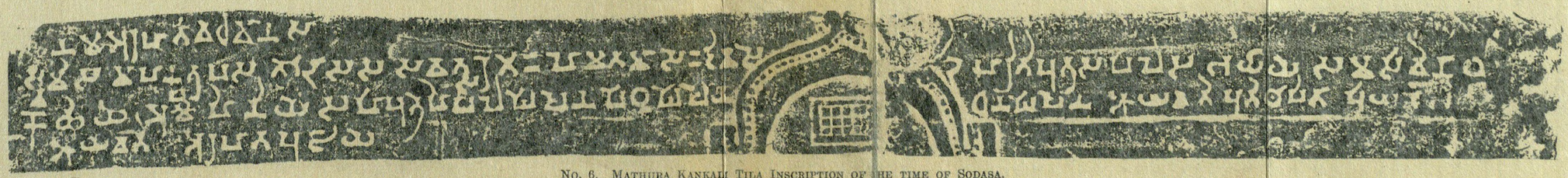
No. 4. SANCHI, STUPA I. EAST GATE.



No. 5. MORA STONE-SLAB INSCRIPTION.

No. 7. MATHURA KANKALI TILA INSCRIPTION OF YEAR 5 OF KANISHKA.

No. 8. MATHURA KANKALI TILA INSCRIPTION OF THE YEAR 7 OF KANISHKA.



No. 6. MATHURA KANKALI TILA INSCRIPTION OF THE TIME OF SODASA.

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ERRATA.

Page 5, line 10,—*for* he *read* the

„ „ lines 3—4 from bottom,—*for* ("These gates and the railings are entrusted to the care of the artizans of the five cities)", *read* "(These gates and the railing are) entrusted to the care of the artizans of the five cities".

„ 7, line 1,—for *sas* read *sa* s.

„ 10, Note 1, line 3,—for *vachhinecha* read *vochhinecha*.

„ „ „ „ „ „—for *kaṁlariyaṃ* read *kaṁtariyaṁ*.

„ „ „ „ „ 5,—for *choyathi* read *choyaṭhi*.

„ „ „ „ „ 7,—for *he* read *hi*.

„ „ „ „ „ 2 from bottom,—*for* (No. 5) *read* (No. 547).

„ 12, last line,—for *Śōṁsa* read *Śoṁḍāsa*.

„ 14, line 14,—*for* Saheth Maheth *read* Saheṭh Maheṭh.

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VARIETIES OF THE VISHṆU IMAGE.

WHAT are commonly known as "Vishṇu images" are, as everybody is aware, extremely common in this country, and one's first general impression of them is apt to be one of almost tiring uniformity. The figure itself is generally treated more or less schematically, with little regard to modelling on naturalistic lines in many cases, and the four attributes displayed by the several hands do not strike the casual observer as being of any very special interest. We all know that Vishṇu is characterised by his mace, his lotus, his conch and his wheel (discus), or think we do, and when we see a four-armed image with these attributes we call it *Vishṇu* and pass on. In reality, however, the matter is much more complicated than at first appears. Some years ago I wrote a pamphlet in Bengali entitled *Vishṇu-mūrti-parichaya*, "The Identification of Vishṇu Images," published by the well-known Bengali literary society called the *Baṅgīya Sāhitya Parishad*, in which I set forth that according to the records of the Purāṇas and other texts, "Vishṇu" is but a general term for what in reality constitute a considerable variety of different figures, to each of which a different name attaches. These varying names represent the Deity in his several divergent aspects, which are sculpturally differentiated each from each according to the distribution of his attributes between his several hands. Thus where the lower right hand holds the attribute *a*, and the upper right holds *b*, while the upper and lower left hands hold *c* and *d* respectively, the image represents one aspect of the god, quite different from the figure represented by an identical sculpture in which the order of these attributes is changed. It is therefore obligatory upon any one who wishes to gain a real knowledge of this important branch of Hindu iconography, or who aspires to interpret these images precisely as they were conceived and understood alike by those who ordered and by those who fashioned them, to pay particular heed to these divergencies as set forth in the ancient texts called *sādhanas*. To call all these figures "Vishṇu" straight away is but a rough-and-ready method of procedure, little compatible with scholarship.

The first division of the subject with which I purpose to deal is the group in which twenty-four forms of the divinity are enumerated, the so-called *chatur-vimśati-mūrtis*. Of these we have three descriptive texts, (1) the *Agnipurāṇa* (chapter 48), (2) the *Padmapurāṇa* (chapter 78), and (3) the *Chaturvarga Chintāmaṇi* of Hēmādri, the well-known writer on Hindu Law in the XIIIth century. Unfortunately only the first of these authorities names all twenty-four of the types; the second enumerating only 21, and Hēmādri only 23, presumably owing to corruptions or omissions in the text, which should be collated from several manuscripts for final certainty. It is advisable to quote the *Agnipurāṇa* text at length before discussing them.

The *Agnipurāṇa* reads; [1]

ओं रूपः केशवः पद्म-शंख-चक्र-गदाधरः।
नारायणः शंख-पद्म-गदाचक्री प्रदक्षिणम् ॥ १ ॥
ततो गदी माधवोऽरि-शंख-पद्मी नमामि तम्।
चक्र-कौमोदकी-पद्म-शंखी गोविन्द उर्जितः ॥ २ ॥
मोक्षदः श्रीगदी पद्मी शंखी विष्णुश्च चक्रधृक्।
शंखचक्राब्जगदिनं मधुसूदनमानमे ॥ ३ ॥
भक्त्या त्रिविक्रमः पद्मगदी चक्री च शंख्यपि।
शंख-चक्र-गदा-पद्मी वामनः पातु मां सदा ॥ ४ ॥
गतिदः श्रीधरः पद्मी [2]चक्रशार्ङ्गी च शंख्यपि।
हृषीकेशो गदा-चक्री पद्मी शंखी च पातु नः ॥ ५ ॥
वरदः पद्मनाभस्तु शंखाब्जारिगदाधरः।
दामोदरः पद्म-शंख-गदा-चक्री नमामि तम् ॥ ६ ॥

तेनै गदी शंख-चक्री वासुदेवोऽब्जभृज्जगत्।
संकर्षणो गदी शंखी पद्मी चक्री च पातु वः ॥ ७ ॥
गदी चक्री शंख-पद्मी प्रद्युम्नः पद्मभृत् प्रभुः।
अनिरुद्धश्चक्रगदी शंखी पद्मी च पातु नः ॥ ८ ॥
सुरेशोऽर्यब्जशंखाद्यः श्रीगदी पुरुषोत्तमः।
अधोक्षजः पद्मगदी शंखी चक्री च पातु वः ॥ ९ ॥
देवो नृसिंहश्चक्राब्जगदाशंखी नमामि तम्।
अच्युतः श्रीगदी पद्मी चक्री शंखी च पातु वः ॥ १० ॥
वालरूपी शंखगदी उपेन्द्र श्चक्रपद्मभृत्।
जनार्दनः पद्मचक्री शंखधारी गदाधरः ॥ ११ ॥
शंखी पद्मी च चक्री च हरिः कौमोदकीधरः।
कृष्णः शंखी गदी पद्मी चक्री मे भुक्तिमुक्तिदः ॥ १२ ॥

As this is potentially nothing more or less than a chart showing the various positions of the several attributes in the distinctive forms of the divinity, a tabulation of the material in chart-form will be more useful than a translation as such, and I accordingly give below the list of the twenty-four names with their respective attributes in the arrangement appropriate to each. The only word in the text which does call for mention is the word *pradakshiṇam* at the end of the first *śloka*. This is the key for the understanding of the whole system, and means that the various attributes are mentioned in the following order, (1) lower right hand, (2) upper right hand, (3) upper left hand, and (4) lower

[1] Bibliotheca Indica A. S. B. pp. 137-38.

[2] पाठान्तरं-"चक्रो गदश्च शंख्यपि"।

left hand, or as in the *pradakshiṇā*. With this much introduction we may tabulate the contents of the text as follows:—

(P = *padma*, lotus; S = *saṅkha*, conch; C = *chakra*, disc; G = *gadā*, mace.)

Name of the special form.	Lower Right.	Upper Right.	Upper Left.	Lower Left.
1. Kēśava	Padma	Śaṅkha	Chakra	Gadā
2. Nārāyaṇa	S	P	G	C
3. Mādhava	G	C	S	P
4. Gōvinda	C	G	P	S
5. Vishṇu	G	P	S	C
6. Madhusūdana	S	C	P	G
7. Trivikrama	P	G	C	S
8. Vāmana	S	C	G	P
9. Śrīdhara	P	C	Śārṅga (a special bow).	S
9. Śrīdhara *	P	C	G	S
10. Hṛishīkēśa	G	C	P	S
11. Padmanābha	S	P	C	G
12. Dāmōdara	P	S	G	C
13. Vāsudēva	G	S	C	P
14. Saṅkarshaṇa	G	S	P	C
15. Pradyumna	G	C	S	P
16. Aṅiruddha	C	G	S	P
17. Puruṣhōttama	C	P	S	G
18. Adhōkshaja	P	G	S	C
19. Nṛsiṁha	C	P	G	S
20. Achyuta	G	P	C	S
21. Upēndra	S	G	C	P
22. Janārdana	P	C	S	G
23. Hari	S	P	C	G
24. Kṛishṇa	S	G	P	C

* Variant.

The text of the Padmapurāṇa need not be quoted in full. The list of names is the same and in the same order, save that numbers 13 and 14 are there transposed, the order being in *Padma* "13-Saṅkarshaṇa, 14-Vāsudēva" instead of as the list given above; and save for its omission of numbers 21, 22 and 23, *viz.*, Upēndra, Janārdana and Hari, as in the *Padma*, Kṛishṇa is himself No. 21, and the total of twenty-four is not made up. The distribution of the attributes for these several forms is also prevailingly the same in both, with these notable differences.

(*a*) No. 6, Madhusūdana, according to the *Padmapurāṇa*, bears in his lower right hand the *chakra;* upper right, the *śaṅkha;* upper left, the *padma;* lower left, the *gadā*. That is to say, according to the *Padma* we get, if for the sake of clearness I may so speak, the formula CSPG, instead of the formula SCPG given in the Agnipurāṇa.

(*b*) Similarly for No. 9, Śrīdhara, the *Padma* formula is GCPS instead of the PCGS of the *Agni*. But the divergent readings of the latter, and its alternative form in which the upper left hand of the Śrīdhara image holds the *Śārṅga*-bow, is to be noted.

(*c*) No. 10, Hṛishīkēśa, shows PCGS (*Padma*) and GCPS (*Agni*).

(*d*) No. 11, Padmanābha, shows CPSG (*Padma*) and SPCG (*Agni*).

(*e*) No. 13, Vāsudēva, shows PCSG (*Padma*) and GSCP (*Agni*).

It is also noticeable that in the *Padma* text both Keśava and Pradyumna hold their attributes in the order "PSCG." But it is possible that some if not all of these discrepancies would disappear on proper collation of the manuscripts. Without such collation it is impossible to choose between them, and to say which one is right.

As mentioned above, the list in Hēmādri, (1st chapter of the *Vratakhaṇḍa*, where he quotes from the *Siddhārtha-saṁhitā*), comprises only twenty-three names, and in an order altogether different from that of the other texts. It will simplify things for our present purposes, however, to retain the order already given, and the former enumeration will therefore be retained so far as this paper is concerned. Similar considerations led me in the previous paragraph to omit mention of the fact that the order in which the *Padma* considers its attributes is also divergent in the original from the order in the *Agnipurāṇa*, but we may take the *pradakshiṇam* of the latter as our norm, and the more easily since the text of Hēmādri also takes the attributes in this order, beginning with the lower right hand as before. It is not the letter, but the content of the texts, with which we are concerned.

As for the discrepancies between Hēmādri and the other texts, the following are noteworthy, but may best be seen in tabular form:—

Name.	Hemādri.	Agni.	Padma.
2. Nārāyaṇa	PSGC	SPGC	SPGC
6. Madhusūdana	CSPG	SCPG	CSPG

Name.	Hemadri.	Agni.	Padma.
7. Trivikrama	PGSC	PGCS	PGCS
9. Śrīdhara	PCGS	PCGS	GCPS
10. Hṛishīkēśa	GCPS	GCPS	PCGS
11. Padmanābha	SPCG	SPCG	CPSG
12. Dāmōdara	PCGS	PSGC	PSGC
13. Vāsudēva	GSCP	GSCP	PCSG
15. Pradyumna	CSGP	GCSP	PSCG
19. Nṛisimha	CPS—	CPGS	CPGS
21. Upēndra	PGCS	SGCP	..
23. Hari	SCPG	SPCG	..

A further important discrepancy is the fact that in Hēmādri the figures of both Adhōkshaja and Trivikrama (Nos. 7 and 18 in our list) are said to carry their attributes in one and the same way, which cannot very well be correct; and that the name of Vishṇu occurs twice over. This again must be due to textual corruption, for it is clear from the attributes these two figures hold that one of the two, numbered 23 in Hēmādri's list, must be Kṛishṇa, whose name otherwise does not appear, curiously enough. This seems to show a special need for an examination of the text in Hēmādri's case, and since where he differs from the order given in the *Agnipurāṇa*, the latter text is sometimes supported and confirmed by the evidence of the *Padma*, the order given in the *Agni* may be looked upon as the most authoritative of the lot, just as its list of names is the most orderly and most complete.

The figures where the arrangement of attributes is identical in all our three authorities, and which accordingly may be considered as definitely settled and established, are as follows:—

3. Mādhava	GCSP, Agni, Padma, Hēmādri.
4. Gōvinda	CGPS, ,, ,, ,,
5. Vishṇu	GPSC, ,, ,, ,,
8. Vāmana	SCGP, ,, ,, ,,
14. Saṅkarshaṇa	GSPC, ,, ,, ,,
16. Aniruddha	CGSP, ,, ,, ,,
17. Purushōttama	CPSG, ,, ,, ,,
18. Adhōkshaja	PGSC, ,, ,, ,,
20. Achyuta	GPCS, ,, ,, ,,
24. Kṛishṇa	SGPC, ,, ,, ,,

The inclusion of Kṛishṇa in this list is based upon the assumption that he is meant where formula SGPC occurs in Hēmādri against the name of Vishṇu.

The following list shows the arrangement authorised by the two Purāṇas, with Hēmādri's variant separately :—

Name.	Pauranik Order.	Hēmadri's Order.
1. Kēśava	PSCG	Omits.
2. Nārāyaṇa	SPGC	PSGC
7. Trivikrama	PGCS	PGSC
12. Dāmōdara	PSGC	PCGS

The following shows where the *Agni* and Hēmādri agree against the testimony of the *Padma* :—

——	A. and H.	Padma.
10. Hṛishīkēśa	GCPS	PCGS
11. Padmanābha	SPCG	CPSG
13. Vāsudēva	GSCP	PCSG
22. Janārdana	PCSG	Omits.

But the only case where Hēmādri and the Padma agree against the evidence of the Agni is where the former give for Madhusūdana :—

——	H. and P.	Agni.
6. Madhusūdana	CSPG	SCPG

In the case of Śrīdhara we have three divergent series, *padma, chakra, śārṅga*, and *śaṅkha* in the *Agni;* GCPS in the *Padma*, and PCGS in Hēmādri; and the same amount of variation is apparent as regards Pradyumna also, for the *Agni* gives us GCSP, the *Padma* gives PSCG, and Hēmādri gives CSGP, whereas in the case of the three which the *Padma* omits, Nos. 21, 22, and 23, Upēndra, Janārdana and Hari, the *Agni* and Hēmādri agree on only the second, both giving PCSG for Janārdana, while for Upēndra the *Agni* gives SGCP against the PGCS of Hēmādri, and for Hari we have SPCG (*Agni*) and SCPG (Hēmādri).

But the most confusing feature of the whole thing is that in some instances separate figures are stated in the several texts to have identical arrange-

ments of their attributes. This overlapping will be clearer from the following table :—

Order of Attributes.	Deity.	Authority.
PSCG	Pradyumna	Padma.
	Kēśava	Agni and Padma.
GCSP	Pradyumna	Agni.
	Mādhava	Agni, Padma, and Hēmādri.
PGSC	Adhōkshaja	,, ,, ,, ,,
	Trivikrama	Hēmādri.
PGCS	Trivikrama	Agni and Padma.
	Upēndra	Hēmādri.
PCGS	Śrīdhara	Agni and Hēmādri.
	Dāmōdara	Hēmādri.
	Hṛishīkeśa	Padma.
GCPS	Śrīdhara	Padma.
	Hṛishīkēśa	Agni and Hēmādri.
SCPG	Madhusūdana	Agni.
	Hari	Hēmādri.
SPCG	Hari	Agni.
	Padmanābha	Hēmādri, and Agni also.
CPSG	Padmanābha	Padma.
	Purushōttama	Agni; Padma and Hēmādri.
PCSG	Vāsudēva	Padma.
	Janārdana	Agni and Hēmādri.

In the cases of this sort it is to be feared that a decisive identification is not always possible in the present state of our documents. But it is to be noticed that even so the preponderance of authority is generally determinable, and the matter is less complex than appears. For instance, when we find that both Purāṇas agree in giving to the image with the arrangement PSCG the name of Kēśava, and that the attribution of this order to Pradyumna is only a piece of inconsistency in the *Padma* itself, we need not feel undue uncertainty about

it. And similarly when we see that all our three authorities describe the order GCSP as being characteristic of Mādhava, it is fairly clear that the *Agni* is mistaken when it calls this figure also Pradyumna. Thus, while we may admit that a certain amount of uncertainty remains, still, each individual case will have to be considered on its merits, and when so considered is not likely to prove insoluble in the majority of instances. Doubtful cases must be marked as such.

In concluding this portion of our present study I append two further tabulations. The first of these shows in what order the twenty-four varieties of the Vishṇu image ought to hold their attributes according to all three authorities, and is thus a joint table of the foregoing material, for ease of reference.

Table of the Twenty-four Varieties.

Name of Deity.	Arrangement of Agni.	Attributes according to	
		Padma.	Hēmādri.
1. Kēśava	PSCG	PSCG	Omits.
2. Nārāyaṇa	SPGC	SPGC	PSGC
3. Mādhava	GCSP	GCSP	GCSP
4. Gōvinda	CGPS	CGPS	CGPS
5. Vishṇu	GPSC	GPSC	GPSC (also SGPC, ?Kṛishṇa)
6. Madhusūdana	SCPG	CSPG	CSPG
7. Trivikrama	PGCS	PGCS	PGSC
8. Vāmana	SCGP	SCGP	SCGP
9. Śrīdhara	PCSār. S or PCGS	GCPS	PCGS
10. Hṛishīkēśa	GCPS	PCGS	GCPS
11. Padmanābha	SPCG	CPSG	SPCG
12. Dāmōdara	PSGC	PSGC	PCGS
13. Vāsudēva	GSCP	PCSG	GSCP
14. Saṅkarshaṇa	GSPC	GSPC	GSPC
15. Pradyumna	GCSP	PSCG	CSGP
16. Aniruddha	CGSP	CGSP	CGSP
17. Purushōttama	CPSG	CPSG	CPSG

Name of Deity.	Arrangement of Agni.	Attributes according to	
		Padma.	Hemadri.
18. Adhōkshaja.	PGSC	PGSC	PGSC
19. Nṛisiṁha	CPGS	CPGS	CPS—
20. Achyuta	GPCS	GPCS	GPCS
21. Upēndra	SGCP	..	PGCS
22. Janārdana	PCSG	..	PCSG
23. Hari	SPCG	..	SCPG
24. Kṛishṇa	SGPC	SGPC	..

To facilitate the identification of sculptures by their attributes, I further append a list or table showing the several groups of these attributes in classes according to the attribute held in the lower right hand. The order here as elsewhere in this article is lower right, upper right, upper left, and lower left, so that if we are trying to identify an unknown image in whose lower right hand we see the conch, "S," if this is followed by say the *gadā*, the *padma* and the *chakra*, in this order, we shall be able to identify it with Kṛishṇa, on the authority of the Purāṇas.

Table for the Differentiation of Vishṇu Images by their Attributes.

GROUP I.—Where the lower right hand holds the PADMA (lotus).

Attributes.	Deity.	Authority.
PSCG	Kēśava	A. and P.
PGCS	Trivikrama	A. and P.
PGSC	Trivikrama	H.
PCSārnga S	Śrīdhara	A.
PCGS	Śrīdhara	A. and H.
PSGC	Nārāyaṇa	H.
PCGS	Hṛishīkēśa	P.
PSGC	Dāmōdara	A. and P.
PCGS	Dāmōdara	H.
PCSG	Vāsudēva	P.

Attributes.	Deity.	Authority.
PSCG	Pradyumna	P.
PGSC	Adhōkshaja	A., P. and H.
PGCS	Upēndra	H.
PCSG	Janārdana	A. and H.

GROUP II.—Where the lower right hand holds the ŚAṄKHA (conch).

Attributes.	Deity.	Authority.
SPGC	Nārāyaṇa	A. and P.
SCPG	Madhusūdana	A.
SCGP	Vāmana	A., P. and H.
SPCG	Padmanābha	A. and H.
SGCP	Upēndra	A.
SPCG	Hari	A.
SCPG	Hari	H.
SGPC	Krishṇa	A. and P.
SGPC	Vishṇu	H.

GROUP III.—Where the lower right hand holds the GADĀ (mace).

Attributes.	Deity.	Authority.
GCSP	Mādhava	A., P. and H.
GPSC	Vishṇu	A., P. and H.
GCPS	Śrīdhara	P.
GCPS	Hṛishīkēśa	A. and H.
GSCP	Vâsudēva	A. and H.
GSPC	Saṅkarshaṇa	A., P. and H.
GCSP	Pradyumna	A.
GPCS	Achyuta	A., P. and H.

GROUP IV.—Where the lower right hand holds the CHAKRA (discus or wheel).

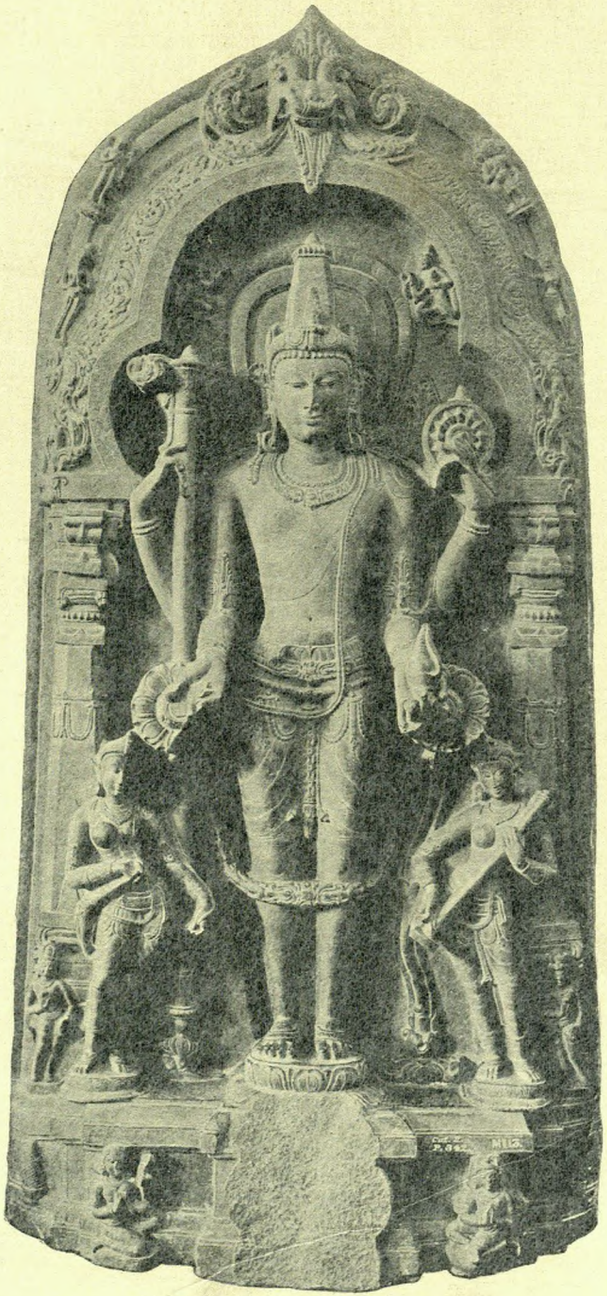
Attributes.	Deity.	Authority.
CGPS	Gōvinda	A., P. and H.
CSPG	Madhusūdaṅa . . .	P. and H.
CPSG	Padmanābha	P.
CSGP	Pradyumna	H.
CGSP	Aniruddha	A., P. and H.
CPSG	Purushōttama . . .	A., P. and H.
CPGS	Nṛisiṁha	A. and P.
CPS—	Nṛisiṁha	H.

It would be interesting to apply these data as a test to the so-called Vishṇu images now in our collections, to determine how many of these varieties are actually represented, and how many are (so far as our materials allow of our determining), of purely schematic or literary currency. It is a surprising fact that, under this test, the Indian Museum collection in Calcutta is found to possess not a single image of the technically correct Vishṇu as such, and to show a preponderance in favour of the formula PGCS, which, according to the Purāṇas, is to be interpreted as Trivikrama (Plate VII, fig. a), or Upēndra, according to Hēmādri.

The only other forms which occur in the Indian Museum are Janārdana (PCSG) (Plate VII, fig. b), Adhōkshaja (PGSC) (Plate VIII, fig. c), and Śrīdhara (PCGS) (Plate VIII, fig. d), the last group being also identifiable as Hṛishīkēsha or Dāmōdara according to the varying authorities.

B. B. BIDYABINOD.

SGPI—S14—25 DGArchy.—10-2-20. 550



a. TRIVIKRAMA.
(PGCS).

b. JANARDANA.
(PCSG).

Photo.-engraved & printed at the Offices of the Survey of India, Calcutta, 1918.

c. ADHŌKSHAJA.
(PGSC).

d. ŚRĪDHARA.
(PCGS).

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TĀLAMĀNA OR THE MEASUREMENT OF HINDU IMAGES.

A GENERAL INTRODUCTION TO TĀLAMĀNA.

THERE are different sets of proportions given in the Hindu *Āgamas* for the making of images. Each of these varies with the subject; for example, images of the three Supreme deities, Brahmā, Vishṇu and Śiva are required to be formed according to the set of proportions collectively called the *uttama-daśa-tāla* measurement (Fig. (*a*) Plate IX); similarly, the *madhyama-daśa-tāla* is prescribed for images of the principal *Śaktīs* (goddesses), Lakshmī, Bhūmī, Durgā, Pārvatī and Sarasvatī (Fig. (*b*) Plate IX): the *pañcha-tāla*, for making the figure of Gaṇapati (Fig. (*c*) Plate XI), and the *chatus-tāla* for the figures of children and of deformed and dwarfed men (Fig. (*b*) Plate XII). The term *tāla* literally means the palm of the hand, and by implication is a measure of length equal to that between the tip of the middle finger and the end of the palm near the wrist. This length is in all instances taken to be equal to the length of the face from the scalp to the chin. It is therefore usual to measure the total length in terms of the length of the face rather than in terms of the palm of the hand. This practice is followed also in the succeeding paragraphs. The reader would be inclined to believe that the phrases *daśa-tāla*, *pañcha-tāla* and *ēkatāla* mean lengths equal to ten, five and one *tāla* respectively, but unfortunately this interpretation does not seem to agree with the actual measurements; for example, the total length of an image made according to the *Uttama-daśa-tāla* measurement is 124 *aṅgulas*, and the *tāla* of this image measures $13\frac{1}{2}$ *aṅgulas*; dividing the total length by the length of the *tāla* we find that there are only 9 *tālas* in it; again, the total length of a *chatus-tāla* image is 48 *aṅgulas* and its *tāla* is 8 *aṅgulas* and therefore there are six *tālas* in this set of proportions. Thus it is found that there is no etymological significance clearly visible in the names given to the various proportions.

There are no less than thirty different proportions mentioned in the *āgamas*. These are grouped into ten classes of three each. Of the three proportions of each class, the first is called the *Uttama* (or the superior), the second the *madhyama* (or the middling) and the third the *adhama* (or the inferior) proportions

of that class (*cf.* Figs. (*a*) and (*b*) Plate IX and fig. (*a*) Plate X). The following is the list of classes and divisions of the proportions of images given in the *āgamas* :—

No.	Name of the *tāla* measure.	Division of the *tāla* measure.	Total length of the image.	Length of the face.	Proportion between the length and the *tāla*.
			aṅgulas.		approxly.
1	Daśa-tāla measure	a. Uttama	124	$13\frac{1}{2}$	9
		b. Madhyama	120	13	$9\frac{1}{4}$
		c. Adhama	116	$12\frac{1}{2}$	$9\frac{1}{3}$
2	Nava-tāla measure	a. Uttama	112	12	$9\frac{1}{3}$
		b. Madhyama	108	$11\frac{5}{8}$	$9\frac{1}{3}$
		c. Adhama	104	$11\frac{1}{4}$	$9\frac{1}{4}$
3	Ashṭa-tāla measure	a. Uttama	100	$10\frac{3}{4}$	$9\frac{1}{3}$
		b. Madhyama	96	..	..
		c. Adhama	92	..	..
4	Sapta-tāla measure	a. Uttama	88	..	..
		b. Madhyama	84	..	..
		c. Adhama	80	..	..
5	Shaṭ-tāla-measure	a. Uttama	76	$8\frac{1}{2}$	9
		b. Madhyama	72	..	..
		c. Adhama	68	..	..
6	Pañcha-tāla measure	a. Uttama	64	..	..
		b. Madhyama	60	..	..
		c. Adhama	56	..	..
7	Chatus-tāla measure	a. Uttama	52	7	$7\frac{1}{2}$
		b. Madhyama	48	8	6
		c. Adhama	44	..	..
8	Tritāla measure	a. Uttama	40	..	..
		b. Madhyama	36	..	..
		c. Adhama	32	..	..

No.	Name of the *tāla* measure.	Division of the *tāla* measure.	Total length of the image.	Length of the face.	Proportion between the length and the *tāla*.
			aṅgulas.		
9	Dvitāla measure . .	a. Uttama . .	28	..	..
		b. Madhyama .	24	..	..
		c. Adhama . .	20	..	..
10	Ekatāla measure . .	a. Uttama . .	16	..	..
		b. Madhyama .	12	..	..
		c. Adhama . .	8	..	..

From the above table it can be seen that each division is less than the one which precedes it by four *aṅgulas; e.g.*, the *adhama-daśa-tāla* is four *aṅgulas* less than the *madhyama-daśa-tāla* and this latter is four *aṅgulas* less than the *uttama-daśa-tāla*. The *āgamas* allow an error not exceeding 6 *yavas* or $\frac{3}{4}$ *aṅgula* either way in the actual making of images; the rules are not rigourously binding upon the sculptor, who is often required to mould his subject according to the canons of beauty and according to his own artistic instinct. In practice it is found that the various proportions yield more or less artistic images, confirming the fact that the authors of the *āgamas* have studied elaborately the proportions of the various members of the human body in different types, both male and female. As they add largely to our stock of knowledge of the History of the Fine Arts in India, these proportions are of great value to students of the pictorial and plastic arts.

In the Indian measure of length there are two different kinds of units, namely, the absolute and the relative. Of these the first is based upon the length of certain natural objects, while the second is obtained from the length of a particular part or limb of the person whose measurement is under consideration. The following table gives the relation between the various quantities used in the absolute system :—

8 Paramāṇus make	1 Ratharēṇu.
8 Ratharēṇus ,, ...	1 Rōmāgra.
8 Rōmāgras ,, ...	1 Līkshā.
8 Līkshās ,, ...	1 Yūka.
8 Yūkas ,, ...	1 Yava.
8 Yavas ,, ...	1 Uttama-mānāṅgula.
7 Yavas ,, ...	1 Madhyama-mānāṅgula.
6 Yavas ,, ...	1 Adhama-mānāṅgula.

Besides these, there are also other larger units of length; they are :—

24 Aṅgulas or Mānāṅgulas	make	. . . .	1 Kishku.
25 Mānāṅgulas	,,	. . . .	1 Prājāpatya.
26 Mānāṅgulas	,,	. . . .	1 Dhanurgraha.
27 Mānāṅgulas	,,	. . . .	1 Dhanurmushṭi.
4 Dhanurmushṭis	,,	. . . .	1 Daṇḍa.

The measure called *daṇḍa* is employed in ascertaining large lengths like that, for instance, of a street in a village.

In the relative system an *aṅgula* is taken to be the length of the middle digit of the middle finger of either the sculptor or the architect, or of the rich devotee who causes a temple to be built or an image to be set up. The *aṅgula* thus obtained is called a *mātrāṅgula*. Another kind of *aṅgula* is obtained by dividing the whole length of the body of an image into 124, 120, 116, etc., equal parts; each of these divisions is called a *dēha-labdha-aṅgula* or shortly *dēhāṅgula*. The relative measure is meant to be used in the construction of temples or in the making of images; it is, however, employed for the latter purpose more often than for the former. Different names are given to certain lengths representable by two or more *dēhāṅgulas* up to twenty-seven; a knowledge of these is also very necessary for the proper understanding of the descriptions given in the Sanskrit texts printed in the Appendix B to Vol. I of my *Elements of Hindu Iconography*. An explanatory list of those names is accordingly given below :—

A distance of *one aṅgula* is called *Mūrti, Indu, Viśvambharā, Mōksha* and *Ukta*.

A distance of *two aṅgulas* is called *Kalā, Gōḷaka, Aśvini, Yugma, Brāhmaṇa, Vihaga, Akshi* and *Paksha*.

A distance of *three aṅgulas* is called *Ṛiṇa, Agni, Rudrāksha, Guṇa, Kāla Śūla, Rāma, Varga* and *Madhyā*.

A distance of *four aṅgulas* is called *Vēda, Pratishṭhā, Jāti, Varṇa, Karṇa (or karaṇa), Abjajānana, Yuga, Turya* and *Turīya*.

A distance of *five aṅgulas* is called *Vishaya, Indriya, Bhūta, Ishu, Supratishṭhā* and *Pṛithvī*.

A distance of *six aṅgulas* is called *Karma, Aṅga, Rasa, Samaya, Gāyatrī, Kṛittikā, Kumārānana, Kauśika* and *Ṛitu*.

A distance of *seven aṅgulas* is called *Pātāla*, the *Munis, Dhātus, Lōkas Ushṇik, Rōhiṇī, Dvīpa, Aṅga* and *Ambhōnidhis*.

A distance of *eight aṅgulas* is called *Lōkapālas, Nāgas, Uraga, Vasus, Anushṭup* and *Gaṇas*.

A distance of *nine aṅgulas* is called *Bṛihatī, Gṛihas, Randhras, Nandas* and *Sūtras*.

A distance of *ten aṅgulas* is called *Dik, Prāturbhāva, Nāḍi, Paṅkti*.

A distance of *eleven aṅgulas* is called *Rudras* and *Tṛishṭup*.

A distance of *twelve aṅgulas* is called *Vitasti, Mukha, Tāla, Yama, Arka, Rāśi* and *Jagatī*.

A distance of *thirteen aṅgulas* is called *Atijagatī*.

A distance of *fourteen aṅgulas* is called *Manu* and *Śakvarī*.

A distance of *fifteen aṅgulas* is called *Ati-śakvarī* and *Tithi*.
A distance of *sixteen aṅgulas* is called *Kṛiyā*, *Ashṭi* and *Indu-Kalā*.
A distance of *seventeen aṅgulas* is called *Atyashṭi*.
A distance of *eighteen aṅgulas* is called *Smṛiti* and *Dhṛiti*.
A distance of *nineteen aṅgulas* is called *Atidhṛiti*.
A distance of *twenty aṅgulas* is called *Kṛiti*.
A distance of *twenty-one aṅgulas* is called *Prakṛiti*.
A distance of *twenty-two aṅgulas* is called *Ākṛiti*.
A distance of *twenty-three aṅgulas* is called *Vikṛiti*.
A distance of *twenty-four aṅgulas* is called *Saṁskṛiti*.
A distance of *twenty-five aṅgulas* is called *Atikṛiti*.
A distance of *twenty-six aṅgulas* is called *Utkṛiti*.
A distance of *twenty-seven aṅgulas* is called *Nakshatra*.

The measurements described in Saṅskṛit authorities are of six kinds; and they are respectively called *Māna*, *Pramāṇa*, *Unmāna*, *Parimāṇa*, *Upamāna* and *Lambamāna*. Of these *māna* is the measurement of the length of the body; *pramāṇa* is that of its breadth, that is a linear measurement taken at right angles to and in the same plane as the *māna*; measurements taken at right angles to the plane in which the *māna* and *pramāṇa* measures have been noted, are called *unmāna*, which obviously means the measure of thickness; *parimāṇa* is the name of the measurement of girths or of the periphery of images; *upamāna* refers to the measurements of inter-spaces, such, for instance, as that between the two feet of an image; and lastly *lambamāna* is the name given to measurements taken along plumb-lines. These six names of the requisite linear measurements have a number of synonyms which it is also very necessary to know for understanding aright the texts given in Appendix B of Vol. I, *Elements of Hindu Iconography*. They are therefore given here below:—

Māna.—Āyāma, Āyata, Dīrgha.

Pramāṇa.—Vistāra, Tāra, Stṛiti, Viśṛiti, Viśṛitam, Vyāsa, Visārita, Vipula, Tata, Vishkambha and *Viśāla.*

Unmāna.—Bahaḷa, Ghana, Miti, Uchchhrāya, Tuṅga, Unnata, Udaya Utsēdha, Uchcha, Nishkrama, Nishkṛiti, Nirgama, Nirgati and *Udgama.*

Parimāṇa.—Mārga, Pravēśa, Pariṇāha, Nāha, Vṛiti, Āvṛita and *Nata.*

Upamāna.—Nīvra, Vivara and *Antara.*

Lambamāna.—Sūtra, Lambana and *Unmita.*

Besides the smaller unit known as the *dēhāṅgula*, there are other larger relative units of length, which are called *Prādēśa*, *Tāla*, *Vitasti* and *Gōkarṇa*. The distance between the tips of the thumb and the forefinger, when they are stretched out to the utmost, is called a *prādēśa*; that between the tips of the thumb and the middle finger, when they are also so stretched out, is called the *tāla*; that between the tips of the stretched out thumb and ring-finger is known as the *vitasti*; and that between the stretched out thumb and little-finger is called the *gōkarṇa*.

The *Āgamas* prescribe various proportions to the images of the various gods, goddesses and other beings belonging to the Hindu pantheon; the unit of

measurement chosen for stating these proportions is the *tāla*. The different *tāla* measurements prescribed for the various images are given below :—

The *Uttama-daśa-tāla* (of 124 *dēhāṅgulas*) is prescribed for images of the principal deities—Brahmā, Vishṇu and Śiva.

The *Madhyama-daśa-tāla* (of 120 *dēhāṅgulas*) for those of Śrīdēvī, Bhūmidēvī, Umā, Sarasvatī, Durgā, Saptamātṛikās, Ushā and Jyēshṭhā.

The *Adhama-daśa-tāla* (of 116 *dēhāṅgulas*) for Indra and the other Lōkapālas, for Chandra and Sūrya, for the twelve Ādityas, the eleven Rudras, the eight Vasus, the two Aśvini-dēvatas, for Bhṛigu and Mārkaṇḍēya, for Garuḍa, Śēsha, Durgā, Guha or Subrahmaṇya, for the seven Ṛishis, for Guru, Ārya, Chaṇḍēśa and Kshētrapālakas.

The *Navārddha-tāla* for Kubēra, for the nine *Grahas* (planets and certain other celestial objects).

The *Uttama-nava-tāla* for Daityēśa[1], Yakshēśa, Uragēśa, Siddhas, Gandharvas and Chāraṇas, Vidyēśa and for the Aṣhṭamūrtis of Śiva.

Sa-tryaṅgula-nava-tāla for such persons as are equal to the gods in power, wisdom, sanctity, etc.

Nava-tāla for Rākshasas, Asuras, Yakshas, Apsarasas, Astramūrtis and Marudgaṇas (cf. Fig. (*b*) Plate X).

Aṣhṭa-tāla for men.

Sapta-tāla for Vētālas and Prētas.[2]

Shaṭ-tāla for Prētas.

Pañcha-tāla for Kubjas or deformed persons and for Vighnēśvara.

Chatus-tāla for Vāmanas or dwarfs and for children.

Tritāla for Bhūtas and Kinnaras (cf. Plate XIII).

Dvitāla for Kūshmāṇḍas.

Eka-tāla for Kabandhas.

The measurements of images in some of the Tālamāna proportions are given in tabular form in the succeeding pages of this work; and figures are also given in the Plates to show how these proportions work out.

In this connection, it is interesting to note that, according to the canons of European art, a well-proportioned male figure is equal to eight times the length of the head; in other words is *aṣhṭa-tāla* in height; that of a female figure is seven and a half times that of the head, or *sārdha-sapta-tāla*. According to European artists the ear is said to extend from a line drawn across the side of the head on a level with the eyebrow, to another which is drawn on a level with the wing of the nose: or, in the language of Indian artists, between the *bhrū-sūtra* and the *nāsā-puṭa-sūtra*. Similarly the other rules arrived at by the Indian artist do not appear to be divergent from those evolved by the European artist, and, if in Indian sculpture the results are not good in some instances, it is the fault of the artist and not attributable to the guide-books. The similarity of the limbs of the body to various natural objects such as, for instance, as that of the nose to the sesamum flower, or of the trunk (composed of the

[1] These are, according to the *Kāraṇāgama*, to be made according to the *Uttama-nava-tāla* measure.

[2] These are according to the *Kāraṇāgama*, to be made according to the *Shaṭ-tāla* measure.

chest and abdomen) to the face of a cow, is very well pointed out and exemplified by a number of illustrations by Mr. Abanīndranāth Tagore in his excellent article entitled 'Indian Iconography' contributed to the *Modern Review* for March 1914.

The *Śukranīti* gives also a few of the *tāla-mānas*, together with some interesting details of the classification of images, the materials from which they are to be made, and other similar matters (Fig. (*b*) Plate XI). It is hoped that it will not be uninteresting to know what this old work has to say on such an important subject as the making of images for worship. A summary of the contents of the portion of this work dealing with these subjects will therefore be given in the following paragraphs. According to the *Śukranīti*, also, an image is said to be necessary for concentration of thought and meditation upon a deity (*dhyāna*), and that this concentration of mind cannot be achieved better than by keeping an image before one's physical and mental eyes.

Images may be made of earth, flour, sand, wood, stone or metals; or they may be painted upon walls and other surfaces. Only those images sculptured according to the measurements prescribed by authoritative texts, and shaped beautifully, are capable of giving merit (*puṇya*) to the worshippers; the worship of images made out of proportion would cause affliction. Worship of the statues of human beings is not to be resorted to; for it produces evil effects; on the other hand, worship offered to images of gods brings merit and grants *svarga* (heaven) to the devotee. Even if the image of a god is not beautiful, so long as it conforms to the prescribed measurements, it is capable of granting the good mentioned above; however beautiful the statue of a human being may be, it is able to bestow not even fame (*yaśa*) on its worshipper.

Images of gods are divided into three classes, namely, the *sātvikī*, the *rājasī* and the *tāmasī*. These three aspects of the images of gods, as for instance of Vishṇu, have to be set up in the places prescribed for them in a village, and should be worshipped also according to the rules laid down for each one of them. Images which have their hands held in the *yōga*, the *abhaya* and the *varada mudrās*, and which are represented as being worshipped by Indra and other minor gods, are said to belong to the *sātvikī* aspect. Those which hold weapons in their hands and have the *varada* and the *abhaya mudrās*, whether standing on *pīṭhas* or riding upon *vāhanas* (or vehicles) and adorned with a number of ornaments and draped in different clothes, belong to the *rājasī* aspect. And those images which are sculptured as engaged intently upon war with the *asuras*, and are shown in the *terrific* aspect (*ugra*) as killing demons, are said to be of the *tāmasī* aspect. In the case of the image of Vishṇu it is said to be of the *sātvikī* aspect if it has two of its hands in the *varada* and the *abhaya* poses and holds in the other two the *śaṅkha* and the *padma*; of that of Śiva (Sōma), if it has two hands in the *varada* and the *abhaya* poses and carries in the two others the *mṛiga* and the *vādya* (either perhaps a *ḍamaru* or a *vīṇā*); of that of Gaṇēśa, if it has two hands in the *abhaya* and the *varada* poses and holds in the other two hands a lotus and a *laḍḍuka* (a cake); of that of Sūrya, if it has two hands in the *varada* and the *abhaya* poses and carries in the other

two hands a *padma* and an *akshamālā*; and of that of Lakshmī, if it has two hands in the *varada* and the *abhaya* poses and bears in the remaining two hands a *vīṇā* and a fruit of the *mātuluṅga*.

The following table of linear measure is given in the *Śukranīti* :—

4 Aṅgulas make	. . . . .	1 Mushṭi.
12 Aṅgulas „	. . . . .	1 Tāla.

A height of—

7 Tālas is prescribed for the image of a dwarf.

8 Tālas is prescribed for the image of human beings.

9 Tālas is prescribed for the image of divine beings.

10 Tālas is prescribed for the image of demoniac beings (*rākshasas*).

Images of gods may also be made in the *sapta-tāla* and other measurements also, according to the practice of each country or province; but those of female deities should, according to this authority, be made only in the *sapta-tāla* proportion. The images of Nara-Nārāyaṇa, Rāma, Narasiṁha, Bāṇa, Bali, Indra, Paraśurāma and Arjuna should be sculptured according to the *daśa-tāla* proportion; while those of Chaṇḍi, Bhairava, Vētāḷa, Narasiṁha (?), Varāha and other terrific (*krūra*) deities, and of Hayagrīva, should be represented in the *dvādaśa-tāla* proportion. Representations of *piśāchas*, *asuras* and of the demons Hiraṇyakaśipu, Vṛitrāsura, Hiraṇyāksha, Rāvaṇa, Kumbhakarṇa, Namuchi, Śumbha, Niśumbha and Mahishāsura should be sculptured in the *shōḍaśa-tāla* proportion. For making images of children the *pañcha-tāla* proportion should be employed whereas for those of young boys, the *shaṭ-tāla* proportion should be followed. Again, the *daśa-tāla* was the proportion of the beings who lived in the Kṛita yuga; the *nava-tāla* of those of the Trētāyuga; the *ashṭa-tāla* of those of the Dvāparayuga, and the *sapta-tāla* of those of the Kali yuga; although the passage giving this piece of information may also be taken to mean that the images of beings, who are stated in the *Purāṇas* to have belonged to the Kṛita, Trēta, Dvāpara and the Kali yugas, should be shaped in the *daśa*, *nava*, *ashṭa* and *sapta-tāla* proportions respectively. An image made out of white stone is considered to be of the *sātvikī* kind; those made of yellow or red stone are of the *rājasī* kind; and those made of black stone, of the *tāmasī* kind. The stones that are required to be employed in the making of images of gods of the Kṛita, Trēta, Dvāpara and Kali yugas should be respectively of the white, yellow, red and black colours. Again, the white variety of stone should be used for sculpturing images of Śiva; the black variety for those of Vishṇu, and the red variety for those of Sūrya, Gaṇēśa and Śakti.

Images should not be sculptured as either too stout or too lean, but must be of a fairly developed body. The idea of beauty, says the *Śukranīti*, is different for different men; what is beautiful for one might not be so for another; and a piece of sculpture acceptable to all as of great artistic merit would be only one in a hundred thousand. So then, that image which is shaped according to the canons of art laid down by the ancients, and which looks all right, is to be considered as a beautiful one; those which are not made in conformity with the *śāstras* do not please artists, but might be considered beautiful by some.

If no definite description of the image of a divine being is found in works of authority, the image should be taken as possessing four arms; and if no rules are laid down regarding the posture and the attributes of the several hands, then those hands which are held at a lower level than the others should be in the *abhaya* and the *varada* poses; while those held at a higher level alone should carry such objects as the *śaṅkha*, the *chakra*, the *aṅkuśa*, the *pāśa*, the *ḍamaru*, the *śūla*, the lotus, the *Kamaṇḍalu*, the *sruva* (and the *sruk*), the *laḍḍuka*, the fruit of *mātuluṅga*, the *vīṇa*, the *akshamālā* and the *pustaka*.

If more heads than one are prescribed for any deity, they should be arranged on a line with each other, and each one of them should possess a separate neck, *makuṭa* and a pair of ears and eyes. If more arms than two are mentioned for any image, they should be so attached as not to make the width of the shoulders exceed the standard proportion. In the case of Brahmā his four faces should be sculptured as facing the four quarters of the globe, and in the case of Hayagrīva, Varāha, Narasiṁha and Gaṇēśa, the body should be that of a human being; while the nails of Narasiṁha alone should resemble those of the lion.

One can order the image of one's *ishṭa-dēvatā* (the god who is dear to one) to be sculptured either standing or seated on a pedestal (*āsana*, *pīṭha*, etc.), or riding upon a *vāhana* (vehicle), but it must be of due *śāstraic* proportions. As far as possible the images of the majority of the gods should, unless it is expressly ordained otherwise, be made to look like persons of sixteen years of age, without unduly long moustache, thick brows or long eyelashes. The clothes with which they are draped should descend to the ankles; and they should be adorned with different well-wrought ornaments. The joints in the body should be sculptured so as not to show any harsh lines; that is, sharp definition of the muscles connecting the joint between two bones, however correct anatomically, should not occur in an image.

In making images of sand, earth and flour, and in the case of paintings, the proportions laid down need not be strictly followed at all: images in these materials, and paintings, even though they be slightly defective in their proportions, do no harm to their worshippers.

Rules for the making of images are also found in Varāhamihira's *Bṛihat-saṁhitā*. A table of proportions given in this work with an illustration drawn according to those measurements, is also added.

The Uttama-Dasa-Tāla Measure.

Parts of the body measured.	Measurement according to the Śilparatna.		Amśumad-bhēdāgama.		Kāraṇāgama		Kāmikāgama.		Vaikhānas-āgama.	
	Aṅg.*	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Vertical measurements (*Māna*).										
The height of the *ushṇīsha* . .	1	3	1	3	1	0	1	0	1	3
From the bottom of the *ushṇīsha* to the end of the front hair.	3	0	3	0	3	0	3	0	3	0
From the end of the front hair to the *akshi-sūtra.*	4	3	...	..	4	4	4	4	4	3
From the *akshi-sūtra* to the end of the nose.	4	3	...	...	4	4	4	4	4	3
From the end of the nose to the end of the chin.	4	3	4	3	4	4	4	4	4	3
The small fleshy fold below the chin	0	4	...	...	0	4	0	4	0	4
Height of the neck . . .	3	7	...	...	4	0	4	0	3	7
From the *hikkā-sūtra* to the middle of the chest.	13	3	13	3	13	4	13	4	13	2
From the middle of the chest to the navel.	13	3	13	3	13	4	13	4	13	3
From the navel to the root of the penis.	13	3	13	3	13	0	13	0	13	3
From the root of the penis to the end of the thigh.	27	0	27	0	27	0	27	0	26	5
The length of the knee . . .	4	0	4	0	4	0	4	0	4	3
The length of the foreleg . .	27	0	27	0	27	0	27	0	26	5
The height of the foot (from the ankle to the ground).	4	0	4	0	4	0	4	0	4	3
From the tip of the toe to the back of the heel.	17	0	17	0	...	...	..	...	17	0
From the bony projection at the ankle to the root of the toe.	...	...	...	...	9	4	...	...	...	...
The length of the upper arm from the *hikkā-sūtra* to the elbow.	27	0	27	0	27	0	...	...	27	0
The length of the elbow . . .	2	0	2	0	2	0	...	...	2	0
The length of the forearm . .	21	0	21	0	21	0	...	...	21	0
The length of the palm of the hand from the wrist to the tip of the middle finger.	13	4	13	4	13	4	...	...	...	...
Measurement of widths (*Pramāṇa*).										
The width of the face . . .	12	4	12	4	...	...	...	...	14	0
The width of the face at its end (?) .	13	4	13	4	...	...	...	...	...	...
The width of the neck at the top .	9	4	9	4	8	4	...	...	9	4

* This abbreviation has been used here and in the other places of this work to mean Aṅgula.

Parts of the body measured.	Measurements according to the Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Kāmikāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Measurement of widths (*Pramāṇa*)—*contd.*										
The width of the neck at the bottom	10	0	10	0	9	6	...	...	...	...
The width from shoulder to shoulder, immediately below the *hikkā-sūtra*.	40 (?)	0	27	0	...	...	...	...	44	0
The distance between the armpits .	22	4	22	4	24	0	...	...	24	0
The width of the arm where the biceps ends.	9	4	...	...	9	2	...	...	...	...
The distance between the nipples .	21	0	...	...	...	...	...	...	20	...
The width of the chest at the place where it ends and the abdomen begins (*madhyapradēśa*).	19	0	19	0	18	4	...	...	...	...
The width of the abdomen along the *nābhi-sūtra*; this region is called the *Śroṇidēsa*.	3	4 (?)	16	0	...	...	...	...	...	...
The width of the *Sronidēśa* . .	20	4	20	4	...	...	...	...	20	0
The width of the male-organ . .	1	2	...	...	...	...	...	...	...	...
The width of the thigh at its root .	...	...	...	...	13	4	...	...	13	3
The width of the thigh at its middle	13	6	14	2	...	...	...	...	11	0
The width of the thigh at its lower end.	...	...	...	..	9	4	...	...	...	...
The width of the knee . . .	8	6	9	6	8	4	...	...	9	4
The width of the portion where the knee ends and the foreleg begins.	5	2	...	...	8	1	...	...	...	...
The width of the foreleg at its middle	6	6	6	6	...	...	...	...	7	0
The width of the shaft of the foreleg (*naḷaka*).	4	6	4	6	...	...	...	...	4	4
The distance between the inner bony projections of the ankles.	5	3	5	3	5	0	...	...	5	0
The width of the heel . . .	4	4	4	4	...	...	...	...	3	4
The height of the heel (from the ankle to the ground).	4	4	4	4	...	...	...	...	4	4
The width at the middle of the sole.	6	2	6	2	5	2	...	...	5	4
The breadth of the sole at the toe end.	7	0	7	0	6	0	...	...	...	...
The length of the great toe . .	4	2	4	2	4	0	...	...	4	0
The width of the same . . .	2	1	2	1	6 (?)	0	...	...	2	0
The width of toe-nail . . .	1	½	1	½	1	2	...	...	...	...
The length of the same . . .	0	6⅜ (?)	6	⅜ (?)	1	2	...	...	...	...
The length of the second toe . .	4	3	4	3	4	3	...	...	4	1
The length of the middle toe . .	3	6	3	6	3	4	...	...	3	7

PARTS OF THE BODY MEASURED.	MEASUREMENTS ACCORDING TO THE							
	ŚILPARATNA.		AMŚUMADBHĒDĀGAMA.		KĀRAṆĀGAMA		VAIKHĀNASĀGAMA.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
MEASUREMENT OF WIDTHS (*Pramāṇa*)—*contd.*								
The length of the toe next to that .	3	1	3	1	1	4 (?)	3	4
The length of the small toe . .	2	4	2	4	2	0	3	0
The width of the toe next to the great toe.	...	...	...	...	1	1	1	1
The width of the middle toe . .	...	...	...	...	1	0	1	½
The width of the toe next to that .	...	...	...	...	1	0	1	0
The width of the small toe . .	...	...	...	...	1	0	1	0
Of the total breadth of the nails of each toe a fourth should be that of the surrounding strip of flesh that keeps them bound to the toes.								
The *Kāraṇāgama* gives 5½, 4½, 4 and 3 *yavas* as the lengths and breadths of the nails of the toes.								
The width of the arm at the biceps.	7	3	8	3	8	4	9	0
The width at the elbow . . .	7	2	7	2	7	4	7	4
The width of the forearm . .	5	6	5	6	5	3	7	0
The width at the wrist . . .	3	6	3	6	4	0	4	0
The length of the palm of the hand, *minus* the fingers.	7	0	7	0	7	0	7	0
The length of the middle finger .	6	4	6	4	6	4	6	4
The length of the ring-finger . .	5	2	5	2	5	2	5	2
The length of the forefinger . .	5	1	5	1	5	2	5	1
The length of the little finger.	4	2	4	2	4	1	4	2
The length of the thumb . .	4	2	4	2	4	1	4	1
The width of the thumb at its root.	1	2	1	2	1	4	...	...
The width of the middle finger at its root.	1	1	1	1	1	1	1	1
The width of the forefinger at its root	1	0	1	0	1	0	1	0
The width of the ring-finger at its root.	1	0	1	0	0	7	0	7
The width of the little finger at its root	0	6	0	6	0	6	0	6
The width of the fingers at the tips is less by $\frac{1}{16}$ of their width at the root.								

Parts of the body measured	Measurements according to the Śilparatna. Aṅg.	Śilparatna. Yava.	Aṁśumadbhēdāgama. Aṅg.	Aṁśumadbhēdāgama. Yava.	Kāraṇāgama. Aṅg.	Kāraṇāgama. Yava.	Vaikhānasāgama. Aṅg.	Vaikhānasāgama. Yava.
Measurement of widths (*Pramāṇa*)—*contd.*								
Five-sixths of the width at the tips of the fingers is the width of the nail of each finger.								
The lengths of the nails of the fingers are five-fourths of their width.	...	...	...	...	...	...	The width of the digit of the thumb which bears the nail. 2	4
The nails of the toes should be circular and those of the fingers oval in shape.								
The length of the digit of the finger bearing the nail should be twice the length of the nail.	...	...	...	...	...	...	of the index finger. 1	4
							of the middle finger. 1	7½
							of the ring-finger. 1	4
							of the small finger. 1	2
The length of that digit of the thumb which is near the palm.	2	1	2	1	...	...	The width of that digit of the thumb which is near the palm. 1	4
The length of that digit of the middle finger next to the palm.	2	2	2	2	...	...	of the index finger. 1	6
The length of that digit of the index finger next to the palm.	2	0	2	0	...	...	of the middle finger. 2	2
The length of that digit of the ring-finger next to the palm.	2	0	2	0	...	...	of the ring-finger. 1	6½
							of the small finger. 1	4
The length of that digit of the little finger next to the palm.	1	5	1	5	...	...	The width of the middle digit of the index finger. 1	5
The lengths of the middle digits of each finger should be the arithmetical mean of the lengths of the extreme digits of each finger.	...	...	...	...	...	...	of the middle finger. 2	0
							of the ring-finger. 1	5½
							of the small finger. 1	3
There should be only two digits in the thumb, while the other fingers should have each three digits.	...	...	...	...	...	...		
The width of the palm at its finger end.	5	4	5	4	6	1	...	...
The width of the same at its middle	6	0	6	0	...	...	...	...
The width of the same near the wrist	6	4	6	4	7	0	6	4
The length of the space between the root of the thumb and the root of the forefinger.	3	4	3	4	...	...	3	4
The distance between the root of the thumb and the wrist.	4	0	4	0	...	...	...	...
The thickness of the wrist	...	...	1	4 (?)	...	...	...	...
The thickness of the palm of the hand near the wrist (*Pārshṇihasta*).	3	0	3	0	...	...	4	0

Parts of the body measured.	Measurements according to the Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Measurement of widths (*Pramāna*)—*concld.*								
The thickness of the same near the finger end.	1	0	...	...	1	6	The width of the *Pārshṇihasta*. 3	6
The shape of the two halves of the palm near the wrist should be that of the body of a parrot.							The width of the portion resembling the belly of the parrot. 2	6
							The thickness of this portion. 2	4
At the roots of the fingers there should be strips of flesh 4 *yavas* in thickness.								
The thickness of the palm should decrease from the wrist to the finger by 5, 4 and 3 *yavas*.								
There should be fine lines in the shape of a *yava*, *chakra*, *śūla*, *padma* or *kuśa* drawn on the palm of the hand. Their depth should be one eighth of a *yava*.	...	...	...	...	...	...	According to the Vaikhānasāgama the line called the *āyūrēkhā* (the line of life) should begin from near the root of the small finger and should reach the side of the root of the index finger; 6 *yavas* below this line should be the *vidyārēkhā* (the line of learning); from the middle of the bottom of the palm right up to the finger end of the palm should be the *brahmarēkhā*. Besides, there should be other lines resembling in shape the outlines of the *śaṅkha*, *chakra*, etc.	
Circumferential Measurements (*Parimāṇa*).								
The circumference of the head round where the ears are attached to the head.	38	0	38	0	...	...	42	0
The distance, measured behind, from ear to ear.	11	7	11	7	...	...	13	0
The distance, measured in front, from ear to ear.	22	0	22	0	...	...	26	0
The width of the place where the ear is attached.	2	0	2	0	...	...	1	4
The circumference of the chest	...	...	...	...	75	0	...	...
The girth of the abdomen at the navel.	...	...	...	...	43	0	...	...
The girth at the hip	...	...	...	...	50	0	...	...

Parts of the body measured.	Measurements according to the Silparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*).								
(a) *The face.*								
1. *Measurement of the length of the hair of the head.*								
Śirōmadhya-maṇḍala (?) (The portion of the head covered by the crown.)	4	0	4	0	...	...	...	...
Maṇḍalāt-agra-kēśāntam (?) (From the circumference of this circle to the front hair.)	9	0	9	0	...	...	...	...
Maṇḍalāt-karṇa-kēśāntam (?) (From this circle to the side hair near the ear.)	9	0	9	0	...	...	...	...
Maṇḍalāt-pṛishṭha-kēśāntām (?) (From the circumference of this circle to the back hair.)	10	4	2	4	...	...	...	...
From the *ushṇīsha* to the front hair	...	...	...	...	9	0	9	0
From the same to the *karṇa-kēśa* (the hair next to the ear).	...	...	...	...	12	0	9	0
From the same to the back hair .	...	...	...	...	13	4	12	0
The width of the forehead . .	9	0	9	0	...	...	...	...
2. *Measurements of the eye.*								
The brow should lie exactly between the front hair and the *akshi-sūtra.*	...	...	...	...	...	...	From the front hair to the middle of the brow (*Kēśāntātbhruvōr-madhyam*). 3	0
The space between the inner ends of the brows.	0	4½	0	4½	...	...	1	0
The length of the brow . . .	5	0	5	0	6	0	5	4
The breadth of the brow at its middle	0	2	0	2	...	...	...	...
The shape of the brow should be that of the crescent moon or that of a stringed bow.								
The diameter of the pupil (*kanīnikā*)	0	1	0	1	...	...	0	1
The diameter of the black ball of the eye.	0	6	0	6	0	6	0	6
The lengths of the whites of the eye on either side of the black ball.	0	6	0	6	0	6	0	6½
The shape of the eye should be like the outline of a fish, the petal of the lotus flower or like the half moon.								
At the ends of the eyes there should be half a *yava* of red flesh.								
It is stated that in the middle of the pupil (*kanīnikā*) there is what is called the *jyōtirmaṇḍala* whose diameter is said to be a *yava*.								

PARTS OF THE BODY MEASURED.	MEASUREMENTS ACCORDING TO THE							
	ŚILPARATNA.		AMŚUMADBHĒDĀGAMA.		KĀRAṆĀGAMA.		VAJKHĀNASĀGAMA.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
DISTANCES OR INTERSPACES (*Upamāna*)—*contd.*								
2. *Measurement of the eye*—contd.								
The breadth of the upper lid (in the open eye).	0	1¼	0	1½	...	...	0	2
The breadth of the lower lid . .	0	1¼	0	1½	...	...	0	1½
The length of the eyelids . .	2	2	2	2	2	3	...	...
There should be 90 lashes in each eye-lid, according to the *Kāraṇāgama*.								
The distance between the eyes .	2	2	2	2	2	3	...	..
The length of the eyes . . .	...	...	...	...	2	2	...	...
The width of the eyes . . .	0	6	0	6	...	...	2	0 (?)
3. *Measurements of the nose.*								
The length of the *nāsā-puṭa* (the wing of the nose).	2	2	2	2	...	...	2	2
The width of the same . . .	1	1	1	1	1	1	1	0
The thickness of the same at the base of the nose.	0	4½	0	4½	0	4	0	6
The portion between the upper lip and the base of the nose, which is depressed like a cup, is known in Sanskrit by the name of *gōjī*.								
The height of the tip of the nose from the *gōjī*.	2	0	2	0	2	1	2	0
The length of the hole of the nostril .	0	7½	0	7¼	0	3 (?)	...	...
The breadth of the same .	0	5	0	5	0	5	...	...
The *nāsikā-puṭa* should resemble the seed of the long bean, and the shape of the nose should be like that of the flower of sesamum.								
The septum or wall between the two nostrils is called in Sanskrit *pushkara*.								
The length of the *pushkara* along the base of the nose.	1	0	1	0	1	0	1	0
Its thickness	0	3	0	1 (?)	...	...	...	...
The height above the *nāsā-puṭa* of the tip of the nose.	0	1¼	0	1½	...	...	0	1½
The length of the *gōjī* . . .	0	4½	0	4½	0	4	0	4
Its breadth	0	2¼	0	2¼	...	...	0	2
Its depth	0	1	0	1	...	...	...	...

Parts of the body measured.	Measurements according to the Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
4. *Measurements of the mouth.*								
The lips.								
The length of the upper lip, which is also the length of the mouth.	4	2	4	2	4	3	4	½
The breadth of the upper lip at its middle.	0	3½	0	3½	0	3	0	3½
The breadth of the upper lip should gradually diminish from the middle to the sides.								
There should be a thin rim throughout the length of the upper lip (*pāli* in Sanskrit) whose thickness should be a *yava*; and the rim should slant from 3½ *yavas*, the breadth of the middle part of the upper lip, to half a *yava* at its extremity. The upper lip should have three bends along its length.								
The length of the lower lip . .	2	2	2	2	2	0	...	...
Its breadth at the middle . .	1	1	1	1	1	1	...	...
The thickness of the *pāli* of the lower lip.	0	1½	0	1½	...	...	...	...
The *pāli* of the lower lip should be turned downwards.								
The height of the tip of the upper lip, from the chin.	0	6½	0	6½	0	7	...	...
The mouth should always be sculptured so as to express a smiling appearance.								
The cheeks.								
The *snāna* (?) of the cheek from the chin.	0	1½	...	...	...	...	1	½
The breadth of the cheek . .	3	4	...	...	...	...	3	0
The length of the cheek . . .	...	...	...	...	2	0	...	...
The height or convexity of the cheek (*vardhana*).	...	...	...	...	3	0	...	...
The cheek should be oval in shape.								
The chin.								
The length of *hanu-chakra* (the oval elevation at the chin).	...	...	...	...	...	...	0	6
The breadth of the same . .	...	...	...	...	...	...	0	3

Parts of the body measured.	Measurements according to the Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
4. *Measurements of the mouth*—contd.								
The teeth.								
The length of the four upper front teeth.	...	...	...	...	...	...	0	3
The width of these teeth . .	...	...	...	...	...	...	0	3
The length and width of the four lower front teeth.	...	...	...	...	...	...	0	2½
The length of the canine teeth .	...	...	...	...	...	...	0	4
The shape of the canine teeth should be like the (jasmine) bud.								
The length of the teeth in the lower jaw, corresponding to the canine teeth.	...	...	...	...	...	...	0	4½
The width of the molar teeth is the same as that of the front teeth and their length is half a *yava* longer than that of the front teeth. There should be five teeth, besides the canine tooth, on each side of the front four teeth. Total, 32 teeth.								
The tongue.								
The length of the tongue . .	...	...	...	...	...	...	6	0
The width of the same . . .	...	...	...	...	...	...	3	0
The length and width of the uvula.	...	...	...	...	...	...	1	0
Measurements of the ear.								
At the junction of the ear with the cheek, the length of the *karṇa-bandha.*	10	0	10	0	...	...	10	0
A space of 1¾ *aṅgulas* outside the ear is called the *karṇa-veśa.*								
Here the ear should spring up.								
The distance between the ears measured in front of the head.	...	...	...	...	21	0	26	0
The distance between the ears measured behind the head.	...	...	...	...	13	0	13	0
The distance between the eye and the ear.	7	0	7	0	...	...	6	0
The length of the ear . . .	...	...	...	...	8	0	6	0
The breadth of the ear . . .	2	2	2	2	2	0	2	0
The height of the top of the ear from the *nētra* or *akshi-sūtra.*	2	2	2	2	...	...	...	...
According to the *Kāraṇāgama*, the top of ear should be on a level with the *bhrū-sūtra.*								

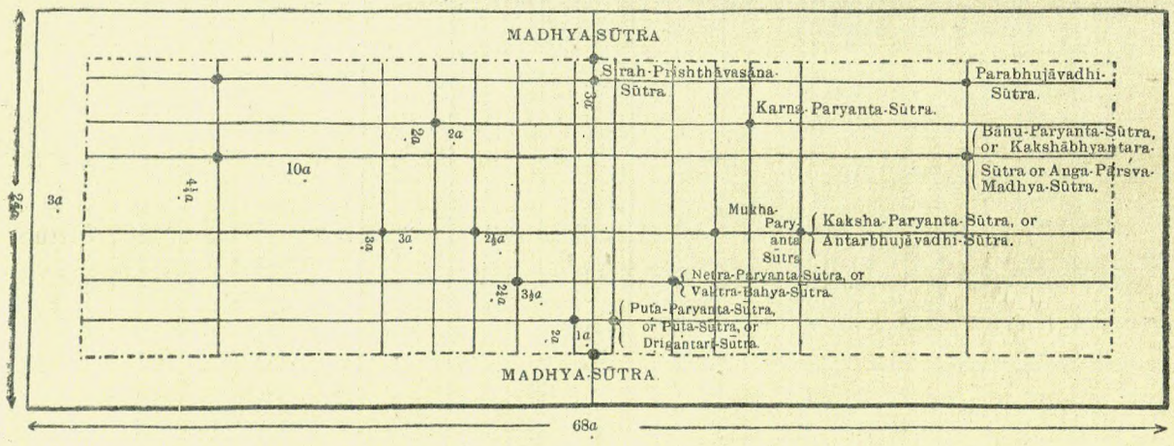
Parts of the body measured.	Measurements according to the Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
Measurements of the ear—contd.								
The breadth of the portion of the ear that is folded inwards on the top.	1	1	1	1	...	...	...	...
The rest of the ear should be circular in shape (?).								
The length of the ear below the *nētra-sūtra*.	2	1	2	1	...	...	...	...
The length of the bored and pendulous lobe of the ear, called the *nāla* in Sanskrit.	4	4	4	4	4	0	...	...
The width of this strip of flesh in front	1	0	1	0	...	...	...	...
The width of the same at the back .	1	4	1	4	...	...	...	...
The thickness of the same . .	0	4	0	4	0	3	0	4
The distance between the two pieces of the *nāḷa*, the front and back pieces.	...	...	4	6	...	...	...	...
The total length of the ear, from top to the bottom of the *nāḷa*.	8	7	9	7	8	0	...	...
The thickness of the *pippalī* or antitragus.	1	4	...	...	...	...	...	...
The length of the same . . .	3	0	...	...	...	...	1	0
Its height	0	4	...	...	0	4	...	...
The *pippalī* should have decreasing width from the top to the bottom.								
A member designated the *piñchhalī* (tragus) is said to be at the place wherein the ear resembles the letter *la* (written as in the Grantha alphabet). Its length is . .	2	0	...	...	...	...	...	...
The width of the *piñchhalī* . .	1	4	...	...	...	...	...	...
The distance of the hole of the ear below the *nētra-sūtra*.	1	4	...	...	...	...	...	...
This ear hole should be round.								
The thickness of the rim of the ear .	0	1½	...	...	0	2	...	...
The width of the ear at the back .	1	4	...	...	...	...	...	...
Measurements of the back of body. The distance between the back hair and the ear.	1	4	1	4	...	...	...	...
The thickness of the *kritāni* (?) at the back of the ear.	0	4	...	...	...	...	...	...
The length of the ear at the back below the *kritāni*.	4	3	...	...	...	...	...	...
The distance between the back of the ear and the raised part of the nape of the neck called in Sanskrit the *kṛikāṭī*.	10	0	...	...	...	...	...	...

PARTS OF THE BODY MEASURED.	MEASUREMENTS ACCORDING TO THE							
	ŚILPARATNA.		AMŚUMADBHĒDĀGAMA.		KĀRAṆĀGAMA.		VAIKHĀNASĀGAMA	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
DISTANCES OR INTERSPACES (*Upamāna*)—*contd.*								
Measurements of the back of body—contd.								
The height of the nape of the neck below the back hair.	4	3	...	...	...	...	...	...
The width of the nape of the neck at the top.	9	0	...	...	...	...	...	...
The width of the bottom . .	10	4	...	...	9	6	...	...
The nape of the neck should be broader at the base than at the top and the girth of the neck should be circular.								
The distance between the armpits measured behind the back.	27	4	...	...	27	0	...	...
The height of the shoulder-blade above the armpit.	7	0	...	...	...	...	...	...
The length of the upper arm from the armpit.	7	0	...	...	...	...	...	...
The width of the back at the *madhya-sūtra*.	16	4	...	...	...	...	...	...
The width of the back at the *nābhī-sūtra*.	20	4	...	...	...	...	...	...
The width of the waist at the back .	18	0	...	...	...	...	...	...
The width of each glutial . .	9	6	...	...	...	...	...	...
These should be spherical in shape.								
The width of the space between the glutials.	0	4	...	...	...	...	...	...
Measurements of the width on the sides.								
The width of the side of the body near the armpits.	7	0	...	...	...	...	...	...
The width of the side of the body at the *stana-sūtra*.	16	2	...	...	...	...	...	
The width of the side at the *madhya-sūtra*.	12	2	...	...	...	...	...	...
The region below the *madhya-sūtra* is known as the *Śrōṇidēśa*.								
The width of the side of the body at the middle of the *Śrōṇi*.	17	0	...	...	...	...	...	...
The height or bulge of the *Śrōṇi* .	7	0	...	...	...	...	...	...
The height or bulge of the *Śrōṇi* should consist of 4 *aṅgulas* below and 4 *aṅgulas* above the *nābhi-sūtra*.								
The height of the hip below the *Śrōṇi*.	5	4	...	...	...	...	...	...
The width of the hip . . .	12	4	...	...	...	...	...	...
The *Śrōṇi* should be bulging near the hip								

Parts of the body measured.	Measurements according to the Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
Measurements of the width on the sides—contd.								
The glutials should be raised from the root of the thighs.								
The *nīvra* of the *Śrōṇi* . . .	4	4	...	...	...	...	...	...
The outline of the side of the body from the armpit to the abdomen should be slanting and the total slant is	2	4	...	...	...	...	...	...
In the case of Śiva the neck above the *hikkā-sūtra* should be blue in colour.								
The height of the nipples from the chest.	2	0	...	...	...	...	...	...
The diameter of the nipples . .	2	1	...	...	...	...	...	...
The height and diameter of the nut of the nipple (*chūchuka*).	0	2	...	...	...	...	...	...
The width of the navel . . .	1	2	...	...	...	...	...	...
The spiral in the navel should be clockwise.								
The width of the navel at the bottom	0	2	...	...	...	...	...	...
The width at base of the penis .	4	0	...	...	...	...	...	...
The length of the penis . . .	5	2	0	0	5	1	...	...
Its width	2	1	...	...	...	...	...	...
The proportion between the shaft and the nut of the penis is as 2 to 1.								
The width of the nut where it joins the shaft should be greater than that of the shaft by one *yava*. The *Kāraṇāgama* states that the width of the shaft is ⅛th less than that of the nut.								
The nut of the penis should resemble in shape the bud of a *nīlōtpala* flower.								
The length and width of the testes.	4	4	...	...	4	0	...	...
Their thickness	3	4	...	...	...	...	...	...
The thigh just below the testes should be fleshy and well developed.								
The width at the back of the knee-joint	4	2	4	2	...	...	...	...
The thickness of the knee-joint .	2	4	2	4	...	...	...	...
The middle and the sides of the body should be modelled beautifully.								
According to the *Vaikhānasāgama*, there should be marks resembling the *chakra* and *Śaṅkha* on the sole of the feet.								

PARTS OF THE BODY MEASURED.	MEASUREMENTS ACCORDING TO THE							
	SILPARATNA.		AMŚUMAD-BHĒDAGAMA.		KĀRAṆĀGAMA.		VAIKHĀNASĀGAMA.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
DISTANCES OR INTERSPACES (*Upamāna*)—*concld.*								
Measurements of the width on the sides—concld.								
The image should be made beautiful so as to produce a pleasing effect on the eye of the observer.								
The upper portion of the body (above the *madhya-sūtra*) should be exactly equal in length to the lower portion.								
In the sculpturing of the various limbs of the image, deviations of about one to six *yavas* from the standard measurements given above may occur and the resulting image, therefore, should not be treated as of faulty proportions. The artist may model images as well as he can and with due proportions.								

For measuring lengths along plumb-lines, an instrument called the *Lamba-phalakā* is employed. It is a plank two *aṅgulas* in thickness and measuring 68 *aṅgulas* in length and 24 in breadth. All round the plank a margin of 3 *aṅgulas* is left. A small hole, just a trifle larger than a *yava* in diameter, is bored in the centre of the margin along the length of the plank; this hole is meant for the *madhya-sūtra*. Other holes are bored for the *puṭa-paryanta-sūtra* (*nāsā-puṭa-sūtra*), *nētra-paryanta-sūtra*, *karṇa-paryanta-sūtra*, *kaksha-paryanta-sūtra*, and *bāhu-paryanta-sūtra*, in places marked on the accompanying diagram



SCALE 1"=8 AṄGULAS *Fig. 1.* LAMBA-PHALAKA

of the *Lamba-phalakā*. Through these are suspended by strings which are one *yava* in thickness, small plummets of iron or clay. In the case of reclining

figures the *sūtras* are strings stretched horizontally in front of the figure which is in the process of modelling. In the case of the *sthānaka-mūrti*, the *madhya-sūtra* which is suspended from the *śikhāmaṇi* (crest-jewel) set in front of the *kirīṭa* (crown) of the image, should pass through the middle of the forehead, between the brows, the middle of the nose, the neck, the chest, the abdomen, the private part and between the legs; it should touch the body at the tip of the nose and the middle of the abdomen. The top of the crown should then be 6 *aṅgulas* behind the *madhya-sūtra*; the middle point of the chin $\frac{1}{8}$ *aṅgula*; the *hikkā-sūtra*, 4 *aṅgulas*; the middle of the chest, $2\frac{1}{2}$ *aṅgulas*; the navel, $1\frac{3}{4}$ *aṅgulas*; the root of the penis, 2 *aṅgulas*; the middle of the thighs, 3 *aṅgulas*; the knee-joint 8 *aṅgulas*; the shin bone, 16 *aṅgulas*; of the total length of the great toe a portion measuring half an *aṅgula* is to be in front of the *madhya-sūtra* while the remaining portion of it, measuring $2\frac{1}{2}$ *aṅgulas*, is to be behind the *madhya-sūtra*. The *bāhu-paryanta-sūtra*, which is also known as the *aṅga-pārśva-madhya-sūtra*, should pass through the middle of the side jewel of the crown, the head, the sides of the ear, the inner side of the upper arm, the elbow, and the middle of the knee, the foreleg and the foot. The other *mādhya-sūtra* which is hung behind the middle of the back, should pass through the middle of the back of the crown, the head, the nape of the neck, the back-bone, between the two glutials, and the heels. The *vaktra-bāhya-sūtra* should pass by the side of the head, through the extremity of the mouth, side of the cheek, end of the chin, side of the *śrōṇi*, and the middle of the thigh and the foreleg.

All the six *sūtras* mentioned above should be suspended as far below as the *pīṭha* or pedestal on which the image is made to stand, whereas other *sūtras*, which are required for taking the measurements of particular limbs of the body, may be suspended as far as the lower extremity of those limbs.

The *nāsā-puṭa-sūtra* is also called the *dṛigantari-sūtra*, that is, the line passing through the inner margin of the eye near the nose. This *sūtra* also passes through the extremity of the mouth and is the same, therefore, as the *vaktra-bāhya-sūtra*. The *antarbhujāvadhi-sūtra* is the same as the *kaksha-paryanta-sūtra*, and is also sometimes called the *aṅga-pārśva-madhya sūtra*, a term which means the line which is to pass through the middle of the side of the body. The *sūtra* which passes through the back of the head, and is known as the *śirah-pṛishṭhāvasāna-sūtra*, is also the outer limit of the back hands of a figure with four arms.

Different names are given to the same *sūtra*, according as it is viewed from the front or the side of the *Lamba-phalakā*; for example, the *kaksha-paryanta-sūtra*, when viewed from the front of the *Lamba-phalakā*, is seen passing just in front of the arm-pit, and is therefore called the line that forms the limit of the arm-pits; the same *sūtra* when viewed from the side is seen passing just in front of the *bhuja* or the upper arm; hence it is called the line which forms the boundary of the inner upper-arm, or *antarbhujāvadhi-sūtra*.

If the image is a seated one, the six *sūtras* should be suspended as far as the *pīṭha* on which it is seated. The distance between the two knees in a

figure seated with crossed legs, as in the *yōgāsana* posture, is equal to half the total height of the corresponding standing figure, that is, 62 *aṅgulas*.

Madhyama-daśa-tāla.

It has already been stated that the principal deities, Vishṇu, Śiva, and Brahmā, should be represented by images made according to the *Uttama-daśa-tāla* measurement, and the details of the various parts of the human body according to this system have been given already. Let us proceed now with the description of the *Madhyama-daśa-tāla* measurement (Fig. (*b*), Plate IX).

The images of Umā, Sarasvatī, Durgā, Ushā, Bhūmi, Lakshmī, Jyēshṭhā and the Mātṛis should be sculptured according to the *madhyama-daśa-tāla* measurement. It is needless to inform the reader that Umā, Sarasvatī, Ushā, Bhūmi and Lakshmī are the consorts (*Śaktis*) respectively of Śiva, Brahmā, Sūrya and Vishṇu. Images of the *Śaktis* above mentioned are said to be of the *Uttama* (superior) variety, if they are made as high as the nose of the images of their respective husbands; they are of the *adhama* (inferior) variety if they are as high as the chest of their lords. If the distance between the nose and the chest of the male deities referred to above is divided into eight equal parts, nine images of each of the female deities could be made with their heights equal to the nine different heights arrived at in this way. These nine different images of varying heights are respectively called the *Uttamōttama, Uttama-madhyama, Uttamādhama; Madhyamōttama, Madhyama-madhyama, Madhyamādhama: Adhamōttama, Adhamamadhyama* and *Adhamādhama* varieties of images of the *Madhyama-daśa-tāla* measure. Or, the height of the nine varieties of images might also be obtained by taking the *Uttamōttama* and *adhamādhama* limits as the *hikkā-sūtra* (the horizontal line drawn across the neck touching the two shoulder tops), and the *Stana-sūtra* (the horizontal line connecting the two nipples), of the male figure, and dividing the distance between these into eight equal parts. When the male deities are in any other attitude except the vertically erect one, as for instance, sitting, dancing, etc., the Śaktis of the above mentioned male deities should be made only with reference to the heights of these latter when they are standing erect (*Sthānakamūrtis*).

There is yet another way in which the heights of Durgā, Jyēshṭhā, Lakshmī and the Sapta-mātṛikas can be determined, and it is with reference to the height of the *liṅga* set up in the central shrine of a temple.

In sculpturing the *Śaktis* in obedience to the *āgamic* rules, the artist should execute the work according to the dictates of his artistic instinct. The images of the female deities if made in a standing posture should be sculptured with their feet kept close to each other (*Sama-pāda*).

The height of the image of a female deity being thus determined, it is divided into 120 equal parts; each of these divisions is called an *aṅgula*, and this *aṅgula* is further divided into eight equal parts, each of which is equal to a *yava*. The measurements of the various parts of the human body are given in tabular form in terms of the *aṅgula* and *yava* thus obtained.

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements (made in front).				
The width of the *Ushṇīsha*	1	..	..	..
From the lower edge of the *Ushṇīsha* down to the end of the front hair.	3	..	..	..
The width from *ushṇīsha* to the end of the front hair	..	..	4	..
The distance from the end of the front hair to the *nētra-sūtra* (*see* figure).	4	6	4	2.2/3
From the *nētrasūtra* to the *nāsāpuṭasūtra*	4	4	4	2.2/3
From the *nāsāpuṭasūtra* to the chin	3	6	4	2.3/3
The height of the neck	4	..	4	..
From the *hikkā-sūtra* to the *stanasūtra*	13	..	13	..
From the *stanasūtra* to the *nābhisūtra*	13	..	13	..
From the *nābhisūtra* to the *yōnisūtra*	13	..	13	..
From the *yōnisūtra* to the knee joint	26	..	26	..
The width of the knee-cap	4	..	4	..
The length of the foreleg	26	..	26	..
The height of the foot from the ground	4	..	4	..
Total	120	..	120	..
II.—Minor measurements.				
(a) *The face.*				
i. *Ushṇīsha and the hair.*				
From the crown of the head to the end of the back hair	..	..	13	..
From the crown of the head to the end of the front hair	..	..	7	..
From the crown of the head to the end of the side hair	..	..	9	..
The face should be oval in shape.				
The width of the face at the top	11	..	..	..

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
ii. *The eye and the brow.*				
The length of the brow	..	..	5	..
The width at the middle of the brow	..	..	..	1
The distance between the end of the front hair (*kēśāntam*) to the eye-brows.	2	4	2	*i.e.*, from the highest point of the brows to the *kēśāntam*.
From the highest point in the brow to the *nētra-sūtra*.	2	2	..	..
The brow should be tapering at both its ends and should resemble the stringed bow.				
The distance between the inner ends of the brow	1	..	..	..
The distance between the two eyes	..	..	2	2
The length of the eye	..	..	2	2
The width of the eye	..	..	1	..
The width of the upper eye-lid	..	..	..	2
The width of the lower eye-lid	..	..	..	½
The diameter of the eyeball should be a third of the length of the eye.				
The point called *dṛishṭi* in the middle of the pupil (*Jyōtirmaṇḍala*) of the eye.	..	..	..	⅓
The eye should have, in their places, the white, red and black colours.				
iii. *The nose.*				
The end (tip ?) of the nose below the *nāsāpuṭasūtra*	1	1	..	..
The width of the nose at the upper end	..	..	..	4

Details of measurements.	According to the Aṁśumadbhēda.		According to the Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
iii. *The nose*—contd.				
The width of the nose at the lower extremity	..	..	1	1
The width of each *nāsāpuṭa* (the wing of the nose)	..	..	..	4
The height of the *nāsāpuṭa*	..	..	..	4
The thickness of the *nāsāpuṭa*	..	..	..	4
The width of the nostril	..	..	..	3
The width of the *vaṁśa* (the bridge of the nose)	..	..	1	..
iv. *The measurements of Gōjī.*				
The length of the *Gōjī*	..	$4\frac{1}{2}$	..	4
The width of the same	..	$2\frac{1}{4}$	..	2
The distance between the *Gōjī* and the tip of the nose.	2	..	..	..
v. *The measurement of the lips.*				
The length of the upper lip	..	..	4	..
Its width	..	..	..	3
The upper lip should be sculptured with three curves in it.				
The length of the lower lip	..	..	2	..
Its width	1	1	1	1
The lower lip should be shaped like the *arddha-chandra* (half-moon) and be of the fine red colour of the Bimba fruit (Tam. *Kōvai*).....				
vi. *The measurement of the teeth.*				
There should be sixteen teeth in the upper jaw and sixteen in the lower jaw.				
The width of each of the upper (front) teeth	..	..	..	2
The width of each of the lower (front) teeth	..	..	..	1

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula	Yava.
II.—Minor measurements—*contd.*				
vii. *The measurement of the chin.*				
The portion just below the lower lip forms a hollow between the lower lip and the chin and is called the *chibuka.*				
The length of the *chibuka*	..	..	..	4
Its depth	..	..	..	1
The lower lip should rise up from the *chibuka.*				
The chin is called the *hanu* ; its length . . .	..	..	3	..
The distance between the chin and the ear . .	3	4	..	..
viii. *The measurements of the ear.*				
The top of the ear should be on a level with the *bhrū-sūtra.*				
The distance between the outer end of the eye to the root of the ear.	..	..	6	7
The length of the ear	4	2	4	..
The width of the ear	2	..	2	..
The length of the hanging lobes of the ear (*nāḷa*).	5	..	5	4
The width of the back *nāḷa*	..	7	..	..
That of the front	..	4	..	..
The thickness of each *nāḷa* should be one half of their width and the *nāḷas* should bear ornaments.				
The thickness of the anti-tragus (*karṇa-pippalī*) .	..	..	..	4
The depth of the (cup of the) ear	..	..	..	4
Karṇa-paṭṭī (?)	..	..	..	
The distance as measured across the face, between the ears.	..	..	20	..

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
(b) *The neck.*				
The width of the neck at the top	7	..	7	..
The same at the bottom	8	1	8	1
(c) *The chest.*				
The distance between the *hikkāsūtra* and the *stana-sūtra* (the line joining the nipples).	..	..	12	..
The diameter of the breast (in female figures)	9	..	9	4
The diameter of the dark circle round the nipple (*akshi-maṇḍala*).	3	..	2	..
The height of the breast (above the chest)	4	4	10 (?)	..
The height of the nipple (above the breast)	..	4	..	2
The breast and the nipple should be beautifully spherical in shape.				
The width of the interspace between the breasts	..	$\frac{1}{8}$	..	..
The distance between the shoulders along the *stana-sūtra*.	31	..	32	..
The distance between the armpits (*kakshas*)	..	..	18	..
The width of the chest just below the breasts	13	4	14	..
(d) *The abdomen and the pubic region.*				
The width at the place where the chest ends and the abdomen begins (*madhyapradēśa*).	11	..	11	..
The width of the abdomen along the *nābhisūtra* (this region is called the *śrōṇi-dēśa*).	20	1	20	..
The whorl in the navel should be turned clockwise.				
The width of the navel and its depth, each	..	6	..	$\begin{cases} 6 \\ 2 \end{cases}$
The region just above the pudendum (*yōni*) is known as the *katipradēśa*. The width of this region.	24	..	26	..

Details of measurements.	According to the Aṁśumadbhēda.		According to the Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The elevated portion where the *yōni* is, is called the *yōni-pīṭha* ; its width.	7	..	..	..
The *yōni* should terminate like the leaf of the pipal tree.				
The width of the *yōni* at the top	4	..	5	..
The same at the bottom	..	..	1	..
The height of the *yōni* should be equal to its width (?)				
The *yōni* should be fleshy and be of gradually decreasing width from the top to the bottom.				
(e) *The legs.*				
The width of the thigh at the top	12	..	12	..
The width of the thigh at the middle . . .	..	..	11	..
The width of the thigh at the end	..	..	9	..
The width of knee-cap	7	..	8	..
The width of the foreleg at the top. . . .	..	..	7	4
The width of the foreleg at the middle . . .	6	..	6	..
The width of the shin bone (*naḷaka*) . . .	4	..	4	..
The distance between the inner bony projections at the ankle.	5	..	5	..
The width of the foot at the heel	4	..	4	..
The width of the same in the middle . . .	5	..	5	..
The width of the same at the toe-end . . .	6	..	6	..
The length of the foot from the heel to the end of the great toe.	16	..	..	..
The length between the ankle and the heel . .	..	..	4	..
The height of the heel from the ground . . .	..	..	4	..

Details of measurements.	According to the Aṁśumadbhēda.		According to the Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The height of the foot at the toe end	..	..	2	..
The length of the great toe and the one next to it	4	..	4	..
The length of the middle toe	3	4	3	..
The length of the next to this and the small toe	3	..	2	4
The length of the small toe	2	4	2	..
The width of the great toe	2	..	1	4
The width of the toe next to it	1	..	1	1
The width of the middle toe	..	$7\frac{1}{2}$	1	..
The width of the toe next to it	..	7	..	$7\frac{1}{2}$
The width of the small toe	..	6	..	6
According to the *Aṁśumadbhēdāgama*, the width of the nail of each toe is to be equal to two-thirds of their width and the length of the nails three-fourths of their respective widths; the shape of the nails of the toe is oval (*vṛittāyata*); but the *Kāraṇāgama* states that the width of the nails of the toes should be only one half the width of the latter.				
(f) *The arms.*				
The length of the upper arm (from the *hikkā-sūtra* to the elbow).	26	..	26	..
The length of the elbow	22	..	..	..
The length of the forearm	18	..	20	..
The length of the palm of the hand from the wrist to the roots of the fingers.	7	..	6	4
The width at the top of the upper arm	..	..	6	..
The same at the middle (along the *stana-sūtra*)	6	..	6	4
The same at the end	7	..	7	..
The length of the middle finger	6	..	6	4

Details of measurements.	According to the Aṁśumadbhēda.		According to the Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The length of the index finger	5	..	4	5
The length of the ring finger	5	..	4	6
The length of the little finger and that of the thumb	4	..	4	..
The width of the thumb	1	1	1	2
The width of the index finger	..	7	..	7½
The width of the middle finger	..	6	..	6
The width of the ring finger	..	7	..	7½
The width of the little finger	..	6	..	6
The width of each finger at its tip should be less than the width at the base by one-eighth.				
The width of the nail of each finger should be two-thirds of its width at the tip.				
The width of the nail of the thumb	..	..	..	7⅓
The width of the nail of the index finger	..	..	..	4½
The width of the nail of the middle finger	..	..	..	5½
The width of the nail of the ring finger	..	..	..	4½
The width of the nail of the little finger	..	..	..	3
The length of the nail of each finger should be equal to its width *plus* two *yavas*.				
The thumb has only two digits, while the other fingers three.				
There should be three lines traced on the palm of the hand.				
The thickness of the palm of the hand at its finger end should be less than that at the wrist end by an eighth part.				
The width of the elbow	5	..	5	2
The width of the wrist	3	..	3	2

Details of measurements.	According to the Aṁśumadbhēda. Aṅgula.	Aṁśumadbhēda. Yava.	Kāraṇāgama. Aṅgula.	Kāraṇāgama. Yava.
II.—Minor measurements—*concld.*				
The forearm should taper from its top to the bottom, from the elbow to the wrist, like the shoot of the bamboo.				
The whole of the leg should resemble the trunk of an elephant and the whole of the hand, the tail of a cow.				
(g) *Measurements at the back.*				
The width of the glutials	..	..	7	..
The height of the glutials from the root of the thigh.	..	..	3	..
The vertical distance between the nape of the neck and the waist.	..	..	26	..
From the waist to the end of the bladder (*mūtrāśaya* called also *basti*).	..	..	13	..
The distance between the arm pits at the back .	..	..	21	..
The height of the nape of the neck	..	..	4	..
Its width	..	..	12	..
The height of the neck, at the back, above the *hikkā-sūtra*.	..	..	4	..
Its width, its top and bottom	..	..	2	4
The distance, at the back, between the two ears .	11	4	11	4
The rest of the limbs which are not mentioned here should be sculptured according to the *Uttama-daśa-tāla* measure.				

Having given a general sketch of the measurements for all Śaktis, the *Aṁśumadbhēdāgama* proceeds to give the description of certain special features of the image of Gaurī.

The figure of Gaurī should have two eyes, two arms, a smiling mouth and a happy face. The head should be adorned with a *karaṇḍa-makuṭa, kirīṭa-makuṭa* or *kēśabandha*, whichever would tend to make the image beautiful. The

makuṭa is considered to be of the *adhama* variety if its height is 18, *madhyama* if it is 21, and *uttama* if it is 24 *aṅgulas*. The girth of the *makuṭa* at its lower end should exceed the girth around the scalp of the head by one *yava*. The *makuṭa* should be tapering from the bottom to the top, and the width of the *makuṭa* at its top should be less by one-seventh or one-eighth than that at its lower end. The top or finial of the *karaṇḍa-makuṭa* should resemble the bud of the lotus; this sort of *makuṭa* may have three, five or seven *karaṇḍas* or tiers, and should have four *pūrimas* (heart-shaped flat ornamented discs on the four sides of the *makuṭa*). The *karaṇḍa-makuṭa* itself should be adorned with different kinds of flowers. The other ornaments which are mentioned as necessary for adorning the figure of Gaurī are the flat fillet (*lalāṭa-paṭṭa*) which is tied over the forehead; *upagrīva, hāras, chhannavīra and yajñōpavīta;* pearl necklaces round the neck; *makara-kuṇḍalas* or circular *patra-kuṇḍalas* in the ears; *kaṭaka* on the forearm; *kēyūra* with *pūrima* on the upper arm, and *kaṭisūtra* or girdle round the waist.

The colour of Gaurī may be dark, but she should be sculptured as a very pretty woman with lovely breasts; there should be an *utpala* flower in her right hand, and the left arm should be hanging freely by her side.

Daśa-tāla according to the Śukranīti.

Parts measured.	Aṅgula.	Yava.
The length of the face	13	..
The length of the neck	5	..
From the *hikkā-sūtra* to the *stana-sūtra*	13	..
From the *stana-sūtra* to the *nābhi*	13	..
From the *nābhi* to the *mēḍhra*	13	..
The length of the thighs	26	..
The length of the knees	5	..
The length of the foreleg	26	..
The height of the foot	5	..
Śikhāmaṇi	1	..
TOTAL .	120	..

Parts measured.	Aṅgula.	Yava.
The length of the arms	50	..
The length of the foot	15	..
The length of the foot will be greater or less by one *aṅgula* in the other *tāla mānas*, according as they are of the higher or the lower order.		
The length of the arms in other *tāla-mānas* will either be greater or less by 2 *aṅgulas*, as the *mānas* are of the higher or the lower order.		
The proportions of all the *tāla-mānas* may be determined with reference to the *nava-tāla*, making it the standard *tāla-māna*.		
In all the *tāla-mānas* the length of the middle finger should be between 5 to 6 *aṅgulas* and no more or less.		

Adhama-daśa-tāla.

The *Adhama-daśa-tāla* measurement (Fig. (a) Plate X) is prescribed for making images of the Ṛishis, the Aśvinīdēvatās, Sūrya, Indra, Śāstā, Chandra, Chaṇḍēśvara, Kshētrapālaka and others. In this system of measurement, the total height of the image is divided into 116 parts, each one of which is taken to be an *aṅgula;* the *aṅgula* is, as in other instances, divided into 8 *yavas*.

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements.				
The height of the *ushṇīsha*	1	..	1	..
The distance from the *ushṇīsha* to end of the front hair (*kēśāntam*).	3	..	3	..
From the end of the front hair to the end of the chin.	12	4	12	4
The height of the neck	4	..	4	..
The distance from the *hikkāsūtra* to the middle of the chest (*stanasūtra*).	12	4	12	4
From the *stanasūtra* to the navel (*nābhi*) . .	12	4	12	4

Details of measurements.	According to the Kāraṇāgama.		According to the Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements—*contd.*				
Between the nābhi and the root of the penis (*mēḍhra-mūla*).	12	4	12	4
From the *mēḍhramūla* to end of the thigh . .	25	..	25	..
The length of the knee-cap	4	..	4	..
The length of the foreleg	25	..	25	..
The height of the foot from the ground . . .	4	..	4	..
Total .	116	..	116	..
II.—Minor measurements.				
(a) *The face.*				
i. *Ushṇīsha and the hair.*				
From the crown of the head to the end of the back hair.	12	4	12	4
From the same to the end of the front hair . .	5	..	5	..
From the same to the end of the side hair . .	8	..	8	..
ii. *The eye and the brow.*				
The distance between the end of the front hair and the chin should be divided into three equal parts; of this, the topmost part is the distance from the end of the hair to the *akshisūtra*; the middle one is equal to the length of the nose and the lowermost one represents the distance between the *nāsāpuṭa sūtra* and the end of the chin.				
The distance of the middle of the brow from the end of the front hair.	2	1	2	1
The length of the brow	5	..	5	..
The width of the brow at its middle . . .	..	1	..	1
The brow should be tapering at both its ends and should resemble the thin crescent of the moon.				

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava
II.—Minor measurements—*contd.*				
The distance between the two eyes . . .	2	1	2	1
The length of the eye	2	1	2	1
The width of the eye	..	6	..	6
The width of the upper eyelid	..	½	..	½
The width of the lower lid	..	½	..	½
That of the *karavīra* (?)	..	1	..	1
The diameter of the eye-ball should be a third of the length of the eye.				
The diameter of the *jyōtirmaṇḍala* of the eye (or the pupil).	..	1	..	1
The width of the point in the eye-ball which is called the *dṛishṭi*.	..	⅛	..	⅛
The *nētra-sūtra* should pass along the length of the lower eye-lid.				
iii. *The nose.*				
The width of the nose at its upper end . . .	..	3	..	3
The same at the lower end	1	..	1	..
The width of the *nāsāpuṭa* or the wing of the nose.	..	4	..	..
The height of the *nāsāpuṭa*	..	4	..	..
The thickness of the septum between the nostrils (*vaṁśa*).	..	4	..	..
The thickness of the wing of the nose . . .	..	½	..	..
iv. *The Gōjī.*				
The length of the *gōjī*	..	3	..	..
The width of the *gōjī*	..	1½	..	..

Details of measurements.	According to the Kāraṇāgama.		According to the Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
v. *The lips.*				
The length of the upper lip	4	..	..	..
Its width	..	3	..	..
It should have three bends.				
The length of the lower lip	2	..	2	..
Its width	1(?)	..	1(?)	..
vi. *The chin.*				
The width of the depression below the lower lip and above the chin is called the *chibuka*; its length.	..	2	..	2
Its width	..	2	..	2
Its depth	..	½	..	½
vii. *The ear.*				
The top of the ear should be on a level with the *bhrūsūtra*.				
The distance between the outer end of the eye and the root of the ear.	6	6	..	..
The length and width of the ear	2(?)	..	..	..
The depth of the external ear	..	4	..	..
The width of the *karṇa-pippalī*	..	4	..	..
The length of the hanging lobe (*nāḷa*)	2	..	The ear should be sculptured as described in the *uttama-daśa-tāla* measurement.	
The width of the front *nāḷa*	..	4		
That of the back *nāḷa*	..	7		
The thickness of each of the *nāḷas* shall be half of its width.				
The distance between the two *nāḷas*	1	..		

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The width (?) of the *karṇapaṭṭī* (?) . . .	..	2	..	..
The distance, measured across the face, between the two ears.	35(?)	..	..	..
The distance, measured behind the head, between the two ears.	12	..	..	..
(b) *The neck.*				
The width of the neck at the top	7	4	7	4
The width of the neck at the bottom . . .	8	..	8	..
(c) *The chest.*				
The width of the chest	27	..	37(?)	..
The vertical distance between the *hikkā-sūtra* and the armpits.	8	..	8	..
The distance between the armpits measured across the chest.	32(?)	..	22	..
The width of the chest at its lower end (*madhya-pradēśa*).	18	..	18	..
The diameter of the circle round the nipple . .	..	4	..	4
The height and diameter of the nipple . . .	..	2	..	2
The distance between the two nipples . . .	12	4	12	4
(d) *The abdomen and the pubic region.*				
The width of the abdomen	17	..	17	..
The width of the *śrōṇipradēśa* (about the navel) .	18	..	18	..
The width at the hip	18	..	18	..
The width of the navel	..	6	..	6
The depth of the navel	..	½	..	½

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The length and width of the testes	4	..	4	..
The length of the male organ	5	..	5	..
It should resemble the bud of the *nīlōtpala* flower.				
(e) *The legs.*				
The width of the thigh at its upper end . . .	12	4	12	4
The same at its lower end	9	4	9	4
The width of the knee-cap	8	4	8	4
The width of the calf at its middle	8	..	8	..
The width of the foreleg at its lower end . .	6	4	6	4
The width of the shin-bone	4	4	4	4
The width of the foot at the toe-end . . .	6	..	6	..
At its middle	5	..	5	..
The length of the foot from the root of the great toe to the heel.	12	4	12	4
The length of the great toe	4	..	4	..
The length of the second toe	4	1	3	6(?)
The length of the middle toe	4	1	3	6
The length of the fourth toe	4	..	4	..
The length of the little toe	3	4	3	4
The width of the little toe	..	7	..	7
The width of the fourth toe	1	..	1	..
The width of the middle toe	1	1	1	1
The width of the second toe	1	2	1	2
The width of the great toe	1	5	1	5

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The width of the toes at both the ends is to be the same.				
The length and width of the nails of the toe should be equal to two-thirds of the width of each toe.				
The thickness of the foot at the root of the great toe.	2	..	2	..
The thickness of the same at the root of the smallest toe.	1	1	1	1
The height of the foot from the joint of the bone of the foreleg with those of the foot.	4	..	4	..
The height of the heel	4	..	4	..
(f) *The arms.*				
The length of the upper arm (*bāhu*) . . .	25	..	25	..
The length of the forearm (*prakōshṭha*) . . .	19	..	19	..
The length of the hand from the lower end of the forearm to the tip of the middle finger.	12	4	12	4
The length of the palm of the hand (*minus* those of the fingers).	6	2	6	2
The length of the middle finger	6	2	6	2
The length of the thumb	2	2(?)	2	2(?)
The length of the ring-finger	4	4	4	4
The lengths of the index finger and the little finger .	4	..	4	..
The width of the thumb	1	2	1	2
The width of the index finger	..	7	..	7
The width of the middle finger	1	..	1	..
The width of the ring-finger	..	6	..	6
The width of the little finger	..	5	..	5

Details of measurements	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*concld.*				
The width of the nail of each finger should be two-thirds of the width at its tip and the length of each nail should be one *yava* in excess of its width.	..	..	The width of the nail of each finger should be four-fifths of the width at its tip and the length of the nail should be a fourth part greater than the corresponding width.	
The thumb should have two digits, while the other fingers three digits.				
There should be three lines running across the palm of the hand.				
The thickness of the palm of the hand at its wrist end.	2	..	..	..
Its thickness at the root of the fingers should be a eighth part less than that at the wrist end.				
The width of the palm should be equal to its length.				
The width of the wrist	3	2	3	2
The width of the forearm at its upper end . .	5	4	5	4
The width of the upperarm at its lower end . .	6	4	6	4
The width of the same at its middle . . .	7	..	7	..
The width of the upperarm at its upper end . .	8	..	8	..
(g) *The measurements at the back.*				
The width of the back parallel to the *stana-sūtra* .	..	..	25	..
The width and the length of the nape of the neck (*kakud*).	4	..	..	..
The distance between the *hikkā-sūtra* and the lower extremity of the shoulder blade.	4	..	..	..
The distance at the back between the armpits .	24	..	24	..

All other measurements omitted here should be supplied from those given under the *Uttama-daśa-tāla* measurement.

Measurement of images according to the Brihat-Saṁhitā.

The height with its pedestal of the image that is to be set up in a temple, according to the *Bṛihat-saṁhitā*, is seven-eighths of that of the gate of the central shrine. That of the pedestal alone is one-third of the total given above, and the remaining two-thirds is that of the image. The height of the image is divided into 108 equal parts, each of which is said to be an *aṅgula ;* the measurements of the various limbs of the image are given below in terms of this *aṅgula*.

Name of the part measured.	Dimension.	Remarks
	Aṅg.	
The length and breadth of the face, each . .	12	But Nagnajit gives them as 14 and 12 *aṅgulas* respectively. This is the measurement assumed in the Drāviḍa country.
The length of the nose and the ear, the height of the forehead, the chin and the neck should each be	4	
The distance between the tip of the chin from the neck.	2	
The breadth of the chin	2	The place where the face and the neck join is, according to the commentator, the *hanu* (chin).
The length of the forehead (horizontally) . .	8	
Behind the forehead and at a distance of two *aṅgulas* should be what are called the *śaṅkhas*, (?) whose lower parts should be four *aṅgulas* in length.		
The width of the ears	2	
The top end of the ear should be on a level with the *bhrū-sūtra.*		
The distance between the ear and the end of the brow.	1½	
The distance between the outside end of the eye and the ear is		According to Vasishṭha.
The width of the upper lip	½	
The width of the lower lip	1	
The width of the *gōchha* (*gōjī*)	½	
The length of the mouth	4	
The width of the mouth when it is closed (?) . .	1½	

Name of the part measured.	Dimension.	Remarks
	Aṅg.	
The width of the mouth when it is open (?) . .	3	
The length (and breadth ?) of the wings of the nose	2	
The height of the nose	2	
The distance between the eyes	4	
The length of the eyes and their lids . . .	2	
The diameter of the black-ball of the eye should be one-third of the length of the eye and that of the pupil, one-fifth of the black-ball.		
The width of the eye	1	
Distance between the extreme ends of the brows .	10	
The width of the brows	½	
The distance between the inner ends of the brows	2	
Length of the brows	4	
The border line of the hair (*kēśarēkhā*) of the head above the forehead should be of the same length as the combined lengths of the brows.		
The width (?) of this *kēśarēkhā* is said to be . .	½	
It is stated that at the end of the eyes there should be what is called the *karavīraka* (?) whose length is said to be	1	
The girth of the head	32	
The width of the head . . . . . But in a picture only 12 *aṅgulas* will be visible, the remaining 20 *aṅgula* will not be visible.	14	Nagnajit states that the length of the face including the *kēśarēkhā* is 16 *aṅgulas*.
The width of the neck	10 (?)	
The girth of the neck	21	
The distance between the neck (*hikkāsūtra*) and the chest (*stana-sūtra*).	12	
The distance between the chest (*stana-sūtra*) and the navel (*nābhi-sūtra*).	12	
The distance between the navel (*nābhi-sūtra*) and the penis (*mēḍhra-mūla*).	12	

Name of the part measured.	Dimension.	Remarks.
	Aṅg.	
The length of the thighs	24	
The length of the foreleg	24	
The length of the knee-cap	4	
The height of the foot	4	
The length of the foot	12	
The breadth of the foot	6	
The length of the great-toe	3	
The girth of the great-toe	5	
The length of the second toe	3	
The length of each remaining toe should be one-eighth less than that of the preceding one.		
The height of the great-toe	$1\frac{1}{4}$	
The length of the nail of the great-toe . . .	$\frac{3}{4}$	
That of the nails of the other toes ; or, they may be in the descending order of lengths.	$\frac{1}{2}$	
The width of the foreleg at the top . . .	5	
The girth of the same at the same place . .	14	
The width of the foreleg in the middle . . .	7	
The girth of the same at the same place . .	21	
The width of the knee	8	
The girth of the legs at the knee	24	
The width of the thigh at the middle . . .	14 (?7)	
The girth of the same at the middle . . .	28 (?)	
The width of the pelvis	18	
Its girth	44 (?54)	
The diameter of the navel	1	
Its depth	1	

Name of the part measured.	Dimension.	Remarks.
	Aṅg.	
The part of the abdomen about the navel is called the *madhya* (*dēśa*) and the girth at the *madhya*.	42	
The distance between the nipples . . .	16	
The distance between the nipple (*stana*) and the armpit (measured vertically ?).	6	
The distance between the neck and the end of the shoulder.	8	
The length of the upper arm . . . . (The same is the length of the forearms of the *parahastas* or the additional arms.)	12 (?)	
The width of the upper arm	6	
The width of the upper arm of the *parahastas* .	4	
The girth of the upper arm at its root . . .	16	
The girth of the arm at the wrist	12	
The length of the palm of the hand . . .	7	
Its width	6	
The length of the index finger should be less than the middle finger by one-half of the digit of the latter.		
The length of the ring-finger is also the same as that of the index finger.		
The length of the little finger should be less than that of the ring-finger by one digit.	..	Images should be sculptured with the peculiarities of form, ornaments, garments, etc., as to suit the nature of the country in which it is made.
The thumb has only two digits, while the other fingers three.		
The length of nails should be one-half the length of the digits of the respective fingers.	..	An image shaped according to the description and dimensions given here will give prosperity to the country.

Uttama=Nava=tāla measure.

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
Ūshṇīsha	1	..
The distance between the *ushṇisha* to the root of the hair (*kēśānta*) .	3	..
The distance between the root of the hair to the *akshi-sūtra* . . .	4	..
The distance between the *akshi-sūtra* to the end of the nose (*nāsā-puṭānta*).	4	..
The distance between the *nāsā-puṭānta* to the end of the chin (*hanvanta*)	4	..
The height of the neck	4	..
From the lower end of the neck to the middle of the chest (up to the *stana-sūtra*).	12	..
From the chest (*stana-sūtra*) to the navel	12	..
From the navel to the root of the penis (*mēḍhrānta*)	12	..
The length of the thighs	24	..
The length of the knee	4	..
The length of the foreleg	24	..
The height of the foot	4	..
TOTAL .	112	..
Measurements of the head and the face.		
The distance between the root of the hair on the centre of the forehead to the place at the back where the skull ends (measured from front to back).	18	..
The distance between the two ears, both in front and at the back, measured round the skull.	36	..
The width (measured vertically) of the forehead between the *kēśānta* and the lower end of the brow.	3	..
The width from the centre (or the cusp) of the brow to the *kēśānta* .	2	4
The width of the brow at its middle should be . . . . . It should taper from the middle to the end and resemble a stringed bow.	..	4

Parts measured.	Aṅgula.	Yava.
Measurements of the head and the face—contd.		
The length of the hair of the brow at its middle	..	3
That of the hair at the inner end of the brow	..	2
That of the hair at the outer end of the brow	..	1
When man is in deep deliberation over anything, in anger or in astonishment, his brows will contract in length; whereas when he is in disgust or looks at a thing scrutinisingly, the inner end of the brow will curl up a little.		
The line of the root of the hair above the forehead should form an arc resembling in curvature the shape of the moon on the second day (*dvitīyā*) of the bright fortnight.		
The places where the line of the roots of the hair (*kēśānta-rēkhā*) ends are known by the name *utkshēpa*.		
The outer ends of the brows should be at a level with the *utkshēpas*.		
Measurements of the forehead.		
The end of the region known as the *utkshēpa* (*utkshēpa-pradēsa*) should be straight for two *aṅgulas* from the *sthāpanī-sūtra*. (What is meant by the *sthāpanī-sūtra* and other terms occurring below is not quite clear. A tentative meaning is given in the accompanying diagram for the words *utkshēpa sthāpanī-sūtra*, the *śaṅkha* and the *kūrchcha-rēkhā*, cf. Plate XI Fig. (*a*), and glossary.)		
From the end of the *utkshēpa* and measured across it should be the *kūrchcha-rēkhā*, two *aṅgulas* in length.	2	..
The breadth of the same	1	..
The space between the *kūrchcha-rēkhā* and the outer end of the brows is technically known as the *śaṅkha* and is two *aṅgulas* in width .	2	..
The distance between the anti-tragus (*pippalī*) to the *kūrchcha-rēkhā* .	1	..
The shape of the forehead has thus been described by *Sōmarāja*. (Note the name of this ancient authority on sculpture.)		
Measurements of the nose.		
The length of the nose from the middle of the space between the brows to its tip.	4	..
The place where the nose begins should be slightly depressed from the level of the forehead.		
The width of the nose at the beginning	1	..
The width of the nose at its middle	1	4

Parts measured.	Aṅgula.	Yava.
Measurements of the nose—contd.		
The width of the nose at its end	2	..
The width of the wings of the nose	..	4
The width of the nostrils under ordinary circumstances should be just so much as to admit the small finger. But during fatigue, heavy breathing, laughter, anger, passion, etc., the nostrils would become wider.		
The shape of the nose is like the flower of sesamum plant.		
Measurements of the eye.		
When the eye is open the eye ball should be projecting half an *aṅgula* in front of the eyelids.	..	4
When the eyes are closed, the width of the upper eyelid	1	..
The length of the eyelids when the eye is open	..	4
The length of the eyes	2	..
Their width	..	1
The length of the whites of the eye on either side of the black-ball (each).	..	5
The diameter of the black-ball of the eye	..	5
The diameter of the pupil (*dṛishṭi*)	..	1
The eye should terminate in small lumps of red flesh and must taper towards both its ends.		
The black-ball of the eye should be slightly raised above the general level of the eye.		
Measurements of the ear.		
The cheeks should extend as far as the anti-tragus (*karṇa-pippalī*).		
The cheeks should be two *aṅgulas* in height	2	..
The distance between the anti-tragus and the outer end of the eye	5	..
The length of the ear at the place where it joins the cheek	3	..
The length of the ear below this place	3	..
The length of the ear above this place	1	..
The deep line running round the edge of the ear should be oval in shape ; its length	6	..

Parts measured.	Aṅgula.	Yava.
Measurements of the ear—contd.		
The inner contour line of the ear should be also similar to the outer one and the distance between them at the beginning	..	4
The inner contour line of the ear should be also similar to the outer one and the distance between them in the middle	..	2
The inner contour line of the ear should be also similar to the outer one and the distance between them at the end	..	1
There should be at the place where the ear meets the cheek the anti-tragus (*karṇa-pippalī*) which should resemble the fruit of *pippalī*; its length	1	
Behind it should be the hole of the ear; its width	..	1
Behind the *pippalī* a portion of the inner ear resembles the (Grantha) letter *la* (@) which is half an *aṅgula* in length and 3 *yavas* in width.		
The space between the margin of the ear and the hole is called the *piñchhūshī* (it is called elsewhere *piñchhalī*). The place where the *la*-like member joins the lower part of the *piñchhūshī* is raised into a ridge known as the *chūlī*. Its length	..	4
And its width	..	2
The width of the ear at its top	2	2
The width of the ear at its middle	2	..
The width of the ear at its bottom	1	6
The lobe of the ear bored and lengthened is here called the *karṇa-pālī*, (elsewhere it is named the *nāḷa*).		
Its length	4	..
Its width	..	4
The region outside the ear-hole is known as the *utpāta*.		
The ear lobes of the *munis* (a class of mendicants) and children whose ears are not bored should be in length	1	..
Measurements of the lips.		
Below the lower end of the nose there should be the region of the moustache known as the *smaśru-dēśa*; its width	..	4
In the centre of this *smaśru-dēśa* there should be the depression resembling a water-channel and which is known as the *gōjī*; its length .	..	4
Its width	..	3

Parts measured.	Aṅgula.	Yava.
Measurements of the lips—contd.		
Below the *gōjī* should be the upper lip ; its length	4	..
Its width at its centre . . . . . and it should be gradually tapering at both the ends.	..	5
Bounding the edge of the upper lip along its whole length there should be a slightly elevated line.		
The length of the lower lip	4	..
The places where the two lips meet are called the *sṛikva* and these should be directly below the pupils of the eyes.		
During laughter, fear and weeping the *sṛikvas* will recede one *aṅgula* beyond their normal position and will contract by one *aṅgula* in the acts of sucking, kissing, etc.		
Descriptions and measurements of the teeth.		
In ordinary smiling six teeth above and six teeth below will become visible.		
The length of the teeth in the upper jaw	..	5
The length of the teeth in the lower jaw	..	3
The two middle teeth, the incisors, in the upper jaw are called the *rāja-danta* (the king among teeth).		
The two teeth, one on each side of the *rāja-dantas*, that is, the teeth next to the *rāja-dantas* are called the *madhya* (*danta*).		
The two teeth, one on each side of the *madhya*, *i.e.*, the canine teeth, are called the *paripakshaka*.		
The two middle teeth in the lower jaw are called the *sandaṁśa*.		
The two teeth, one on each side of these, are called the *karttana*.		
The two teeth, one on each side of the *karttana*, are called the *khaṇḍana*.		
The teeth should be close to each other, shining and beautiful.		
The lower jaw.		
The lower jaw is attached at the place where the ears are joined to the cheeks. It is called the *chalāsthi* or the moveable bone. This bone should gradually taper towards the chin.		
The fleshy, dimpled part of the chin immediately below the lower lip is called the *chibuka*. The chin itself seems to be called the *hanu*. If there is to be a beard, it should be one *aṅgula* in length (?). A sixteen years old youth will have a beard one *yava* in length.		

Parts measured	Aṅgula.	Yava.
Measurements of the neck.		
The length of the neck	4	..
Its width	8	..
Its girth	24	..
Measurements of the chest.		
The distance between the *hikka-sūtra* and the chest (*hṛidaya*), that is, the line joining the nipples (*stana-chūchuka*).	12	..
The length of the clavicles (collar bones)	8	..
The collar bones should be projecting a little over the *hikkā-sūtra.*		
The distance between the centre of the two nipples	12	..
The diameter of the black circle round the nipples	2	..
The height of the nipples of the males	..	1
The height of the nipples of the females	..	2
The circumference of the breasts of females	18	..
The interspace between the breasts of women and the armpit is called the *brahatī* and the space between the breasts is known by the name of *vārdhā ;* its width is given as	2	..
The distance between the base of the breast and the armpit, that is, of the *brahatī*, is said to be	6	..
(The measure given perhaps indicates the double the actual distance, being the total of the two *brahatīs ;* for, it is too much for one *brahatī*.)		
The distance between the armpits measured in front	12 (?)	..
The distance between the armpits measured at the back . . .	12	..
The girth of the arm (?) at the armpit	24	..
The distance between the *vārdhā-dēśa* to the navel	12	..
The girth of the chest at the *vārdhā-dēśa*	51	..
Measurements of the abdomen and below.		
The navel should be circular in shape and be of one *aṅgula* in diameter.		
The girth of the abdomen at the *madhya-bhāga* (the place where the thorax meets the abdomen).	42	..

Parts measured.	Aṅgula.	Yava.
Measurements of the abdomen and below—contd.		
The width of the *madhya-bhāga*	14	..
The *madhya-bhāga* in women should be slender ; the girth of the *madhya-bhāga* in women	34	..
The width of the abdomen measured along the *nābhi*	16	..
The girth of the same	48	..
The region of the abdomen on a line with the navel is called the *śrōṇi-dēśa*.		
The region of the abdomen below the *śrōṇi-dēśa* and immediately above the intestines (? *pakvāśaya*) is known as the *kaṭi-pradēśa* ; the width at the *kaṭi-pradēśa*	18	..
And the girth at the same place	54	..
The broad-girdle (*mēkhalā*, etc.) and other ornaments are to be worn on this part of this body.		
The *kaṭi-pradēśa* in women is always broader and this extra width is laid down as	4	..
The region of the abdomen above the bladder is called the *vasti*. Its width	20 (?)	..
The girth of the body about the *vasti*	57 (?)	..
In the figure of man the chest and abdomen put together resemble the face of a cow. (See illustrations in Mr. Abanindranath Tagore's article in the *Modern Review* for March 1914.)		
The distance between the *vasti* and the *liṅga-sūtra* (called elsewhere the *mēḍhra-mūla*).	4	..
Measurements of the generative organs.		
The length of the penis	5	..
The length of the testicles	4	..
The width of the penis	2	..
The width of the testicles	4	..
The width between the lines formed by the junction of the thighs with the abdomen, measured at their top	8	..
The width between the lines formed by the junction of the thighs with the abdomen, measured at the bottom	6	..
The length of the nut of the penis	1 (?)	..

Parts measured.	Aṅgula.	Yava.
Measurements of the legs.		
The girth of the thigh at its middle	36	..
The thigh should gradually taper downwards, and be smooth and hairless, without any folds in its surface, resembling a plantain tree.		
The length of the knee	4	..
The girth of the leg at the knee	21	..
The knee should be slightly raised and it should make a distinct depression on both sides of its base.		
The girth of the foreleg at its lower end	16	..
The calf is known as the *Indra-vasti ;* its girth	18	..
Measurements of the feet.		
The width of the heels	5	..
The distance of the bony head of the foreleg (which projects outwards above the heel) from the heel.	4	..
It is also 4 *aṅgulas* above the ground-level	4	..
The width of this bony projection	2	..
The back of the foot (at the heels) should resemble the back side of the elephant.		
The sole of the foot should be curved inside like a spring, but should be level at its outer side ; the sole of the foot is somewhat raised at the junction of the toes with the foot.	6	..
The width of the foot in front	6	..
The width of the heels in their broadest part	4	..
The height of the foot at its centre	3	..
The height of the foot a little behind the place where the great-toe joins .	2	..
The height of the foot at the great-toe	1	2
The length of the great-toe	3	..
The girth of the great-toe	15 (?)	..
The great-toe should have only two digits ; the length of its nail should be one-half that of its first digit.		

Parts measured.	Aṅgula.	Yava.
Measurements of the feet—contd.		
The length of the second toe	3	2
Its girth	3	..
The length of the middle toe	2	6
Its girth	2	5
The length of the fourth toe	2	4
Its girth	2	2
The length of the little toe	2	1
Its girth	1	2
All these toes should have three digits. Their height at the tips	..	4
The nails of each of these toes should be equal to one-half of that of the first digit of each.		
These nails should be rosy in colour.		
Measurements of the arms.		
The arms should be hanging from where the collar bones are attached.		
The shoulder blades are called the *aṁsa-phalakā ;* their length (?)	6	..
Between these shoulder blades should be the spinal column resembling the stalk of the plantain flower ; its width	2	..
The upper arm is called the *bāhu* or *bāhu-parva.* Its length up to the elbow.	17	..
The length of the forearm	..	..
The girth of the upper arm	16	..
The girth of the forearm	14	..
The girth of the wrist	12	..
The width of the arm at the elbow	5	..
The width of the upper arm, forearm, and wrist, should be one-third of their respective girths.		
The length of the palm of the hand (from the root of the middle finger to the end of the wrist)	7	..
The length of the middle finger	5	..

Parts measured.	Aṅgula.	Yava.
Measurements of the arms—contd.		
The length of the index finger or forefinger	4	..
The length of the ring finger	4	..
The length of the little finger	3	4
The length of the thumb	4	..
The line in the palm of the hand, which rises from below the root of the little finger, and is called the *Ayūrēkhā*, should terminate between the index finger and the middle finger and should be curved in shape. Its distance from the roots of the ring finger and the middle finger is 2 *aṅgulas* and 1½ *aṅgulas* respectively. (Fig. (*d*), Plate XI.)		
The length of this line	5	..
The nail is divided into the living portion and the dead portion. The former constitutes the major portion of it and is attached to the flesh while the latter forms but a small portion which is not attached to the flesh but is free.		
The length of the latter should be	..	3 (?)
The colour of the living portion of the nail is rosy red, whereas that of the dead portion bluish white.		

Nava-tāla measure according to the Śukranīti (Fig. (*b*) Plate X).

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
In the case of the image made according to the *nava-tāla* measure, the face must be one *tāla* in length.	12	..
The width of the forehead	4	..
The length of the nose	4	..
The distance between the tip of the nose to the end of the chin . .	4	..
The length of the neck	4	..
From the *hikkā-sūtra* to the *stana-sūtra* (or the length of the chest) .	12	..
From the *stana-sūtra* to the *nābhi*	12	..

Parts measured.	Aṅgula.	Yava.
Vertical measurements—contd.		
From the *nābhi* to the *mēḍhra-mūla*	12	..
The length of the thighs	24	..
The length of the knees	4	..
The length of the forelegs	24	..
The height of the foot	4	..
TOTAL .	108	..
(From these measurements, those of the *daśa*, *ashṭa* and *sapta tālas* must be deduced.)		
Measurements of the arms and hands.		
The length of the arms from the shoulder to the tip of the middle finger	48	..
The length of the upper arm from the upper part of the shoulder . .	20	..
The length of the upper arm from the armpit	13	..
The length of the forearm up to the tip of the middle finger . . .	28	..
The length of the palm of the hand	7	..
The length of the middle finger	5	..
The tip of the thumb should reach the root of the index finger; the length of the thumb.	3	4
It should have only two digits, whereas all the other fingers should have three.		
The ring-finger should be half an *aṅgula* less in length than the middle finger.	4	4
The index finger should be one *aṅgula* less in length than the middle finger.	4	..
The length of the small finger is less by one *aṅgula* than the ring finger .	3	4

Parts measured.	Aṅgula.	Yava.
Measurements of the foot.		
The length of the foot	14	..
The length of the great-toe	2 or $2\frac{1}{2}$	..
The length of the second toe	2 or $2\frac{1}{2}$	..
The length of the other toes (roughly)	1	4
The veins of the legs and feet should not be prominently visible, nor should the ankle bone project very much.		
Measurements of the face.		
The length of the forehead (measured horizontally)	8	..
The combined length of the two brows (4+4).	8	..
The width of the brows	..	4
They should be bent like a stringed bow.		
The length of the eye	3	..
Its width	2	..
The diameter of the black-ball ($\frac{1}{3}$ of the width of the eye)	$\frac{2}{3}$	..
The distance between the inner ends of the brows	2	..
The width of the nose-tip	1	..
The width of each nostril	7	..
The thickness of the bridge or the septum of the nose	..	4
Its length measured horizontally at right angles to the plane of the face	1	4
The nose may be aquiline (like the beak of a parrot) or like the sesamum flower. The wings of the nose should resemble the pods of beans.		
The top of the ears should be on a level with the brows.		
The length of the ear	4	..
The length of the *karna-pāli* (the lobe of the ear bored and lengthened).	3	..
The width of each *pāli*	..	4
Horizontal Measurements.		
The distance between the middle of the neck to the shoulder	8	..

Parts measured.	Aṅgula.	Yava.
Horizontal measurements—contd.		
The distance between the outer surfaces of the upper arms (or the total width of the chest including the shoulder)	24	..
The distance between the nipples	12	..
The distance between the ears (measured along the contour of the face)	16	..
The distance between the ears and the chin	8	..
The distance between the ear and the nose	8	..
The distance between the ear and the eye	4	..
The length of the mouth	4	..
The width of the lips	..	4
The width of the *mastaka* (head near the scalp)	10	..
The length of the *mastaka* (measured between the forehead and the back of the skull ?)	12	..
Measurements of the girths.		
The girth of the *mastaka*	32	..
The girth of the neck at its lower end	22	..
The girth of the chest at its middle	54	..
The girth of the chest at the place where it meets the abdomen	47	..
The thickness of the chest (from the breast to the back)	12	..
The girth at the *kaṭi-pradēśa*	44	..
The height of the glutials	4	..
Their diameter	6	..
The diameter of the glutials of women should be one *aṅgula* more than that of the males.		
The girth of the upper arm at its lower end	16	..
The girth of the upper arm at its upper end	18	..
The girth of the forearm at its upper end	14	..
The girth of the forearm at its lower end	10	..
The width of the palm of the hand and the sole of the foot, each	5	..

Parts measured.	Aṅgula.	Yava.
Measurements of the girths—contd.		
The girth of the thigh at its upper end	32	..
The girth of the thigh at its lower end	19	..
The girth of the knee at its lower end	12	..
The girth of the knee at its upper end	16	..
The girth of the middle finger at its root	4	..
The girth of the index finger and the ring finger at the same place .	3	4
The girth of the little finger	3	..
The girth of the fingers at their extremities should be $\frac{1}{4}$ less than that at their roots.		
The girth of the thumb	4	..
The girth of the great-toe	5	..
The girth of the other toes	3	..
The diameter of the dark circle round the nipple	1	4
The diameter of the navel	1	..
The glance of the image should not be directed upwards or downwards, but must be looking straight forward, and the expression must not be suggestive of anger, etc., but be calm and peaceful.		

Of the various measurements of the *Adhama-nava-tāla* measure downwards to the *Chatustāla* measure, only the vertical measurements are given in the *Śilparatna;* the other and more minute measurements are not given in detail as in the other previous instances. This authority requires the artist to abide by the general measurements given under each of the *tāla-māna*, and to supplement those not given from his own experience and knowledge. The list of beings for making whose images each of these *tāla-mānas* is intended, has already been given and need not be repeated under the description of each of them.

Adhama-Nava-tāla.

Parts measured.	Aṅgula.	Yava.
The height of the *ushṇīsha*	1	..
The distance between the *ushṇīsha* and the roots of the hair (*kēśānta*)	2	4
The distance between the root of the hair (*kēśānta*) and the *akshi-sūtra*	3	6
The distance between the *akshi-sūtra* and the end of the nose (*nāsā-puṭānta*).	3	6
The distance between the end of the nose and the end of the chin (*han-vanta*).	3	6
The height of the neck	3	4
From the lower end of the neck to the chest (*hikkā-sūtra* to the *stana-sūtra*).	11	2
From the chest (*stana-sūtra*) to the navel (*nābhi*)	..	..
From the navel to the root of the penis (*mēḍhra-mūla*)	11	2
The length of the thighs	22	4
The length of the knee	3	4
The length of the foreleg	22	4
The height of the foot	3	4
TOTAL	104	..
The length of the upper arms	22	4
The length of the forearm	16	..
The length of the palm of the hand	5	..
The length of the middle finger	5	..
The rest of the measurements should be judged from those given under the *daśa-tāla* and the *nava-tāla* measures.		

Uttama-Ashta-tāla Measure.

Parts measured.	Aṅgula.	Yava.
The height of the *ushṇīsha*	1	..
The distance between the *ushṇīsha* and the root of the hair (*kēśānta*) .	2	4
The distance between the root of the hair (*kēśānta*) and the end of the chin (*hanvanta*).	10	6
This distance is to be divided into three equal parts of which the first third is the distance from the root of the hair to the *akshi-sūtra* ; the second third, that from the *akshi-sūtra* to the end of the nose (*nāsā-puṭānta*) and the last third, that from the end of the nose to the end of the chin (*hanvanta*).		
The height of the neck	3	4
From the lower end of the neck (*hikkā-sūtra*) to the chest (*stana-sūtra*) .	10	6
From the lower end of the *stana-sūtra* to the navel (*nābhi*) . . .	10	6
From the lower end of the navel to the root of the penis (*mēḍhra-mūla*) .	10	6
The length of the thighs	21	4
The length of the knee	3	4
The length of the foreleg	21	4
The height of the feet	3	4
TOTAL .	100	..
The length of the upper arm	21	4
The length of the forearm	16	..
The length of the palm of the hand	5	..
The length of the middle finger	5	..
The other measurements which are not given here are identical with those given under the *Nava-tāla* measure.		

Madhyama-Ashṭa-tāla Measure

Parts measured.	Aṅgula.	Yava.
The total height of the image should be first divided into eight equal parts of which the length of the face should be one part . . .	1	..
The height of the neck, of the knee, of the foot and *śiras* (is it *ushṇīsha* to *kēśānta* ?) are each to be one-fourth of the length of the face. Total	1	..
The distance between (*a*) the *hikkā-sūtra* and the *stana-sūtra*, (*b*) the *stana-sūtra* and the *nābhi* and (*c*) the *nābhi* and the *mēḍhra-mūla*, should each be equal to the length of the face. Total	3	..
The remaining parts make up the lengths of the thighs and the foreleg .	3	..
(It is stated that the length of the foreleg is 18 parts (*aṁśas*) and that of the palm of the hand, 7 *aṁśas* : what fraction of the total height is this *aṁśa*, it is not mentioned. But since the number of the *aṅgulas* contained in the height of an image of the *madhyama ashṭa-tāla* is, according to the Kāraṇāgama, 96, since the length of either of the thighs or the foreleg is found to be uniformly $1\frac{1}{2}$ times the length of the face in all the previous instances and since also there are exactly 3 face-lengths alone that remain, the *aṁśa* must be $\frac{1}{96}$th of the total height of the figure.)		
The other measurements left out here must be taken proportionately as pointed out in the previous *tālamānas*.		

Ashṭa-tāla according to the Śukranīti.

Parts measured.	Aṅgula.	Yava.
The length of the face	12(?)	..
The length of the neck	4	..
From the *hikka-sūtra* to the *stana-sūtra*	10	..
From the *stana-sūtra* to the *nābhi*	10	..
From the *nābhi* to the *mēḍhra*	10	..
The length of the thighs	21	..
The length of the knees	4	..
The length of the foreleg	21	..
The height of the foot	4	..
TOTAL .	96	..

Uttama-Sapta-tāla Measure.

Parts measured.	Angula.	Yava.
The height of the *ushṇīsha*	..	4
The distance between the *ushṇīsha* and the root of the hair (*kēśānta*)	1	..
The distance between the root of the hair to the *akshi-sūtra*	2	4
The distance between the *akshi-sūtra* to the end of the nose (*nāsā-puṭānta*).	3	4
The distance between the *nāsā-puṭa* to the end of the chin (*hanvanta*)	3	4
The height of the neck	4(?)	..
From the *hikkā-sūtra* to the *stana-sūtra*	7	..
From the *stana-sūtra* to the *nābhi*	9	..
From the *nābhi* to the *mēḍhra-mūla*	9	..
The length of the thighs	20	..
The length of the knee	2	..
The length of the foreleg	20	..
The height of the foot	2	..
TOTAL	84	..
The length of the foot (from toe to heel)	14(?)	..
The length of the upper arm	20	..
The length of the forearm	16	..
The length of the palm of the hand	5	..
The length of the middle finger	4	..
The remaining measurements must be judged from those given in the previous instances.		

Sapta-tāla Measure according to the Śukranīti.

The images of the lesser females (deities) should be made according to the *sapta-tāla* measure. The proportion of the various limbs in children and others will always differ very much: in children the neck will be short and the head proportionately large. The head does not grow as fast as the other parts of the body. Full growth is attained in boys about their 20th year of age, and in girls in the 16th;

growth is more rapid after the 5th year. The proportions of the members of the body of a child are roughly as follows :—[1]

The length of the face	1 part.
The length of the remaining portion of the body (from the neck to the foot) divided as follows :—	$4\frac{1}{2}$ parts.
From the neck to the *mēḍhra*	2 parts.
From the *mēḍhra* to the foot	$2\frac{1}{2}$ parts.
The length of the arms	2 or $2\frac{1}{4}$ parts.

There is no definite rule for the stoutness of a child. It should be adjusted so as to make the child good-looking.

For making the image of a child the *sapta-tāla* measure will also suit well.

Sapta-tāla Measure.

Parts measured.	Aṅgula.	Yava.
The length of the face	12	..
The length of the neck	3	..
From the *hikkā-sūtra* to the *stana-sūtra*	9	..
From the *stana-sūtra* to the *nābhi*	9	..
From the *nābhi* to the *mēḍhra*	9	..
The length of the thighs	18	..
The length of the knees	3	..
The length of the foreleg	18	..
The height of the foot	3	..
TOTAL	84	..

According to the *Śukranīti*, gods and goddesses should always be represented in their images as youths; sometimes they may be sculptured as children, but never as old persons (since the gods are believed to be susceptible of neither old age nor death, *jarā-maraṇa*). The king should set up in his kingdom many images made in the due proportions given above, and should annually celebrate festivals in their honour. Images not made in proper proportions, or those which are broken, should never be suffered to remain in *pūjā*. The king should effect repairs to temples, and establish services such as dancing, music, etc. He should not establish them for gratifying his own pleasure. He should also help the festivals of the gods conducted by his subjects.

[1] These proportions do not work well in practice. See Illustration (Fig. (*b*) Plate XI).

Shat-tāla Measure.

Parts measured.	Angula.	Yava.
Vertical measurements.		
Ushṇīsha	..	4
The distance between *Ushṇīsha* to the roots of the hair (*kēsānta*)	1	..
The distance between *kēsānta* and the chin (*hanvanta*)	8	4
The height of the neck	3	4
From the *hikkā-sūtra* to the chest (*stana-sūtra*)	8	4
From the *stana-sūtra* to the navel (*nābhi*)	8	4
From the *nābhi* to the root of the penis (*mēḍhrā-mūla*)	8	4
The length of the thighs	17	..
The length of the knee	1	4
The length of the foreleg	17	..
The height of the foot	1	4
TOTAL	76	..
The length of the upper arms	17	..
The length of the forearms (*viśvāṅgula* ?)	..	..
The length of the palm of the hand	5	..
The length of the middle finger	5	..
The length of the foot	12	..
The remaining measurements which are not given here have to be worked up by the artist himself from what has already been given under the *Daśa* and *Nava-tāla* measures.		

Pañcha-tāla Measure.

This particular set of proportions is of great importance because Gaṇēśa, the very common Hindu image, is made according to this *tālamāna;* it is also therefore given in the *āgamas* in somewhat detailed manner as follows:—

Two different sets of major measurements are given, of which the second has been utilised to make the drawing on Pl. XI.

Details of measurements.	1st set.		2nd set of proportions.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements.				
The distance between the *mūrdha* and the *mastaka* .	2	..	2	..
From *mūrdha* to the *nētra-sūtra*	7	..	4	..
From the *nētra-sūtra* to the *hanu* (chin) . . .	..	..	8	..
The height of the neck	4	..	4	..
From the *hikkā-sūtra* to the *hṛidaya* (chest) . .	7	..	10	..
From the *hṛidaya* to the *nābhi* (navel) . . .	7	..	9	..
From the *nābhi* to the root of the penis (*mēḍhra-mūla*)	7	..	9	..
The length of the thigh	12	..	16	4
The length of the knee	4	..	3	..
The length of the foreleg	12	..	16	..
The height of the foot from the ground . . .	4	..	3	..
Total .	66	..	84	..
II.—Minor measurements.				
(i) *The head and the face.*				
The width of the *mastaka* (head)	8	..	..	..
The width at the place immediately below the crown of the head where it is somewhat hollow.	7	..	..	..
The width at the middle of the face . . .	10	..	..	..
The proboscis should be of such length as to reach as far as the *nābhi* (navel).				

Details of measurements.	1st set of proportions	
	Angula.	Yava.
II.—Minor measurements—*contd.*		
The width of the proboscis at the top	6	..
The width at its lower extremity	1	4
In the trunk there should be two holes.		
The face (above the neck) should be that of an elephant.		
The length of the left tusk that is visible at the outside . . .	4	..
The right tusk should be broken and the stump of this should be projecting out a little.	..	2
The lip should be hanging ; the hanging portion should measure . .	2	..
The length and width of *taila* (?)	..	6
(ii) *The ear.*		
The length and breadth of the ear	5	..
The ear should be turned down a little on the top ; its measure . .	..	4
(iii) *The chest and the abdomen.*		
The width of the chest across the shoulders	32	..
The distance between the armpits	19	..
The distance between the two nipples	10	..
The diameter of the nipple	..	2
The diameter of the circle round the nipple	2	..
The width of the chest below the breasts	15	..
The width of the belly	22	..
The diameter and the depth of the navel	1	4
(iv) *The generative organ.*		
The length of the penis	3	..
The maximum width	1	4
The length and width of the testes	3	..

Details of measurements.	1st set of proportions.	
	Aṅgula.	Yava.
II.—Minor measurements—*contd.*		
(v) *The leg and the foot.*		
The width of the thigh	12	..
The width of the knee	9	..
The width of the foreleg at the top	7	..
The width of the foreleg at the ankle	6	4
The width of the ankle bone	3	4
The width and the length of the heel	3	..
The width of the great-toe, and that of the other four toes is to be respectively $12\frac{1}{2}$, 8, $6\frac{1}{2}$, 6 and 5 *yavas*.		
The width of the nail of each toe should be three-fourths of that of toe and its length equal to one-half its breadth.		
The length of the foot (from the heel to the toe)	7	..
The length of the great-toe	2	..
The length of the smallest toe	1	4
The other toes, beginning from the one next to the great-toe, should be smaller by one *yava* than its adjacent larger one.		
(vi) *The arm and the hand.*		
The length of the upper arm	13	..
The length of the forearm	9	..
The length of the palm of the hand (without the fingers)	4	..
The length of the middle finger	3	..
The length of the ring finger and the index finger	2	5
The length of the thumb and the little finger	1	4
The width of the thumb	1	4
The width of the index finger	1	..
The width of the middle finger	1	1
The width of the ring finger	1	..

Details of measurements.	1st set of proportions.	
	Aṅgula.	Yava.
II.—Minor measurements—*concld.*		
The width of the little finger	..	7
The width of each nail of the finger should be three-fourths of the width of the corresponding finger and the length of the nail should be a fourth greater than its width.		
The width of the upper arm at its top	8	..
The same about the elbow joint	6	..
The width of the forearm	4	..

Besides the above elaborate set of measurements for the making of the figure of Gaṇēśa, a more rough and ready measurement is given thus: The distance between the *ushṇīsha* and the end of the face should be one *tāla;* that between the end of the face and waist, two *tālas;* the length of the arms and legs, one and a half *tālas*, making, thus, a total of four and a half *tālas*. The figure of Gaṇēśa may be sculptured as either standing or sitting, with the face of an elephant, with three eyes, and a neck almost invisible in the bulkiness of the head and the body. (Fig. (*a*) Pl. XII.)

Uttama-Chatus-tāla Measure. (Fig. (*b*) Pl. XII.)

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
The height of the *śiras* (*ushṇīsha* ?)	1	..
The distance between the *ushṇīsha* and the roots of the hair (*kēśānta*) .	1	..
The distance between the *kēśānta* and the *akshi-sūtra* . . .	2	..
The distance between the *akshi-sūtra* and the end of the nose (*puṭānta*).	2	..
The distance between the *puṭānta* and the end of the chin (*hanuparyanta*)	3	..
The height of the neck	3	..
From the *hikkā-sūtra* to the *stana-sūtra*	9	..
From the *stana-sūtra* to the *mēdhra-mūla*	7	..
The length of the thighs	12	..

Parts measured.	Aṅgula.	Yava.
Vertical measurements—contd.		
The length of the knees	2	..
The length of the foreleg	10	..
The height of the foot	2	..
TOTAL	54	..
The length of the foot	10	..
The length of the upper arm	14	..
The length of the forearm	10	..
The length of the palm of the hand	4	..
The length of the middle finger	4	..
The length of the ring finger	3	4
The length of the index finger	3	4
The length of the little finger	3	..
The length of the thumb	3	..
Horizontal measurements.		
The width of the forearm at its lower end	3	..
The width of the forearm at its upper end	4	..
The width of the upper arm at its upper end	5	..
The width of the face	8	4
The width of the neck	7	..
The distance between the two armpits	13	..
The width of the chest	12	..
The width at the *madhyapradēśa*	11	..
The width at the *śrōṇi*	12	..
The width at the hip	13	..
The width of the thigh at its upper end	8	..

Parts measured.	Aṅgula.	Yava.
Horizontal measurements—contd.		
The width of the knee	6	..
The width of the foreleg at its upper end	4	..
The width of the foreleg at the place where there is the bony projection at the lower end of the foreleg (*naḷakā*).	3	..
The width of the foot (at the toe-end)	6	..
The width of the foot (at the heel-end)	4	..
The remaining measurements must be supplied by the sculptor from his own artistic instinct and experience.		

Madhyama-Chatus-tāla Measure.

Parts measured.	Aṅgula.	Yava.
Ushṇīsha	1	..
The distance between the *ushṇīsha* and the roots of the hair (*kēśānta*) .	1	..
The length of the face	8	..
The length of the neck	2	..
The distance between the *hikkā-sūtra* and the chest (*stana-sūtra*). .	6	..
From the *stana-sūtra* to the *mēḍhra-mūla*	6	..
The length of the thighs	10	..
The length of the knees	2	..
The length of the foreleg	10	..
The height of the feet	2	..
TOTAL .	48	..
The remaining measurements must be evolved from his own experience by the artist.		

For the measurements of images made according to the *tri-tāla*, the *dvi-tāla*, and the *ēka-tāla*, refer to more ancient authorities, says the *Śilparatna*.

Ābhaṅga, Samabhaṅga and Atibhaṅga.

Images are often made with a few gentle bends in their bodies; the postures in which these bends occur are divided into three classes, namely, *ābhaṅga*, *samabhaṅga* and *atibhaṅga*. In treating of *ābhaṅga* and *samabhaṅga* in Vol. I of the *Elements of Hindu Iconography*, I have wrongly taken *samabhaṅga* to mean a posture without bends in the body, or a perfectly erect posture in standing; and *ābhaṅga*, as a posture with two, three or many bends. Subsequent study has convinced me of the incorrectness of my interpretation of these terms.

In the case of the *ābhaṅga* posture, the medial line (*madhya-sūtra*) passes from the middle of the head, through the tip of the nose, middle of the mouth, the neck and the chest, through the navel, touching the left of the penis, the left thigh at a distance of six *aṅgulas* away from its inner-side, and between the two heels. In the case of an *ābhaṅga* image it will be shortened in its proper height by three *aṅgulas*.

According to the *Pādma-Saṁhitā* the medial line should pass, in the case of a *samabhaṅga* image, from the *śikhāmaṇi* (the finial of the crown) through the middle of the *pūri* or ornamented disc on the left side of the *kirīṭa*, touching the left edge of the forehead, the outer end of the left eye, through the *makara-kuṇḍala* in the left ear, the middle of the navel, and between the two forelegs. Let us take a concrete instance of a *samabhaṅga* image and give more detailed measurements of it as given in the *Uttara-Kāmikāgama*. The Vṛishārūḍhamūrti aspect of Śiva is required to be sculptured in the *samabhaṅga* posture. The *madhya-sūtra* (or *śiva-sūtra*), according to this authority, should be hung from the middle of the forehead.

Parts measured.	Aṅgula.	Yava.
The *madhya-sūtra* should pass through the middle of the nose and touch the ankle of the right leg in its inner side.		
The distance of the middle of the chest from the *madhya-sūtra* . .	3	..
The distance of the navel from the *madhya-sūtra*	1	..
The distance of the penis from the *madhya-sūtra*	4	.
The distance of the right knee from the *madhya-sūtra* . . .	3	..
The distance of the middle of the line joining the two heels from the *madhya-sūtra*.	5	..

The front left arm of the Vṛishārūḍhamūrti may be held either in the *hamsa-paksha* pose or the *patākā* pose and rested upon the head of the bull; the tip of the middle finger of the outstretched left hand should come down to the level of the navel.

Parts measured.	Aṅgula.	Yava.
The distance between this finger-tip to the *nābhi-sūtra* is to be . .	15	..
The distance between the wrist of the same arm and the left side of the body.	19	..
The hand held in the *kaṭaka* pose should be at the same level as the root of the penis.		
The distance between the elbow and the middle of the chest . .	25	..
The distance between the two heels	5	..

Again, it is stated that the images of Dēvīs may be sculptured either in the *ābhaṅga* or the *samabhaṅga* postures, and the following measurements are given for an image in the *ābhaṅga* posture.

In the case of the *ābhaṅga* posture, according to the *Kāmikāgama*, the right leg should be kept firmly on the ground, while the left one should be somewhat bent. The bend of the left leg is said to be 3 *aṅgulas* (from the *madhya-sūtra*). The *madhya-sūtra* should pass through the middle of the forehead, the inner corner of the left eye, touching the left wing of the nose, the left side of the chin, the middle of the chest, the right of the navel, the right side of the left thigh, and the left side of the right heel.

Parts measured.	Aṅgula.	Yava.
The distance between the two great-toes	16	..
The distance between the heels	5	$2\frac{2}{3}$
The *Kāraṇāgama* on the other hand requires the *madhya-sūtra* to pass through the tip of the nose and touch the middle of the heel of the right leg which is kept firmly on the ground.	..	..
The distance between the middle of the chest and the *madhya-sūtra*, measured on the left.	3	..
The distance between the navel and the *madhya-sūtra*, measured on the right.	1	..
The distance between the middle of the pudendum and the *madhya-sūtra*, measured on the right.	4	..
The distance between the knee and the *madhya-sūtra*, measured on the right.	3	..

Parts measured.	Aṅgula.	Yava.
The tip of the fingers of the hand held in the *kaṭaka* pose should reach the height of the breast or that of the armpit.		
The distance between the navel and the wrist of the hand held in the *kaṭaka* pose.	13	4
The distance between the forearm of this hand and the side of the chest .	7	..
The distance between the finger ends of the hanging hand and the thigh.	2	..
The distance between the wrist of the hand and the thigh . . .	4	..
The distance between the forearm of this hand and the side of the chest.	6	..
The hand kept in the *kaṭaka* pose may hold in it a *utpala* flower.		

In the case of the image of a Dēvī in the *samabhaṅga* posture, the following measurements are given :—

In this case (that of *samabhaṅga*), the *brahma-sūtra* (or the medial line) should pass through the centre of the forehead, the tip of the nose and between the two heels.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the centre of the breast, measured on the left.	3	..
The distance between the *madhya-sūtra* and the navel, measured on the right.	2	..
The distance between the *madhya-sūtra* and the middle of the pudendum, measured on the right.	4	..
The distance between the *madhya-sūtra* and the left knee . . .	3	..
The distance between the two great-toes	18	..
The distance between the two heels	6	..
The hand kept in the *kaṭaka* pose and carrying a *utpala* flower should be as high as the nipple of the breast.		
The distance between the wrist of this hand and the navel . . .	13	4
The distance between the forearm of this hand and the side of the chest	7	..

Parts measured.	Aṅgula.	Yava.
The distance between the elbow of the other arm which is hanging and the hip.	4	..
The distance between the wrist of this hand and the thigh . . .	14	..
The distance between the end of this hand and the thigh . . .	10	..

The image of Gaurī or Dēvī may also be sculptured in another posture, in which case the following are the measurements :—

In this case, the left leg is placed firmly on the ground and the right one is slightly bent; the *madhya-sūtra* should pass, from the centre of the forehead through the tip of the nose and between the two heels.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the middle of the breast, measured on the right.	3	..
The distance between the *madhya-sūtra* and the navel, measured on the left.	2	..
The distance between the *madhya-sūtra* and the centre of the pudendum	3	..
The distance between the *madhya-sūtra* and the knee, measured on the right.	3	..
The rest of the items as in the above description.		

In the case of male deities, the Gaṅgādharamūrti and the Arddhanārīśvaramūrti are given as instances of images made in the *ābhaṅga* posture, and the measurements are given as follows :—

Gaṅgādharamūrti.

In the case of this image, which should be standing in the *ābhaṅga* posture, the *madhya-sūtra* should pass from the centre of the *ushṇīsha*, through the tip of the nose and between the two ankles.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the centre of the chest, measured on the left side.	1	..
The distance between the *madhya-sūtra* and the navel, measured on the right side.	1	..

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the penis, measured on the right side.	4	..
The distance between the *madhya-sūtra* and the right knee . . .	3	..
The distance between the two great-toes	15	..
The distance between the two heels	5	..
The distance, from the *madhya-sūtra*, of the left knee, measured on the left.	3	..

Arddhanārīśvaramūrti.

In the case of this image the *madhya-sūtra* should pass from the centre of the forehead through the tip of the nose and between the ankles.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the centre of the chest, measured on the right side.	2 (?)	..
The distance between the *madhya-sūtra* and the navel, measured on the left.	1	..
The distance between the *madhya-sūtra* and the root of the penis.	4	..

Fig. 2.

The Vaivāhyamūrti may be given as an instance of an image in the *tribhaṅga* posture (cf. Fig. 2). In this case, the *madhya-sūtra* should pass so that the centre of the forehead, the middle of the nose, and the ankle of the left leg, should each be situated at a distance of one *aṅgula* from it.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the middle of the chest, measured on the right side.	1	..
The distance between the *madhya-sūtra* and the navel, measured on the left.	1	..
The hand held in the *varada* pose should stand at the height of the navel.		

Parts measured.	Aṅgula.	Yava.
The distance between the navel and the wrist of this hand . . .	19	..
The distance between the forearm and the side of the chest . .	6	..
The hand held in the *kaṭaka* pose should be situated at the same height as the root of the penis.		
The distance between the navel and the wrist of this hand . .	18	..
The distance between the forearm of this hand and the side of the chest.	6	..
The distance between the two great-toes	$13\frac{1}{2}$	..
The distance between the two heels	$4\frac{1}{2}$	..
The distance of the knee of the bent leg from the *madhya-sūtra* . .	2	..
The Dēvī standing by his side should also be made in the same manner.		

In the case of an image made in the *Atibhaṅga* posture, the medial line should start from the centre of the head and be slightly deviated to the left from the centre of the forehead and pass through the middle of the left eye, middle of the mouth, the right of the navel and between the two heels. In this case, the total length of the image will be less by 5 *aṅgulas* due to the bends in the body. This posture is prescribed for images made in the reclining posture (*e.g.*, Vishṇu and Buddha).

The *āgamas* contain detailed measurements of individual images, but it is neither easy to give them all here nor to illustrate them with proper drawings or photographs. The general measurements, as given in the various *tālamānas* described above, will no doubt give a fair idea of the artistic canons of the Hindu sculptors of ancient and medieval India.

T. A. Gopinatha Rao.

A glossary of terms occurring in the descriptions of the tālamānas.

Akshi-maṇḍala, the black circle round the nipple.

Akshi-sūtra, *Nētra-sūtra*, an imaginary line passing horizontally across the centres of the two eyes.

Aṁsa-phalakā (the shoulder blades).

Aṅga-pārśva madhya-sūtra, an imaginary line, drawn vertically, touching the outer side of the arm.

Antarbhujāvadhisūtra, a similar line drawn vertically but touching the inner side of the arm.

Āyūrēkhā, the line on the palm of the hand which runs immediately below the roots of the fingers.

Bāhu or *Bāhu-parva*, the upperarm.

Bāhu-paryanta-sūtra, practically same as the *aṅga-pārśva-madhya-sūtra*.

Bhrū-sūtra, an imaginary line drawn horizontally touching the summits of the two brows.

Bṛihatī, the space between the breasts and the armpits.

Chalāsthi, the lower or the moveable jaw.

Chibuka, the fleshy part at the upper margin of the chin, immediately below the lower lip.

Chūchuka, the nipple of the breast.

Chūlī, the ridge which runs round the hollow of the ear.

Dṛishṭi, the centre of the pupil of the eye.

Gōji, *Gōchchhà*, the short vertical dimple between the centre of the upper lip and the bridge of the nose.

Hanu, the chin (up to the neck).

Hanvanta (*sūtra*), an imaginary line passing horizontally touching the chin.

Hanuchakra, the small dimple which adds beauty to the chin.

Hikkā-sūtra, an imaginary line drawn so as to touch the two shoulders and the front middle of the lower end of the neck.

Hṛidaya, the chest.

Hṛidayāntasūtra, an imaginary line drawn across the chest passing through the two nipples.

Indravasti, the calf.

Jaṅghā, the foreleg.

Jānu, the knee.

Jyōtirmaṇḍala, the pupil of the eye.

Kaksha-paryanta-sūtra, same as *antarbhujāvadhisūtra*.

Kakshas, the armpits.

Kakud, the nape of the neck.

Kambīraka, the elevations bounding the *gōjī*.

Kanīnikā, pupil of the eye (?).

Kaṇṭha, the neck.

Karabha, the part of the palm between the wrist and small finger.

Karavira (?), some part connected with the eye (something at the end of the eyes. Is it the red flesh ?).

Karṇa-dvāra, Karṇavēśa, the place where the ear joins the cheek and where the hole of the ear is situated.

Karṇa-pālī (lobes of the ears which are generally pierced though not always as in the case of children).

Karṇa-paryanta-sūtra, an imaginary line drawn vertically so as to touch the roots of the ears.

Karṇa-pippalī or *Pippalī* is the short cartilaginous process attached to the inner end of the cheek situated at the entrance to the hole of the ear; the antitragus.

Karṇa-paṭṭi (?).

Karttana, the name of the teeth one on each side of the *sandaṁśa* or the middle teeth in the lower jaw.

Kaṭi-pradēśa, the region on a level with the generative organs.

Kēśānta, the lower end of the spirals of hair which hang in front, somewhat lower than the roots of the hair.

Kēśarēkhā (*sthāpanirēkhā?*), the line formed by the roots of the hair which bounds the forehead at its upper end.

Khaṇḍana, the third tooth in the lower jaw on either side of the medial line.

Krikāṭī, the raised part of the nape of the neck.

Kritāni.

Kūrchcha-rēkhā (*karṇa-kēśa*), the line formed by the roots of the hair which runs near the ear.

Madhya-danta, the name of the two teeth situated next to the *rāja-danta* or the incisors.

Madhya-pradēśa, the place where the thorax ends and the abdomen begins.

Madhya-sūtra, Śiva-sūtra, same as *Brahma-sūtra,* the imaginary line drawn vertically through the centre of the face and about which the body is bilaterally symmetrical.

Mastaka, the top of the head; this word occurs in the description of the figure of Gaṇēśa and appears to mean the frontal process immediately above the beginning of the proboscis.

Mēḍhra, the male organ.

Mēḍhrānta (*sūtra*), an imaginary line drawn horizontally touching the root of the penis.

Mūrdha, the top of the head; in the case of Gaṇēśa it perhaps implies the two hemispherical projections on the top of the head.

Mūtrāśaya, the bladder.

Nābhi, the navel.

Nābhyanta (*sūtra*), an imaginary line drawn horizontally so as to pass through the middle of the navel.

Naḷakā, the shaft of the foreleg.

Nāsā-puṭānta or *puṭa-sūtra,* an imaginary line passing vertically touching the wing of the nose.

Nētra-paryanta-sūtra, an imaginary line drawn vertically from the outer end of the eye.

Pāda-tala, the foot.

Pakvāśaya, the lower abdomen, over the smaller intestines.

Pāli, the bright, narrow line bounding the lips.

Pāripakshaka, the name of the two teeth which are next to the teeth named *madhya* (that is, the canine teeth).

Parahastas, additional arms, which are generally seen in Hindu images

Pārshṇihasta, the wrist.

Piñchhalī or *Piñchhūshī*, a portion of the outer ear; the tragus.

Prakōshṭha, the elbow.

Pushkara, the wall between the nostrils.

Puṭa-paryanta-sūtra, same as *nāsā-puṭa-sūtra*.

Rājadanta, the two incisors (teeth) in the upper jaw.

Sandaṁśa, the two middle teeth of the lower jaw.

Śaṅkha, the spaces between the eyes and the *kēśa-rēkhā*.

Śiraḥ-pṛishṭhāvasāna-sūtra, the imaginary line drawn vertically from the back of the head and touching it.

Smaśrudēśa, the region of the moustache.

Snāna, a portion of the cheek.

Srakva, the name of the two lateral ends of the mouth.

Śrōṇi-dēśa, the region of the abdomen on a line with the navel.

Stana-sūtra, the imaginary line drawn across the chest, passing through the two nipples; same as the *hṛidayānta-sūtra*.

Sthāpanī-sūtra.

Ūru, the thighs.

Ushṇīsha, the ringlets of hair covering the front of the head (?).

Utpāta, the region outside the ear-hole.

Utkshēpa, the hair on either side of the forehead.

Utkshēpa-pradēśa, the region occupied by *utkshēpas*.

Vaktra-bāhya-sūtra, the imaginary lines passing vertically and touching the ends of the mouths (*i.e.*, the *srakvas*).

Vaṁśa, the bridge of the nose, same as *pushkara* (?).

Vārdhā, the space or the valley between the breasts.

Vasti, the region over the bladder.

Yōni, the female organ.

Yōni-pīṭha, the plain raised fleshy surface over the *yōni*.

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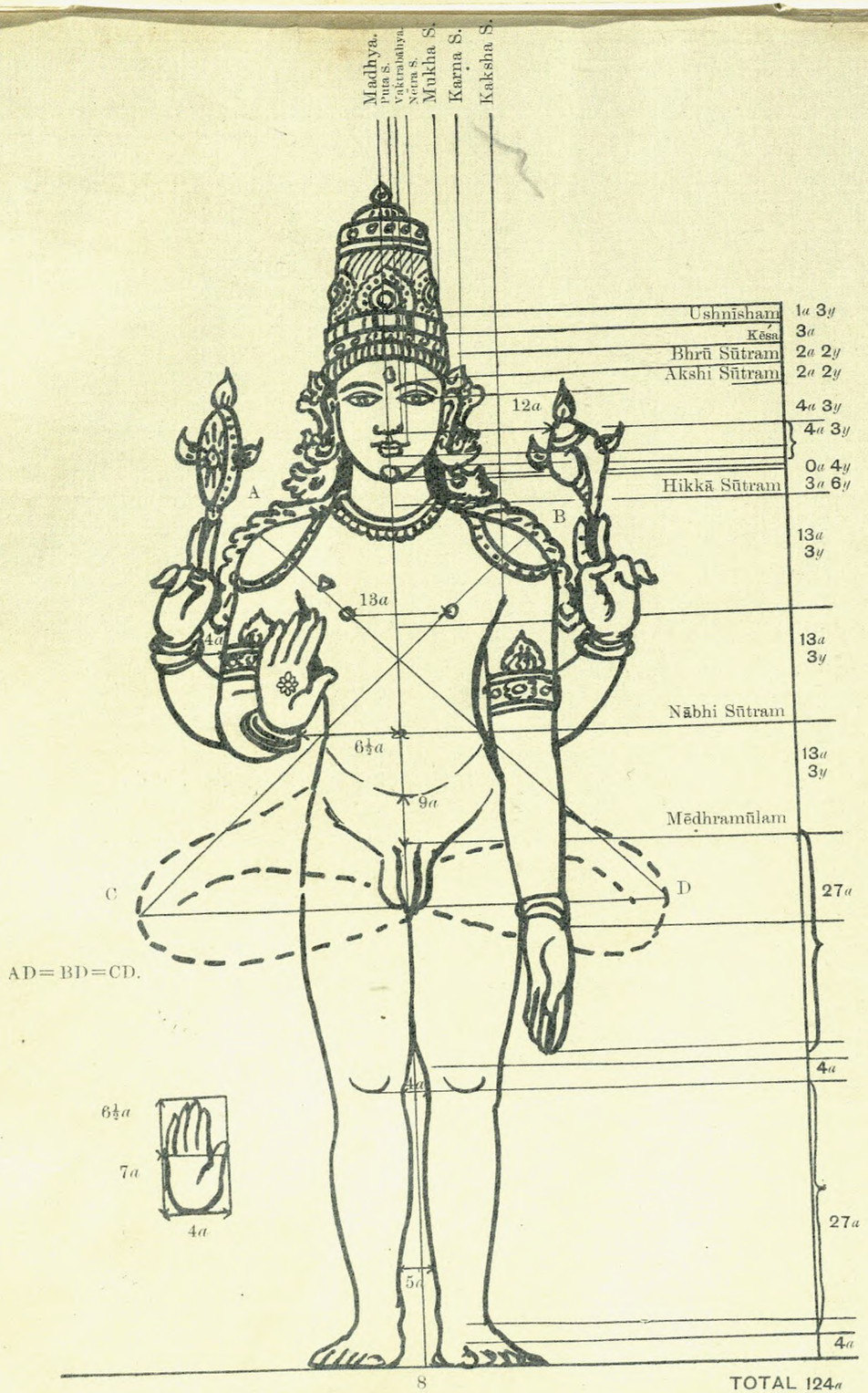
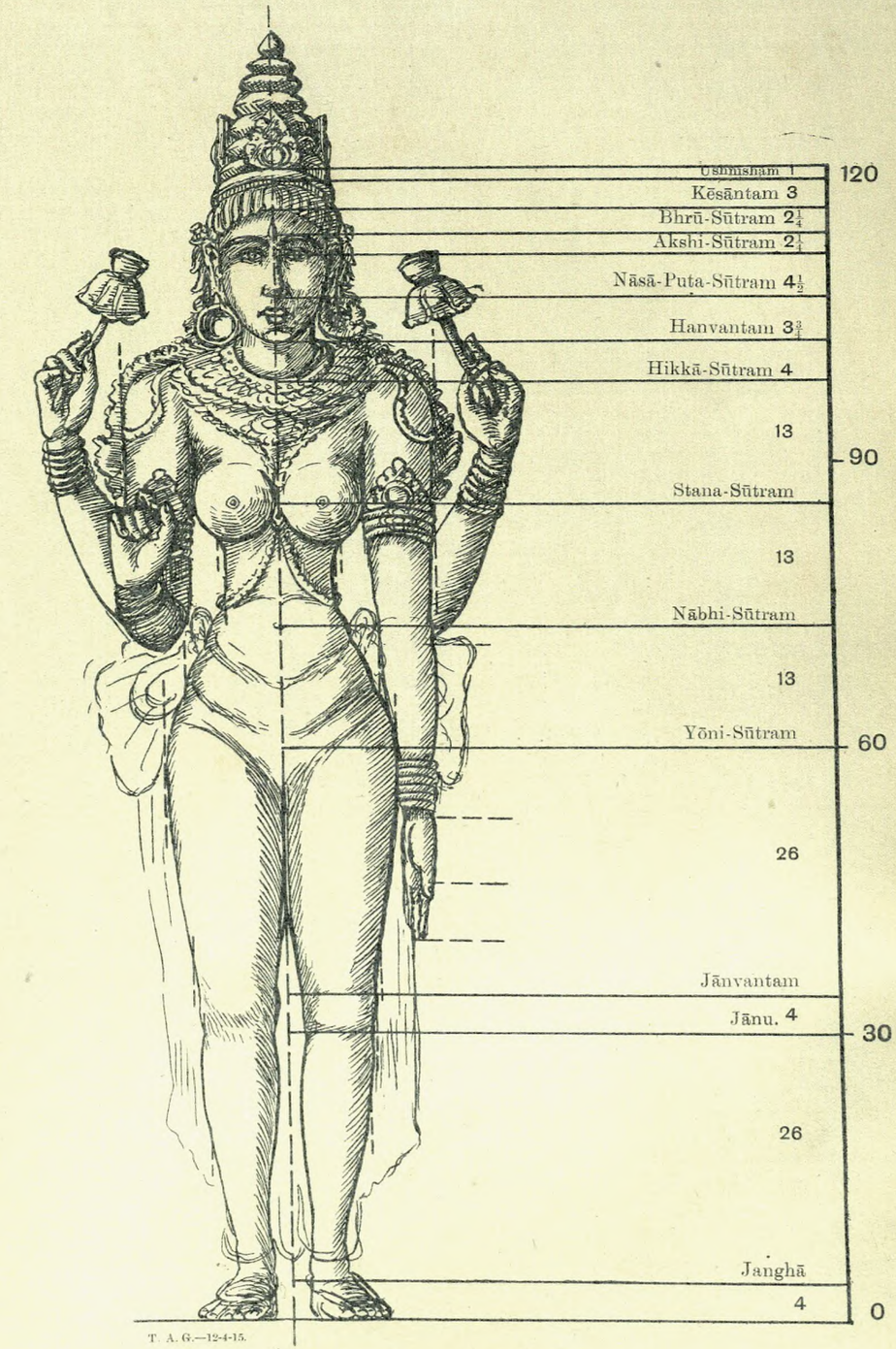


(a) FIGURE OF VISHNU DRAWN IN ACCORDANCE WITH THE UTTAMADASA TALAM.



T. A. G.—12-4-15.

(b) MADHYAMA-DASA TALAM.

PLATE IX.

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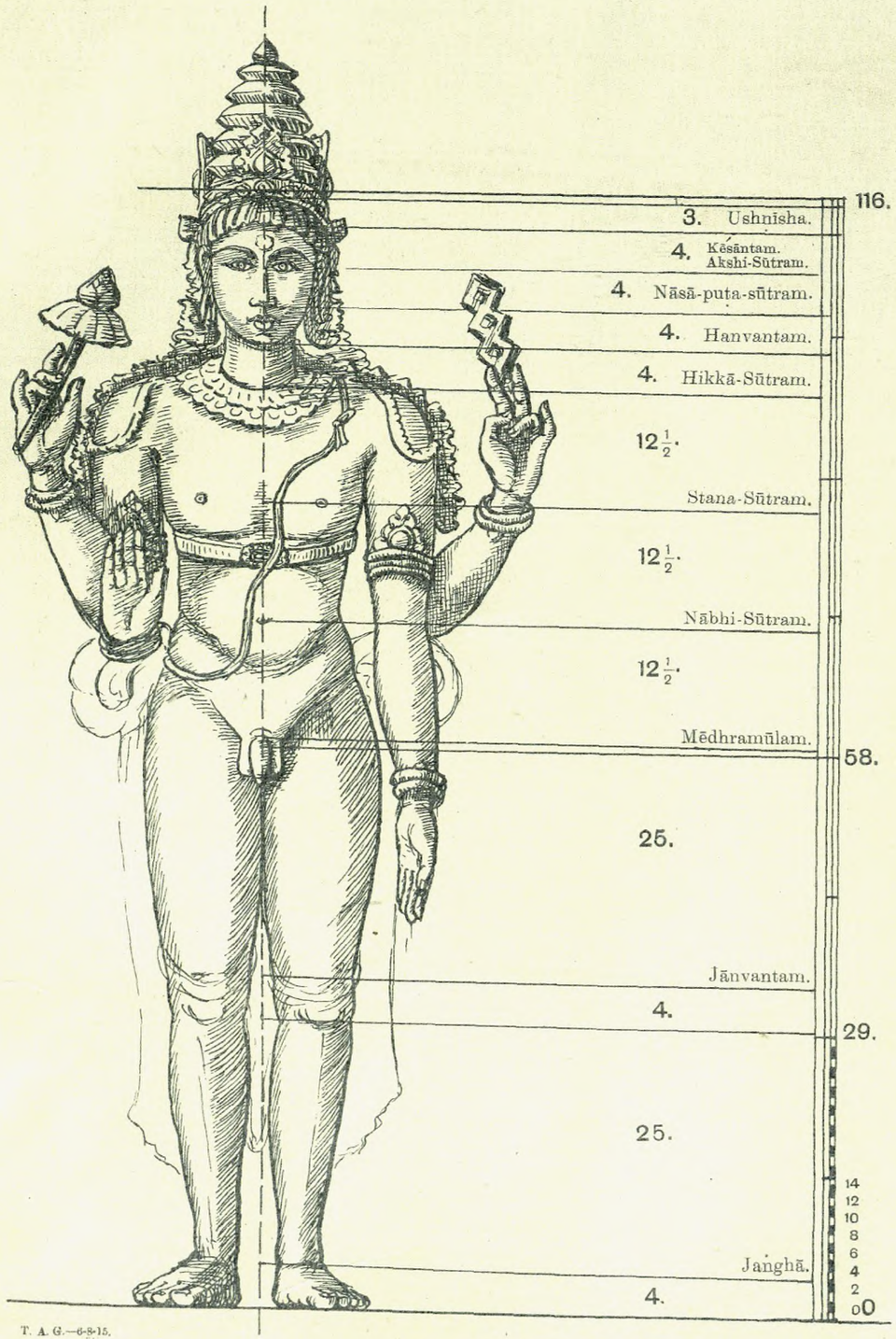
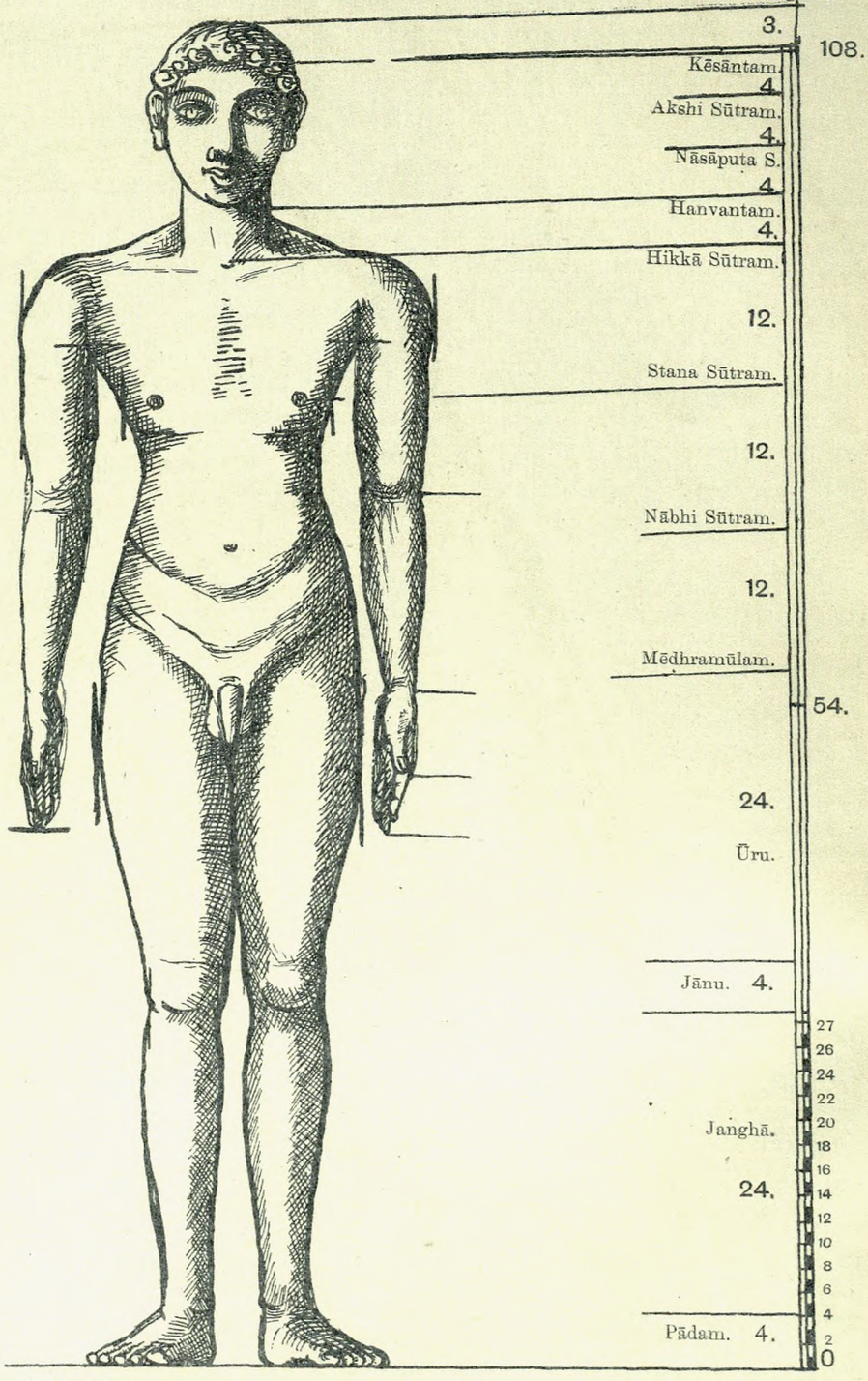


T. A. G.—6-8-15.

(a) ADHAMA-DASA-TALAM.



T. A. G.—6-8-15.

(b) NAVA TALAM. (ACCORDING TO SUKRA-NITI.).

PLATE X.

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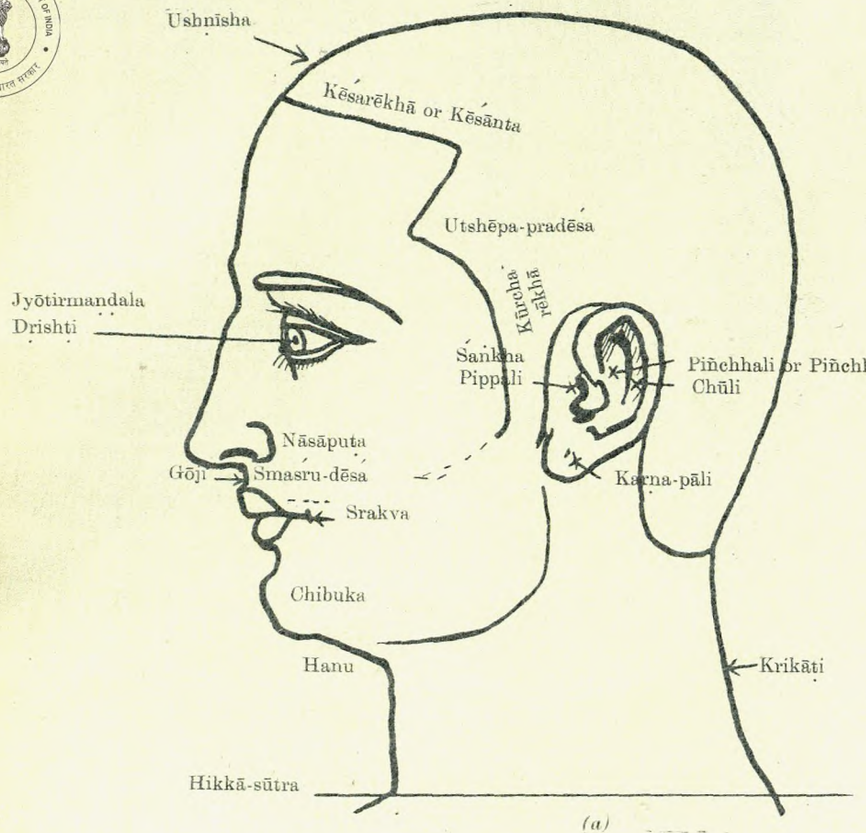


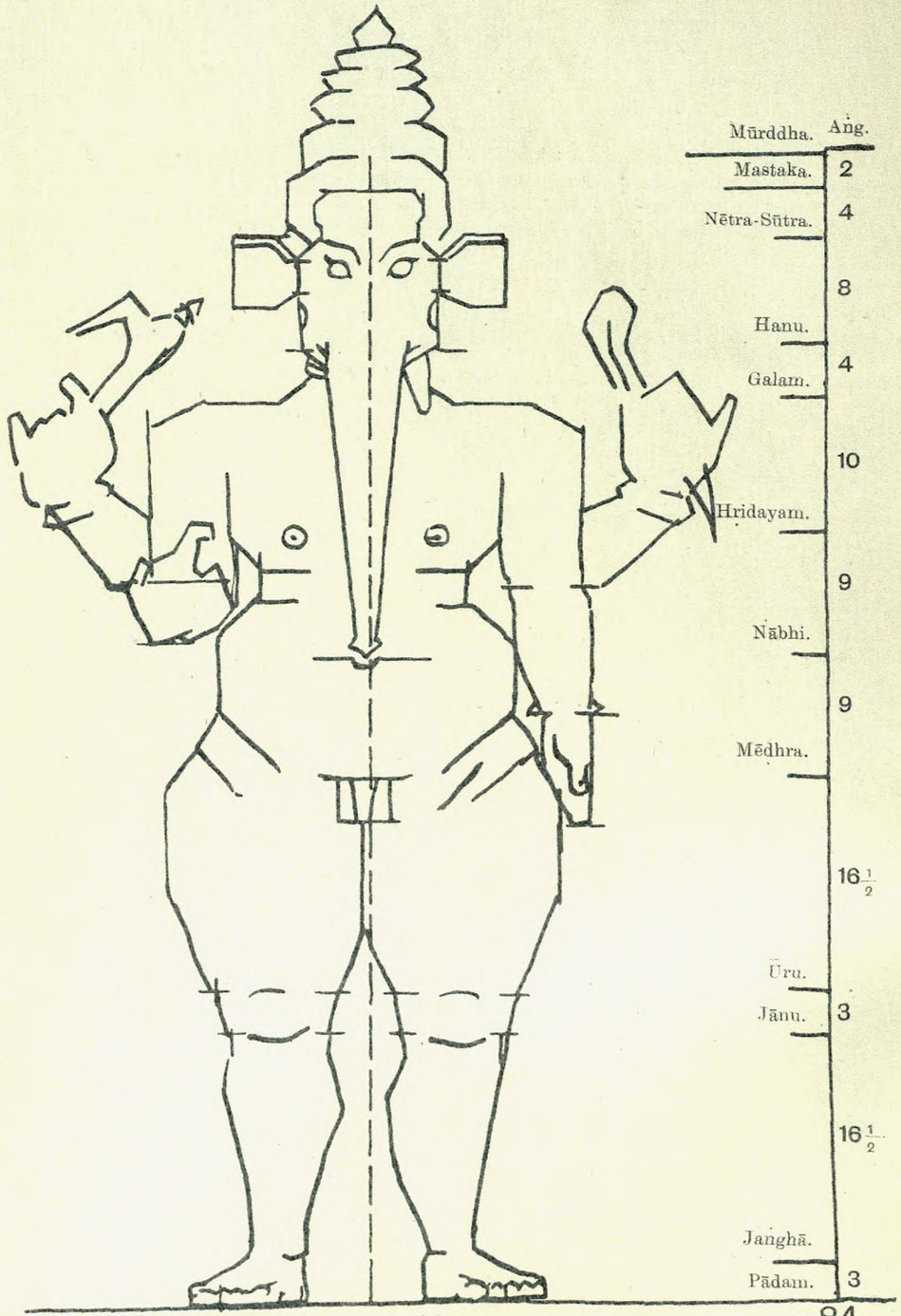
(a)

Measurement of the body of a Child according to the Śukranīti.

(b)

(d)

PAÑCHA TALAM.



(c)

T. A. G.—7-8-15.

PLATE XI.

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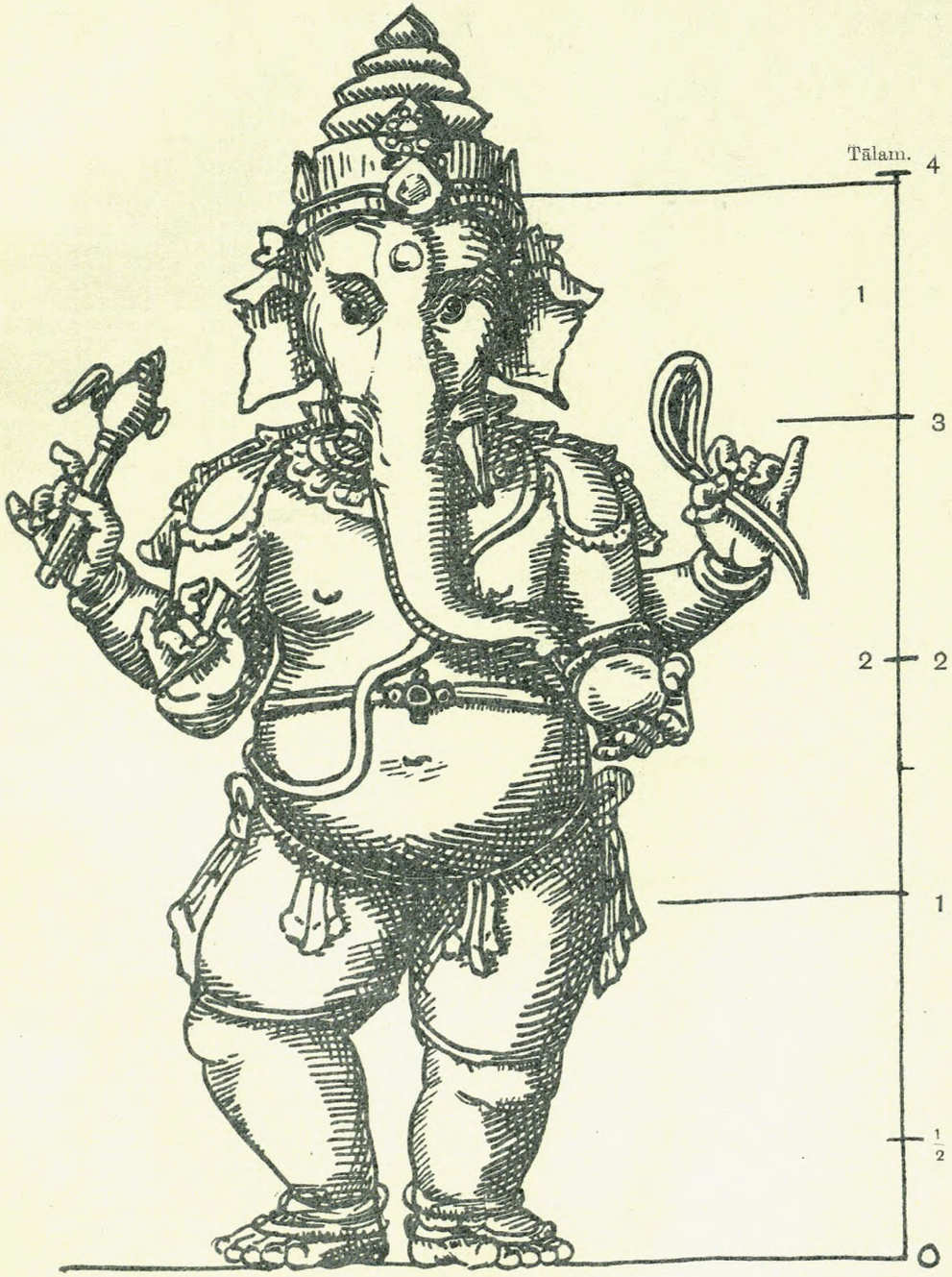
(a). SĀRDDHA CHATUSTĀLAM. (ROUGH MEASURE).



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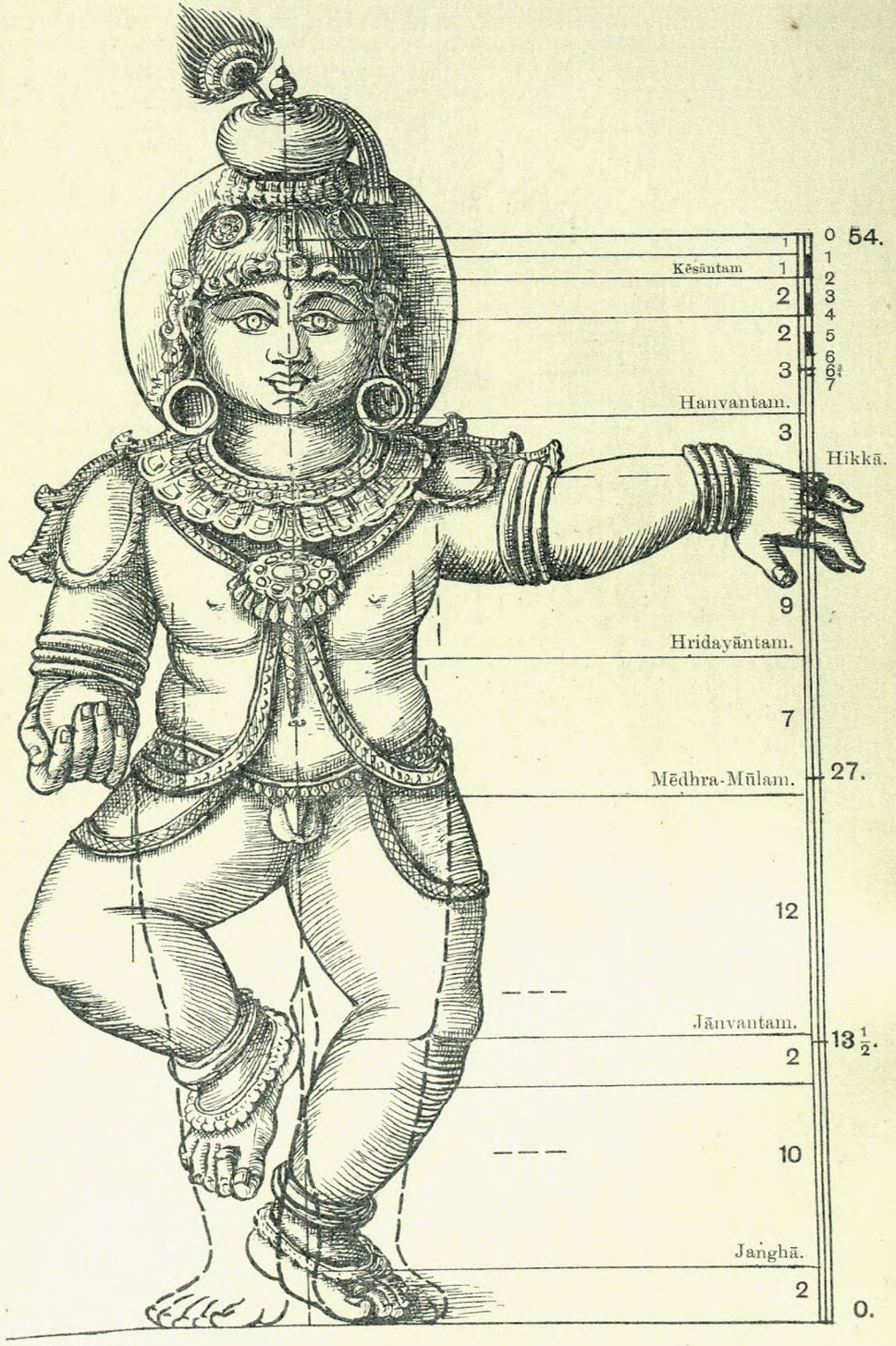

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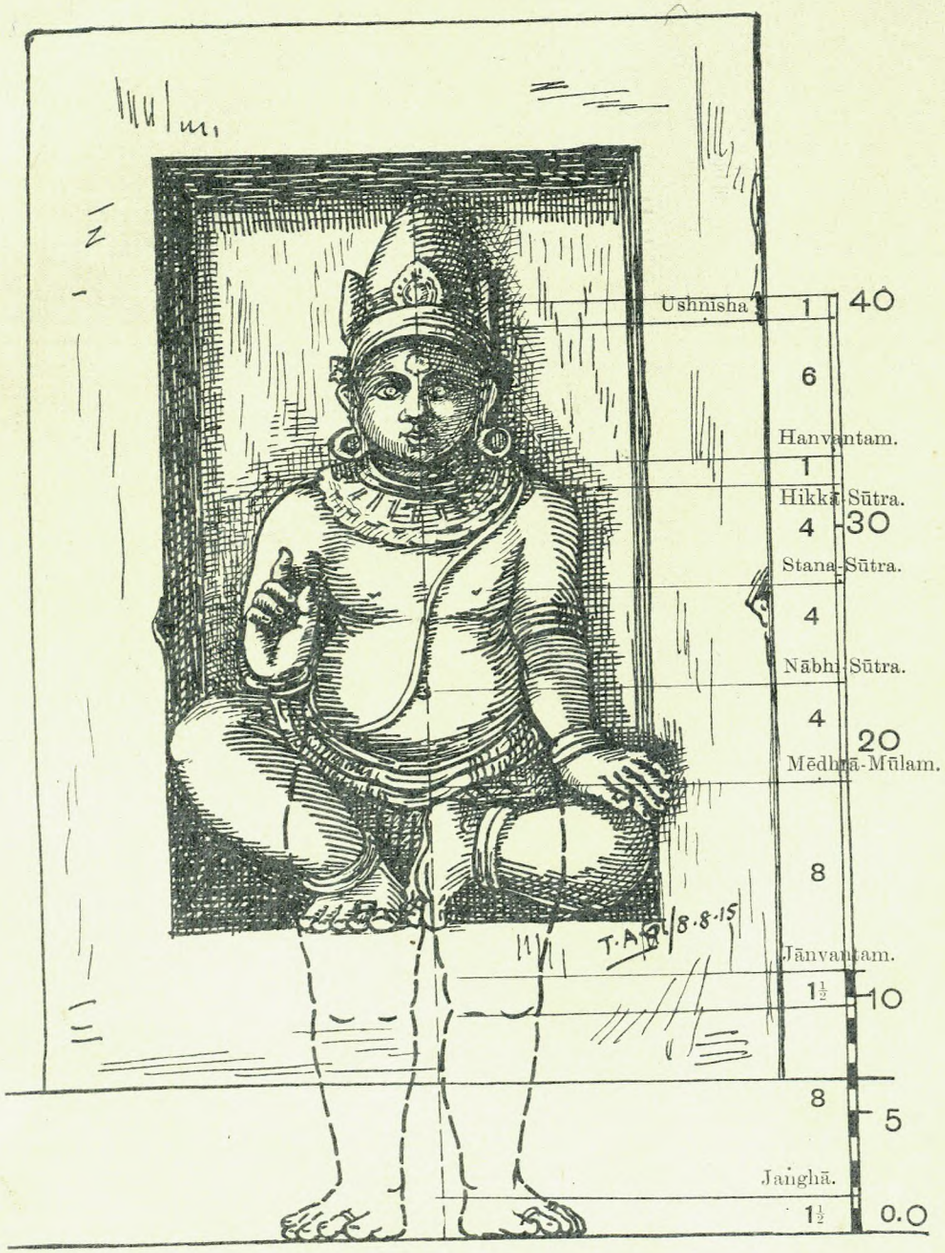

(a) UTTAMA TRITĀLAM.
A Bhūta, from the Śiva temple, Melcheri.

(b) MADHYAMA TRITĀLAM.
A Kinnara, from the Kailāsanātha temple, Conjeevaram.

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MEMOIRS OF THE ARCHÆOLOGICAL SURVEY OF INDIA

No. 4

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BY M. S. VATS, M.A.

PUBLISHED BY THE MANAGER OF PUBLICATIONS

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THE ARCHÆOLOGICAL REMAINS AND EXCAVATIONS AT NAGARĪ.

NAGARĪ is eight miles north of Chitorgaṛh in the Udaipur State, Rājputānā. The place was first visited in 1872 by A. C. L. Carlleyle, Assistant to Sir Alexander Cunningham, and his account of its antiquities is published in *Archæological Survey of India Reports*, Vol. VI, pp. 196-226. This is anything but a satisfactory account. Carlleyle failed to notice here the unique structures now called Hāthī-bāḍā and Ūbh-dīval, though they were then, doubtless, standing as they do now. The loose sculptured pieces, which have been stacked in the heart of the village, and have lain there for at least fifty years, as I was told, did not attract his attention. Being the first antiquarian to visit the place, he was fortunate enough to obtain a large number of old coins; but even of these he was unable to give a correct description, his translations and explanations of the legends being as fantastic and absurd as his readings of them. Kavi Rāj Shyāmal Dās, a Chāraṇ of high rank and fame in the court of Udaipur, and perhaps the most celebrated antiquarian and historian of his time in Rājputānā, visited Nagarī soon after and published an article entitled *Antiquities at Nagarī* in the *Journal of the Asiatic Society of Bengal*, Vol. LVI, Pt. I, p. 74 ff. This is a much more accurate and interesting account than that of Carlleyle. Both the unique structures referred to above have been noticed and described by him, and he has given a short account also of two inscriptions of pre-Christian date, one of which was found at Nagarī itself and the other in a well at Ghosūṇḍī, about four miles north-east of it. No other account of Nagarī and its remains has been published; at any rate, none such is known till 1904, when I visited the place and gave a brief description of it in my *Annual Progress Report*. A bare enumeration of the remains, however, is to be found in the *List of objects of Antiquarian Interest in the States of Rājputānā (Mewar and Partabgarh)*, 1904, which the late Sir Alexander Pinhey, then Resident at Udaipur, drew up with the help of Pandit Gaurishankar Ojha. Beyond what Kavi Rāj Shyāmal Dās describes, this "List" takes cognisance of (1) two Buddhist *stūpas*, and (2) several old capitals of pillars.

At one time Nagarī was part of the Jāgīr of the Ṭhākur of Bassī, but it is now included in the estate of the Rao of Bedlā, a Chohān Rājpūt and a first class vassal of the Mahārāṇā of Udaipur. It has been in the possession of the Chohān family for the last fifty years, and was so even when Carlleyle was there. It is, therefore, inexplicable how he says that in his time it belonged to the Rao of Bhindar, a Sisodia. The village is situated on the right or east bank of the river Beḍach, and at present occupies the northern half of what was once a citadel. Carlleyle, however, says that the southern half, which is not now inhabited, was the real citadel, and that the present village was a mere outlying town towards the north. This is a mistake, because the ramparts of the former, whose traces he found, enclose the whole of the site, and not merely the southern half, as he imagined. The citadel is uncommonly narrow as compared with its length along the river. Its length from north to south is nearly 3,500 feet, and its breadth from east to west varies from 400 to 700 feet. The ramparts consist of big blocks of greyish laminated limestone such as is found in the neighbouring hills in abundance. On the north, east, and south, are traces of an old moat outside the ramparts, which no doubt was originally connected with the river and filled with its water. Vestiges of an entrance to the citadel are found in the east side of the north half. The site of the citadel consists of an elevated flat-topped ridge, and is much higher in level than even the opposite bank of the Beḍach. This has, no doubt, been caused by the accumulation of débris through long-continued habitation. The people of Nagarī do not remember who built the citadel. Evidently it was not constructed during the Rājput period; for its ramparts are composed of large massive blocks of stone packed dry, which is a characteristic of pre-Muhammadan construction. It was not possible to ascertain with accuracy the original level of the ground on which they stood. But it appears to have coincided with that of the *stūpa* excavated near the shrine of Mahādeva in the southern half of the citadel. The citadel may therefore have been of the Gupta period. The old town of Nagarī was situated on the east of the citadel, its breadth being nearly equal to the length of the latter and running parallel to it. Its maximum length was at least three-fourths of a mile.

The ancient remains of Nagarī fall into four classes, *viz.*, (1) inscribed stones, (2) coins, (3) loose sculptures, and (4) structures. Under the first head have to be noticed no less than five inscriptions, of which two have been described, but imperfectly, by Kavi Rāj Shyāmal Dās in his article. Three are entirely new and were discovered by me. Of the former, one is an inscribed slab originally stuck up in the right hand side of the descent, inside the entrance, towards the water of a step-well in the village of Ghosūṇḍī, nearly four miles north-east of Nagarī. From another inscription in the step-well, it appears that it was constructed in V. S. 1556 (=A.D. 1499) by Śṛiṅgāradevī, wife of the Guhila prince Rājamalla, and daughter of the ruler Yodha, founder of Jodhpur. As almost all the carved stones here are believed to have been brought from Nagarī, it was rightly held by the Kavi Rāj that the inscribed slab was originally in Nagarī. Reasons will be adduced further on for showing that it was

in Nagarī, and an attempt will be made to determine to which building it originally belonged. The slab has at present been fixed in a wall of the Victoria Museum at Udaipur. The inscription has been broken on both sides and is preserved only in fragments. It runs thus :—

1. ...(Bhāgava) [t](e)na Gājāyanena Pārāśarī-putreṇa sa..
2. ....[ji]nā bhagavabhyāṁ Saṁkarshaṇa-Vāsudevābhyāṁ
3. ....bhyāṁ pūjā-śilā-prākāro Nārāyaṇa-vāṭe kā(ritaḥ)

The inscription records the erection of a worship stone enclosure on a site called Nārāyaṇa-vāṭa by Gājāyana, son of Pārāśarī in connection with the divinities Saṁkarshaṇa and Vāsudeva. The record is important in more than one way. In the first place, its language is undoubtedly Sanskṛit, and it is therefore somewhat inexplicable why Professor Lüders called it a 'mixed dialect.'[1] The only word that is not quite Sanskṛit is *bhagavabhyāṁ*, which correctly speaking, should have been *bhagavadbhyāṁ*. But *bhagavabhyāṁ* is evidently a mistake of the engraver or the writer for *bhagavadbhyāṁ*,[2] and such inaccuracies are not infrequently met with in inscriptions, about the Sanskṛit language of which no doubt can be entertained. Palæographically, the initial and subscript *r*s have been clearly differentiated in this record. Thus the initial *r* in *Saṁkarshaṇa* has been distinguished from the subscript *r* in °*putreṇa* or °*prākāro*. This is a noteworthy fact, for it is conspicuous by its absence even in Aśoka's inscriptions though the words in which both kinds of *r*s occur are numerous. Bühler assigns this record along with others to the period between B.C. 350 and 250.[3] The Nagarī inscription, therefore, is the earliest in which the Sanskṛit language has been used, and is the only instance of its kind at a period when Sanskṛit is supposed by some scholars to have been long since dead and when all the inscriptions so far found are in Prākṛit. The Nagarī record, on the contrary, is an indication, in my opinion, of Sanskṛit being still, though not widely, spoken along with Prākṛit dialects of that period—a conclusion which is perfectly corroborated by what Patañjali says in his *Mahābhāshya*.[4] The inscription is important also from the religious point of view. In the first place, this is the earliest epigraphic reference to the worship of the gods Saṁkarshaṇa and Vāsudeva. Secondly, Nārāyaṇa-vāṭa appears to be the name of the site on which the temple of these divinities was standing. A similar name, Indra-vāṭa, is mentioned in the *Śrīmāla-purāṇa* as a *tīrtha* or holy site in Bhinmāl in the Jodhpur State, Rājputānā. And the fact that here at Nagarī a similar site is called Nārāyaṇa-vāṭa and that the shrine of Vāsudeva was existing there, clearly suggests that Vāsudeva came to be identified with Nārāyaṇa as early as the fourth century B.C.

The second inscription which has been noticed by Kavi Rāj is a mere fragment. According to his statement it was found on the river bank near Nagarī, but it is now deposited in the Victoria Hall, Udaipur. It consists of

[1] *List of Brāhmī Inscriptions*, No. 6.

[2] The word, as it stands, is a dual, and as there can be no dual in Prākṛita, *bhagavabhyām* must be taken as a solecism or mistake for *bhagavadbhyāṁ*.

[3] *Indian Paleography* (English Translation), p. 32.

[4] *Jour. Bomb. As. Soc.*, Vol. XVI, p. 334 and ff.

two lines, in the first of which only seven syllables have been preserved and in the second only two. It runs thus :—

1. (sa)[vā]bhutānāṁ dayathaṁ
2. (kār)[i]tā

The inscription is in an old mixed dialect, and the characters appear to be of the second century B.C. The purport of the record is not clear.

Of the three new epigraphs which I found in and near Nagarī, one was discovered on a boundary stone between Ghosūṇḍī and Bassī. Only one line was preserved, and of this only the following words....*[te]ṇa Sarvatātena Aśvamedha.* Evidently it records the performance of an *Aśvamedha* sacrifice by one Sarvatāta. This Sarvatāta is not known from other records, but as he is represented to have performed an Aśvamedha sacrifice, he appears to have been a paramount sovereign inasmuch as such alone can celebrate it. It is very difficult to say what the language of this inscription is, but from what little is preserved it appears to have been Sanskṛit. The form of its letters corresponds exactly with that of the Ghosūṇḍī epigraph referred to above, and what is noteworthy here also, is that the initial *r* has been clearly indicated as in that record.

The second of the new inscriptions is engraved on a stone which was found in the house of a Baniā at Nagarī. The stone is broken off at both ends. Parts of two lines are traceable on each side; and the letters inscribed pertain to the 4th century A.D. On one side in the first line are readable the lower portion of the letter *ta* and the subscript *y* of a following conjunct letter. It is possible that originally they formed together the word *tasya.* In the second line the only words preserved are....*sya yajñe Vājapeye yūpo.* In the first line on the other side the only letters that can be deciphered are....*tasya putrai*[*r*]=*y*[*ū*](*po*), and, in the second, ...*j*(*ñ*)*e Vājape*[*y*](*e*). We thus have here an express mention of the erection of a post for the celebration of a Vājapeya sacrifice by at least three brothers whose names have disappeared. It, therefore, seems that the inscribed stone must have originally been part of a stone pillar similar to that found at Bijayagaḍh in the Bharatpur State and put up as a sacrificial post at the time of the performance of a Puṇḍarīka sacrifice, as an inscription incised on it tells us.[1] This last inscription runs vertically down the pillar, and is read from the top downwards. The same must have been the case with the inscribed lines just considered. The part of the pillar which bore them must have been at least a square, if not an octagon, and they appear to have been engraved on two of its faces.

The third inscription stone was discovered by me in the house of a Regar called Hariyā in Nagarī itself. It was originally found, I was told, about a quarter of a mile on the south of the village, not far from the shrine of Mahādeva where I excavated. The stone, when I saw it, had been broken into four pieces, but excepting a few initial letters of the first four lines, the whole epigraph can be read without any difficulty. At my suggestion the stone has now been deposited in the Rājputānā Museum, Ajmer.

[1] Fleet, *Gupta Inscrs.* pp. 252-4; *Archæol. Surv. Rep.*, Vol. VI, p. 59 ff.

The epigraph commences with a verse, in praise of the god Vishṇu, which occupies the whole of the first three lines and part of the fourth line. Then is specified the date, both in figures and words. The object of the inscription is to record the erection of a temple to Vishṇu by the three Baniā brothers, Satyasura, Srugandha and Dāsa. Their mother was Vāsū, and of their father's name the initial letters *Jaya* only have been preserved. They were the grandsons of Vishṇuchara and great grandsons of Vṛiddhibodda.

The real importance of this record consists in the specification of the date and in its telling us what connection the Vikrama era had with the Mālava tribe. The wording used in expressing the date is divided into two parts. The first part speaks of four hundred and eighty-one Kṛita years having expired. From the Mandasor inscriptions of Naravarman discovered by me we learn beyond all doubt that Kṛita was the name of the Vikrama-Saṁvat. In my remarks on this record I have stated that, before it was discovered, the name Kṛita had already been known in two inscriptions to have been applied to the year of this era, but that its full significance had not then been perceived. When, therefore, our inscription uses the same name, we have only to understand thereby that the year 481 was a Vikrama date, and is thus equivalent to A.D. 424. The second part of the date makes mention of the lunar day in the words: *asyāṁ Mālava-pūrvvāyāṁ* 481 *Kārttika-śukla-pañchamyāṁ*, *i.e.* the 5th of the bright half of Kārttika of the year 481. The most interesting expression is *Mālava-pūrvvāyāṁ*, which qualifies *pañchamyāṁ*, the word expressing the lunar day. It is not quite easy to understand what the word *pūrva* in this expression exactly means. At first sight it seems very tempting to take it in the sense in which it is used in such expressions as *etasyām.....pūrvāyāṁ* which we frequently meet with in the epigraphs of the Kushana period. But evidently this meaning cannot suit here, because this phrase invariably follows the specification of the date and never precedes it as it does in our record. Apte's dictionary, it is worthy of note, gives "established, customary, of long standing" as one of the many significations of the word *pūrva*. It is rather unfortunate that the lexicon does not refer us to any Sanskrit work where this word has been employed in this sense. It cannot, however, be denied that the sense suits here excellently, and, what is more important, the expression *Mālava-pūrvvāyāṁ* can thereby be brought to bear precisely the same meaning as similar phrases used in other epigraphs bear, *viz.*, *Mālavānāṁ gaṇa-sthityā* of the Mandasor inscription of Kumāragupta and Bandhuvarman,[1] *Mālava-gaṇa-sthiti-vaśāt* of another Mandasor inscription but of the time of Yaśodharman,[2] and *Mālava-gaṇ-āmnāte* of a third Mandasor inscription referring itself to the reign of Naravarman.[3] *Mālava-pūrva* thus means "established or customary among the Mālavas." Now, it deserves to be noticed that this expression has been used to qualify *pañchamyāṁ* (*tithau*) This shows that the connection of the Mālavas with the era was only in regard to the reckoning of the lunar date. We know that the years of the Vikrama

[1] Fleet, *Gupta Inscrs.*, p. 83.
[2] *Ibid*, p. 154.
[3] *Ind. Ant.*, Vol. XLII, p. 161 ff; *Ep. Ind.*, Vol. XII, p. 320.

era found in old inscriptions present different methods of computation. Thus while some of these are *Kārtikādi*, others are *Chaitrādi*. Some *tithis*, again, conform to the Pūrṇimānta, and some to the Amānta, arrangement of the lunar months. The Mālava system may have represented one of these computations or perhaps a combination of both. What this method of reckoning exactly was we do not know, but it will be easily admitted that this must affect the computation not only of *tithis* but also of years eventually. And this explains why we find the phrases *Mālava-gaṇa-sthiti* and *Mālava-gaṇ-āmnāta* used in connection also with the (Vikrama) years as distinguished from the *tithis*. In the Nagarī epigraph, too, the year 481 has for the same reason been expressly inserted in the wording which specifies the *tithi*.

It will thus be seen that the Mālavas had nothing to do with the foundation of the Vikrama era. The old name of the Vikrama years was Kṛita, whatever that term may mean. The Mālavas were connected with this era only so far as the computation of the *tithis* primarily and of the years eventually went. In my paper on the Mandasor inscription of Naravarman I had suspected this, but this has now been unmistakably demonstrated, I think, by the expression *Mālava-pūrvvāyāṁ* of the Nagarī record employed as an adjective of *pañchamyāṁ* (*tithau*). In regard to the old name Kṛita of the Vikrama year, I have already drawn attention to the fact that the word has in all epigraphs been made to stand in apposition to the phrase expressive of years. It seems as if the years are here intended to be called Kṛita "made, invented," no doubt, for the purpose of calculating time.

Carlleyle was lucky enough to obtain as many as 145 good coins at Nagarī. When I was encamped there last cold season, the people brought several coins to me for purchase, but as almost all of them were too much corroded and defaced, I had to content myself with buying six only. More coins were laid bare during my excavations, but even here some of them were found to be hopelessly corroded and only 18 were in good condition. Of these twenty-four, sixteen are of the 'punch-marked' type, four pertain to the Śibi-janapada, one is a Kshatrapa, and the rest miscellaneous. The Kshatrapa coin is that of Mahākshatrapa Vijayasena with the date 161 (=239 A.D.). Carlleyle found two Kshatrapa coins, one of Atri Dama (Bhartṛidāman) and the other of Asa Dama (Yaśodāman). Of the sixteen Kārshāpaṇa coins I found at Nagarī, the obverse seems to have been generally punched with four symbols and the reverse with two, with sometimes the omission of one symbol. What these symbols are have been described on page 148, and they appear to me to be peculiar to the Kārshāpaṇa coinage of Nagarī. The most interesting of the coins found here by me or by Carlleyle are the coins of the Śibi-janapada, not because of the symbols on them but because of the legend which they bear. It has not been found in its entirety on any single coin, but a comparison of many enables us to read the whole. The letters of the legend have been correctly read by Carlleyle, but he divides the words curiously and puts a fantastic interpretation on them. Cunningham, however, was the first to divide the words correctly. The legend runs thus: *Majhimikāya Śibi-janapadasa*. Cunningham translates it

by "(Coin) of the *Madhyamikayas* of the country of *Śibi*."[1] It is impossible to accept this translation, for, in the first place, *Majhimikāya* is here obviously the genitive singular of Majhimikā (Madhyamikā), and, secondly, it is inconceivable how Nagarī and the south-easternmost part of Rājputānā can ever be looked upon as forming part of the Śibi country which was situated far northwards in the Punjāb. Professor Kielhorn was the first to identify Majhimikā of this legend with Madhyamikā mentioned by Patañjali as having been invested in his time by a Yavana king, and takes it to be the old name of Nagarī.[2] This identification was a distinct further step towards the correct interpretation of the legend. Taking advantage of this suggestion, Mr. V. A. Smith translated it by "Coin of Majhimikā (Madhyamikā) in the Śibi country."[3] But this rendering is open to the second of the two objections urged against Cunningham's interpretation, for we have absolutely no evidence that the Śibi country included Nagarī and the surrounding region, and what little evidence there is on this point points to its location in the Punjāb. Besides, no instance of coinage is yet known to have been issued in the name of a place, as Mr. Smith's interpretation implies. The only correct translation of the legend would in my opinion be 'Coin of the Śibi *janapada* of the Madhyamikā [country].' The word *janapada* no doubt means 'an inhabited country' but it also signifies 'an autonomous people.'[4] The latter is the only sense in which the word is to be taken in the interpretation of the legend. This is confirmed by another class of coins, which bear the legend: *Rajaña-janapadasa*, 'Coin of the Rājanya people.' The term *Rājanya* is not here the Sanskritised form of the Rājput title Rāṇā, as is supposed by some numismatists and scholars, but is rather the name of a people whose existence is attested by the Rāṇās residing in the hill districts of the Punjāb and Rāṇes of the Goa territory.[5] This tribal signification of the word has been known since the time of Pāṇini, who mentions them in his aphorism, *Rājanyādibhyo vuñ* (IV. 2, 53). This *sūtra* teaches us that if *vuñ* is applied to terms such as *Rājanya* and others, the word so formed becomes expressive of their country. Thus Rājanyaka means the country of the Rājanyas. Evidently by Rājanyas a specific people is meant—a conclusion which is strengthened by the fact that along with Rājanyas are mentioned Udumbaras, Ārjunāyanas and others to form the *Rājanya-gaṇa*. As Udumbaras and Ārjunāyanas are well-known tribes referred to in inscriptions and coins, I have no doubt that Rājanya also denotes a tribe or people, and the word *janapada* occurring in the legends of the Śibi and Rājanya coins must necessarily mean 'an autonomous people or tribe.' Instances of coinage struck by the various tribes in India are well known, but coins issued in the name of a country are entirely foreign to Indian numismatics.

It is thus clear that the coins found at Nagarī are those struck by the Sibi[1] tribe. From the references to this people contained in the works of Greek writers such as Strabo and Quintus Curtius, and of Sanskṛit literature such as

[1] *Archæol. Surv. Rep.*, Vol. VI, p. 203 and Vol. XIV, p. 146.
[2] *Ind. Ant.*, Vol. VII, p. 266.
[3] *Early History of India* (3rd ed.), p. 213.
[4] *Carmichael Lectures, 1918*, pp. 172—4.
[5] *Jour. R. As. Soc.*, 1908, pp. 540—1.

the Mahābhārata, Bṛihatsaṁhitā and so forth, the habitat of the Śibis seems to have been in the Punjāb, and, in particular, the central tract lying between Lāhore and Multān.[1] A vase originally found at Shorkoṭ and now lying in the Lahore Museum makes mention of Śibipura, which may be identical with Shorkoṭ itself. It may be asked how the Śibis, if they were settled in this part of the Punjāb, came so far south as Nagarī, which is in the south-easternmost part of Rājputānā. Epigraphic and ethnological evidence is abundant and unmistakable that tribes of various kinds such as the Malli or Mālavas, Ahirs or Ābhīras, Gurjaras, and so forth never stuck to their first settlement in India but freely migrated eastward and southward. Some of the Śibis must have similarly left their original home and made a settlement for themselves in and round about Nagarī. And it is, no doubt, to distinguish the Śibis of Nagarī from those of the Punjāb that in the coin legend a specific mention seems to have been made of Madhyamikā, which unquestionably was the old name of Nagarī and also of the district round about it. It has been stated above that Patañjali (c. 150 B.C.) speaks of Madhyamikā as being besieged by a Yavana king, and refers to it in such a manner as to show that the event took place in his time. This Yavana or Greek king has long ago been identified with Menander, and there is no doubt that the Madhyamikā invested by him is Nagarī. From the ruins and inscriptions found here, Nagarī appears to have been a place of very great importance. As has already been stated, one of the epigraphs discovered by me here makes mention of an Aśvamedha, and another of a Vājapeya sacrifice, performed here. Though the latter is to be ascribed to the 4th century A.D., *i.e.* the early Gupta period, the former has certainly to be assigned to the 3rd century B.C., *i.e.* at least a century prior to the time of Patañjali. The place, where an Áśvamedha sacrifice was celebrated, could not but be the capital of a paramount sovereign, who alone was entitled to perform it. And it is quite natural that the Greek prince, aspiring to the rank of the supreme ruler of India, could not possibly leave the king of Madhyamikā (Nagarī) unvanquished. Seeing that Madhyamikā was a place of such consequence, I started finding out whether the country or the people residing in and about it were referred to in works of Sanskṛit literature, and I was delighted to find at least two such references. Chapter 8 of the *Sabhāparvan* of the Mahābhārata, while describing Nakula's expedition of conquest in West India, informs us that this Pāṇḍava, after subjugating Daśārṇa, *i.e.* the province with Vidiśā or Besnagar as its capital, turned up northwards and came down southwards conquering the tribes Śibis, Trigartas, Ambashṭhas, Mālavas, Pañchakarpaṭas and Mādhyamakeyas, after vanquishing whom he again turned back and went north to Pushkara. Mādhyamakeyas are evidently the people settled in Madhyamikā country, which is south both of Pushkar and the south-eastern part of the Jaipur State which the Mālavas were occupying from 150 B.C. to 330 A.D. The *Bṛihat-saṁhitā*[2] also places Mādhyamikas in the Madhya-deśa or Middle Country along with Matsyas who were situated round about Bairāṭ in the north-eastern part of the Jaipur State. By Mādhyamika Dr. Fleet under-

[1] Cunningham, *Archæol. Surv. Rep.*, Vol. XIV, p. 145.

[2] Cap. XIV, v. 2.

stands 'people in the middle country,' but it is not clear on what authority he says so. Grammatically speaking, the name must mean only 'a people living in Madhyamikā country.' I have no doubt, therefore, that Madhyamikā continued to flourish till the 7th century A.D. when Varāhamihira, author of the *Bṛihat-saṁhitā*, lived, and in support of this position it may be mentioned that ruins of the mediæval period are by no means few at Nagarī. A reference to Madhyamikā may also be traced in a fragmentary inscription of the second century B.C. found at Barl in the Ajmer district, the last line of which is ....*raṁni* [*Vi*]*ṭh*(*e*) *Mājhāmike* [*y*]-. So far as these words stand, a king of Madhyamikā called Viṭha seems to be here alluded to.

As I was encamped at Nagarī for more than two months it was possible for me to make a careful search for loose sculptures. These were numerous, but most of them were devoid of any interest. I confine myself here to a description of only those which struck me as important. In the heart of the village is a goddess called Kaṅkalī Mātā, who is worshipped in the open. A small enclosure wall has been put up by the villagers round this deity, consisting of sculptured fragments. Of these two were originally capitals of pillars of the Gupta period. One of them is 2′ 6″ square and is 1′ 9″ high. The upper section is ornamented with the high seated lions back to back. Below is shown foliage hanging at each corner and the intervening space has been occupied with foliage and reed ornament. The piece ends with a round abacus 8′ in circumference. On the top surface are five socket holes, one in the centre and the remaining four one at each corner. The other Gupta capital is a fragment. Only the upper section of it has been preserved, and that too in half. As it is, it is 1′ high, and as the preserved side measures 1′ 11½″, it appears to have been 1′ 11½″ square. Instead of lions we have here bulls, but with a Kīrtimukha between, with a pendant issuing from the mouth (Plate XIV. *a*). Not far from the open shrine of Kaṅkalī Mātā is a round *āmalaka* piece of the mediæval period, 1′ 9″ high (Plate XIV. *b*). It is said to have been brought here for tying the Rao of Bedla's elephant.

About two miles south of Nagarī village is a big mound called Kuṇyārḍī, half of which belongs to Nagarī and the other half to a neighbouring village. On the top of it has been installed a deity, the name of which the people were not able to tell me. Here also an attempt seems to have been made to raise a tiny enclosure wall mostly of plain stones. The only dressed stones here detected were really parts of a small plain but old railing, and consisted of one coping piece, one rail pillar broken into two, and two rail bars which no doubt belonged to this pillar as they fitted into its socket holes (Plate XIV. *c*). Curiously enough, one side of each bar has been carved into a *kangurā* ornament.

About a mile east of the Kuṇyārḍī mound is a place locally known as *Sāḍū Mātā-kī bolavṇā*. The image, which is here worshipped as Sāḍū Mātā, represents really the god Revanta, a son of Sūrya, the sun (Plate XV. *b*). He is seated on a horse, his left hand pulling the bridle and right bearing a cup of wine. Behind, is an attendant holding an umbrella over him. The staff of the umbrella alone remains. The top of the umbrella and the head of Revanta

are gone. In front of the horse is a man playing on a tabor. Between the legs are two attendants and a heifer. Near this image are hosts of others, but these last are mere fragments and are unidentifiable. They have all been placed in a rubble wall enclosure. In the close vicinity of the enclosure begin the low lands of the hills and here are lines of rock of the lamiferous kind springing out of the earth and running parallel to one another. Evidently we have here a quarry of the Gupta period exploited for the purposes of sculpture (Plate XV. *a*). I found here one huge block of stone which was being carved into a lion of the Gupta style (Plate XV. *c*). Only the outline of the animal has been sculptured, the details being left uncarved. Again, I lighted upon two model pillars, of which only one was in good condition. It was only 2′ 2½″ high. It is square at the bottom, octagonal in the middle, and round at the top. A large pillar is standing close by it, which was no doubt being cut out after this pattern. Only the square and octagonal sections were sculptured, the round portion being not begun at all. It is this pillar which is supposed to be the rod with which Sāḍū Mātā churned her milk (*bolavṇā*). Two *āmalaka* pieces were also here seen by me, of which one was unfinished. The model pillars and the other sculptures which are in an unfinished condition leave no doubt in my opinion as to the sculptors of the Gupta period having worked in this quarry and sent their finished products to Madhyamikā to be set up in the structures for which they were destined.

One class of objects which I noticed while surveying the antiquities on the surface of the earth, and which struck me with some astonishment, was the moulded bricks. Only three specimens of this plastic art were found ; but they were enough to convince me that this art was practised in olden days at Nagarī, —an inference which was afterwards more than amply corroborated by the find of more moulded bricks in my excavations at the Mahādeva temple mound. These three bricks I found near the open shrine of Kaṅkalī Mātā referred to above (Plate XXI. *a*). One of them is square, with its border decorated with a ripple ornament and with an erect palm tree standing at one side. The second is a fragment, but enough is preserved to show that it was of a semi-circular shape. The edge is formed by what looks like a lotus nimbus. What the nimbus originally surrounded cannot be made out with certainty, but it appears to be the head-dress of some figures. Of the third brick only the lower portion is preserved, and it shows the lower body of a person seated on a chair. The reason why the discovery of these bricks astonished me was that they should have been found at Nagarī which was situated in a hilly region and where consequently stone was the natural building material. In whichever hilly district we find ancient monuments, we notice that the plastic work is of wrought stone. At Sāñchī, for example, which is in the midst of hills, we find all sculptures of stone. In Sind or in the plains of the Punjāb and the United Provinces where stone is scarce, the laying of moulded bricks is perfectly normal and intelligible. But it is inexplicable at Nagarī, where one sees nothing but hills all around, and where stone is the natural and cheapest building material. What is still more noteworthy is that the moulded bricks which were unearthed in exca-

vations here are terracottas of a high order, and can, in point of texture and artistic merit, bear comparison with those that are found in Gandhāra. Evidently this plastic art seems to have flourished greatly in Madhyamikā, and the question arises: why should it have been in such practice at Nagarī where stone mouldings alone would be expected? It is not easy to give a reply, but perhaps the explanation is that it was brought by the Śibis from the Punjāb. It, however, deserves to be noticed that whereas some motifs from Greek art were clearly borrowed in the Gandhāra terracottas, they are conspicuous by their absence in the Madhyamikā specimens. The Śibis migrated into the southern parts of Rājputānā about 150 B.C., at a time when Greek art had not yet exercised any influence over that of Gandhāra, and this seems to be the reason why no Greek influence is traceable in the terracottas found at Nagarī.

One other class of objects which I noticed at Nagarī deserves to be described. They are designated *ghāṇis* or oil mills by the people there. But what their exact purpose was is not clear. Six such were found by me, not far from one another, and lying on the east of the southern half of the citadel immediately beyond the moat. Of these, three were laid bare, but only one was found whole and entire (Plate XVI. *b*). It was 5′ 3″ high, of which the upper 8″ were fairly well dressed. The lower portion was very rough and tapered to the bottom. The top surface has been cut into two concentric rings, of which one is 1′ 5″ and the other 2′ 4″ in diameter. The inner ring has been hollowed to a depth of 1′ 3½″ and is connected with a ladle-shaped slit cut in the vertical face of the *ghāṇī* for carrying its contents through a stone channel below into a drain. This drain has an earthen bottom, and its sides are formed of stone chips and brick bats. It was traced over a length of 9′, and seems to have been covered with stone slabs. On each side of the *ghāṇī* was found a long narrow stone, which no doubt was hammered down to fix the *ghāṇī* tight into its position in the hollow in which it was placed.

Of the ancient structures only two are at present standing near Nagarī. The first is that known as Ūbh-dīval or vertical lamp, about a mile north-east and on the outskirts of the village (Plate XVI. *a*). On its summit, it is said, was placed a huge concave vessel which was filled with cotton seeds soaked in oil. These were lighted and served as a beacon lamp at night to the whole of Akbar's camp when he had come and was settled there for reducing Chitorgaṛh. It is a pyramidal tower constructed of twenty-one huge square blocks of limestone closely fitted to one another, and is nearly 37′ high, including the topmost block which has now fallen down. It is 14′ 2″ square at the base from outside, and was 2′ 6″ square at the apex when the fallen block was in position. What its inside is like will be seen from Plate XVII. It will be observed that the structure was solid for 4′ from the bottom, then hollow for about 20′, and solid again up to the top. The tower has seven small openings which are supposed to be windows for admitting light; but this is very doubtful and the openings seem to have been gaps created by the fractured bits of the stone blocks having disappeared. There are no traces of a staircase inside, and even if there had been any, it could not have led to the summit. Colonel Tod, in his brief

description of this monument, expresses regret that in consequence of an accident he had met he was unable to climb the staircase "trodden no doubt by Akbar's feet." This staircase possibly was an outer one and of wooden construction which has now perished. This monument, like the next to be described, is of such a unique character that it gives rise to several questions such as (1) whether it was really of the time of Akbar, (2) if not, what purpose it originally served, and (3) when it was erected. All these questions will be considered further on.

The other structure is that locally known as Hāthī-bāḍā, about half a mile east of the village. It is an open rectangular enclosure, and is so called because it was used as an elephant stable when Akbar came to invest the fort of Chitorgaṛh and was encamped near Nagarī. The structure is in a more or less dilapidated condition, but has been sufficiently well preserved to give an idea of what it was originally like (Plates XVI. *c.* and XVIII). It is 296′ long and 151′ broad from outside and 290′ long and 145′ broad from inside. Traces of an entrance are visible in the south wall. Whether there was any similar entrance provided in the north wall, it is now impossible to determine as the greater portion of it has been destroyed. Each wall was originally 9′ 6″ high, and consisted of five successive layers of heavy massive blocks of laminiferous stone placed one upon the other. The stone was no doubt originally grey in colour, but has now become dark with exposure. The blocks have been well dressed where exposed to view. Of the upper and under surface, only 3″ from the edge have been dressed, the remaining portion being left rough but somewhat concave so that only the dressed border of the upper side of one block came in immediate contact with that of the underside of the block upon it, leaving a slight hollow in between. The characteristic feature of the wall is that it is pyramidal in section. Naturally, therefore, not only do blocks vary in thickness in different layers, but no single block has uniform thickness. The thickness of the wall is 3′ 6″ at the bottom and 1′ 3″ at the top. Each wall was originally crowned by a coping stone, slightly moulded at the top. The inside of the enclosure was of a fairly uniform level except at the centre where there were traces of a dais said to have been constructed in Akbar's time to feed his elephants.

When I first carefully examined this Hāthī-bāḍā in November last, the first question that occurred to me was: What could have been the purpose of this structure? While I was pondering over this question, I was reminded of the Ghosūṇḍī well inscription summarised above, because the stone on which it was engraved was not only of the same laminiferous variety as that the Hāthī-bāḍā stone, but originally formed part of a massive block similar to those used in that structure. As the stones employed in the construction of the Ghosūṇḍī well are believed to have been taken from Nagarī, it but confirmed my hypothesis. But did the contents of the inscription support it? It spoke of the erection of a *pūjā-śilā-prākāra* by Gājāyana, son of Pārāśarī, for the gods Saṁkarshaṇa and Vāsudeva. Now, what did the Sanskṛit expression mean? Obviously it meant a worship stone enclosure, *i.e.* a stone enclosure round an object of worship to distinguish it from enclosures surrounding, *e.g.*, palatial

buildings. The epigraph was thus found to give confirmation to my hypothesis, because Hāthī-bāḍā was a stone enclosure, and further, if my hypothesis was in any way correct, the inscription told us that the building originally enclosed a shrine of the gods Saṁkarshaṇa and Vāsudeva. But it remained to be seen whether any independent testimony could be found to support the inference that the structure was connected with Vāsudeva worship? Accordingly I made a very careful inspection of the stones composing the enclosure walls with a view to see whether there were any inscriptions anywhere engraved. One such record was found. Though it was somewhat weatherworn, there was no doubt that the letters were to be read *Śrī-Vishṇupādābhyāṁ*, and were in characters of the 7th century A.D. Taken by itself, this short record, though it showed that a temple of Vishṇu was standing here in the 7th century A.D., did not necessarily prove that it was in existence in the 3rd or 4th century B.C., to which period the Ghosūṇḍī inscription had been ascribed. If, however, it was taken in conjunction with and not in isolation from the facts stated above, they all agreed with one another in such a manner as to leave no doubt in my mind that the Hāthī-bāḍā was originally an enclosure round a shrine of Vāsudeva who continued to be worshipped there till 700 A.D. Granting that this conclusion was correct, was there evidence to show that objects of worship were surrounded by stone walls, especially at that early period? Without being dogmatic on the point, I must say that I could not help thinking that what we now called railings round *stūpas* were really *pūjā-śilā-prākāras*, though they were round and ours was rectangular. It is true that no inscription on their railings had yet come to light which told us how they were originally styled. It must, however, be stated in this connection that a similar expression was not unknown to me from an Aśoka inscription. I refer here to *silāvigaḍabhīchā* occurring in the Paḍariyā or Rummindeī pillar inscription.[1] Scholars previously divided these letters differently into most embarrassing words, but Sir Ramkrishna Bhandarkar was the first to show that this was really one phrase, meaning "an enclosure or railing made of stone."[2] I was glad to find that Dr. Fleet substantially agreed with him.[3] Personally I would understand the phrase to mean *śilā-vigaḍa-bhīchā*, *i.e.*, a huge stone wall. What Aśoka wanted to tell us was that he constructed this wall round the spot of Buddha's birth, which was already an object of worship and where he actually worshipped. The word *vigaḍa* in the phrase, which corresponds to the Sanskṛit *vikaṭa* (huge, stupendous) is noteworthy, and is no doubt significant of the huge massive blocks which must have composed this wall like Hāthī-bāḍā. I could, therefore, safely take it that Hāthī-bāḍā as *pūjā-śilā-prākāra* was not of a unique character and could very well be supposed to have enclosed an object of worship, which in the present case was the divinities Saṁkarshaṇa and Vāsudeva, especially as an exact instance in point was provided by the railing which surrounded the shrine of the latter god unearthed by me near Khām Bābā at Besnagar two years ago. This

[1] *Ep. Ind.*, Vol. V., p. 4.
[2] *Jour. Bomb. As. Soc.*, Vol. XX, p. 366, note 14.
[3] *Jour. R. As. Soc.*, 1908, pp. 476-7.

railing, the Hāthī-bāḍā enclosure, and the railings of the *stūpas* were all *pūjā-śilā-prākāras*, though they were of different types. It was now necessary to decide whether this was an early structure and especially whether it could have existed during the 3rd or 4th century B.C., to which period the inscription has been assigned. The mere architectural style of the building did not give us much help in fixing its age. It, no doubt, told us that it was a pre-Muhammadan structure, and its stupendous lithic components indicated that it was to be ascribed to a very early period. But what this early period was, the architectural style was unable to tell. Accordingly I sunk several trenches here, and also with the object of determining whether any other buildings stood inside or outside the enclosure. Unfortunately for me I experienced great difficulties in obtaining an adequate supply of coolies, and though the first and main object was fulfilled, the second was but very partially realised. The places where the trenches were cut have all been shown in Plate XVIII.

The ground round the Hāthī-bāḍā was highly undulating, but in a trench at the south-east corner where there was the maximum accumulation of débris, coins of Śibi-janapada referred to above were found at a level of about six feet above the original ground of the Hāthī-bāḍā. I have stated above that these coins have to be assigned to the middle of the 2nd century B.C. If they are of such an early period and were found at a much higher level than that of the original ground of the structure, the latter can easily be assigned to 300 or 250 B.C., to which period the Ghosūṇḍī inscription has to be attributed. Nothing, therefore, precludes us from supposing that the stone on which this inscription is engraved was originally part of this enclosure, and that consequently it enclosed a shrine of Saṁkarshaṇa and Vāsudeva of 300 or 250 B.C. at the latest. This is, therefore, the earliest trace of a Vāsudeva temple discovered, the next earliest being that at Besnagar (ancient Vidiśā) which I laid bare near Khām Bābā two years ago, and which belonged to about 200 B.C.

Very little of the Hāthī-bāḍā shrine has survived. In the west half of the enclosure were found remains of a brick platform, which originally ran east to west. It is 34′ broad on the east side, the west being untraceable. Of its length only 15′ could be traced on the north, and 12′ on the south side. It seems to have been constructed of three courses of bricks only. The platform stands on a floor which appears to have spread over the whole ground inside the enclosure. The floor seems to have been composed of different materials at different places. In front of the platform it consisted of a course of concrete upon that of pulverised bricks. In another place it was composed of stone chips and brickbats well rammed down. As the level of the floor almost coincides with the top of the foundations of Hāthī-bāḍā walls, it is highly probable that we have here the ground level of the temple of Saṁkarshaṇa and Vāsudeva referred to in the Ghosūṇḍī inscription. Possibly the temple stood on the brick platform. But it is not clear whether the latter was of the time of this inscription or of a later period, for we know that it was a place of Vaishṇava worship till the 7th century A.D. It is, however, certain that the platform was connected with one or the other Vaishṇava temples here, because the sides of the

former are parallel to the walls of the Hāthī-bāḍā, and it is equidistantly situated from the north and south walls of the latter. Originally the shrine of Saṁkarshaṇa and Vāsudeva may have been a wooden construction, and we cannot, therefore, reasonably expect any of its remains to survive to the present day. But its successor, the temple of Vishṇu which was standing on this site till 700 A.D., must certainly have been built of stone, and it may perhaps look strange that hardly any of its vestiges should have remained. But this need not be wondered at, because all ancient sites have proved mines for exploitation to the people of the surrounding villages and are made to yield materials to build their dwellings with. In the case of Nagarī we know that the stone of its ancient magnificent structures has been carried to all the neighbouring villages up to a distance of 10 miles, and was transported in large quantities even to Chitorgaṛh, where almost all the old buildings are believed to have been constructed of materials brought from Nagarī. An exactly analogous case is furnished by the shrine of Vāsudeva which was in existence near Khām Bābā alluded to above. Though parts of the railing which surrounded it were unearthed, no trace of the shrine itself was found.

With the hope of tracing, as far as possible, the length of the brick platform, I extended my excavations over nearly 130′ from its east edge. The failure to trace it beyond 15′ did not daunt me, and I now decided to dig deeper than the floor level. I had gone little deeper than 2′ when I lighted upon some curious remains whose purpose I have not been able to unravel. Here were exposed the traces of two walls, elliptical in plan and one falling within the other (Plate XVII). The central part of the structure formed by the inner ellipses was 33′ long and 11′ broad. The circumambulatory part comprised by the outer ellipses was 46′ long and allowed a passage 6′ wide all round. The floor of this structure consisted of a layer of surkhi and kankar sandwiched between layers of chunam and kankar and was coated with plaster. The floor was traceable even outside up to 7′ 4″ on the west. The wall of the circumambulatory passage was composed of plastered mud and its maximum height preserved was 1′ 5″. The wall of the central part does not appear to have been of uniform construction. Its eastern half was of greater height than the western and was like the wall of the circumambulatory passage formed of plastered mud. The western half consisted of a single horizontal brick course laid on the floor and was coated with plaster, showing that no further masonry course came upon it. How the two parts were joined one to the other is not clear. It is possible that the superstructure here was a wooden erection which has now been all destroyed. Again, we should have normally expected it to be apsidal in plan, as shown by the ancient caves heretofore found. But as we have an instance of a circular cave, there is nothing strange in finding an old structure which is elliptical in plan. As stated above, these remains were found a little more than 2′ below the original ground of the Hāthī-bāḍā, and it was, therefore, doubtless older than the temple of Saṁkarshaṇa and Vāsudeva which this enclosed. If the latter has to be attributed to 300 or 250 B.C., the former may safely be assigned to 350 or 300 B.C. It is not, however, clear whether the

earlier structure was a religious edifice, and, in particular, a temple dedicated to these gods, that is, the predecessor of the one for which the Hāthī-bāḍā enclosure was put up. The fact that the walls of the former are not parallel to those of the enclosure is rather unfavourable to that inference. But it must also be borne in mind that when an old temple falls into ruins and a new one is constructed on its site, they need not necessarily be coincident or their walls parallel to one another. And it is not impossible that the elliptical edifice may be the immediate predecessor of the temple for which the *pūjā-śilā-prākāra* was erected.

In this connection it seems very tempting to consider whether the structure Ūbh-dīval described above was in any way connected with Hāthī-bāḍā. It is impossible not to perceive the points of similarity between the two monuments. Both are composed of huge blocks of laminiferous limestone, piled one upon the other, and are pyramidal in section. This made me wonder whether the Ūbh-dīval did not originally lie near the Hāthī-bāḍā. Accordingly I began to study the former structure very minutely and carefully. One interesting feature that I now noticed was that the Ūbh-dīval had no foundations. Evidently, therefore, it must have been brought from elsewhere. This inference was strengthened by the fact that all the stone layers bore holes, which in the case of the larger blocks were to be seen inside also corresponding to the outer ones. The holes appear to me to have been intended for lifting up the stones. It seems that the Ūbh-dīval did originally stand near the Hāthī-bāḍā. When Akbar came and was encamped near Nagarī, his men who turned the Hāthī-bāḍā into an elephant stable must have noticed the other structure, which, just because it could easily be taken to pieces and re-adjusted, was shifted to its present site and made to serve the purpose of a beacon light. And it was for easy conveyance of the stone blocks that the holes referred to above were bored. Originally these must have been cut in the blocks on one of the two pairs of faces opposite of the structure, but they were not reset precisely in their original position so that though the majority of these apertures are found on one pair of opposite sides, some are to be seen in the other pair also. There is, therefore, nothing impossible in our supposing that Ubh-dīval was originally connected with the temple of Saṁkarshaṇa and Vāsudeva, most probably as a *Garuḍa-dhvaja*. The uppermost layer which has now fallen down shows an aperture in the centre of the top, indicating that one more course came upon it, and this may have consisted of an image of Garuḍa.

The ground round the Hāthī-bāḍā is of a highly undulating nature. Thus whereas at the south-east corner the débris has accumulated to half the height of the fourth course of its wall from the bottom, the ground on the west is so low that its foundations have been exposed. This unevenness is, in the main, due to the rain water coming in torrents from a neighbouring hill and scouring its way through the various places round this structure. I had a mind to clear away the whole accumulation up to a distance of at least 75 feet all around. This was no doubt a stupendous task, but it was certainly one which could have been accomplished if I had been able to obtain the requisite number of coolies. The

excavation, again, if it had been carried out, would, I am sure, have told an interesting story of the Nārāyaṇa-vāṭa where the temple of Saṁkarshaṇa and Vāsudeva stood. As it was, I had to be content with sinking a few trenches. One was cut near the south-west corner of the Hāthī-bāḍā. We had dug hardly one foot when the rubble foundations of an old residence were exposed. They were about 30′ distant from the south wall, and were traced over a space of 50′ × 32′. On the west they were found to extend still farther, but were not laid bare. The top of these foundations was found to be on the same level as the original ground of the Hāthī-bāḍā, and it is possible that we have here the house of the *Pujārīs* who were in charge of the temple. But the temple, as we have seen, was in existence from 250 B.C. to 700 A.D., and we cannot expect one and the same house to serve as a dwelling for the *Pujārīs* throughout this long period. It may, therefore, be naturally asked: to *Pujārīs* of what period did the house belong? Slightly above the foundations was picked up a terracotta seal-die bearing the name *Datilasya* in reversed characters of the 5th century A.D. (Plate XXIV, No. 90). On the other hand, a coin of the Śibi tribe (150 B.C.) was found here on a level slightly lower than the top of the foundations. It thus appears that the house was in the occupation of the *Pujārīs* perhaps from about 50 B.C. to 500 A.D. and that Datila might be one of them.

Immediately below the foundations of the *Pujārīs*' house were found the traces of a plastered floor almost exactly similar to that of the elliptical structure described above. The levels of both are very nearly the same, and they may consequently be of the same period. The chunam floor indicates that there was here a dwelling house of an earlier period upon which the later one was constructed. The former may have been occupied by the *Pujārīs* of the elliptical shrine which was the predecessor of that of Saṁkarshaṇa and Vāsudeva.

In front of the *Pujārīs*' house, but leaving its foundations undisturbed, we dug still deeper until we lighted upon a number of earthen pots. There were as many as 215 of these in a space of 15′ 6″ long and 8″ broad. They were all kept upside down and were filled either with ashes or with sand. These were not all that were so arranged here. Their rows must have spread farther southwards. But these were not exposed as it would have involved the demolition of the south-east corner of the house. They were lying nearly 2′ below the chunam floor just alluded to. Earthen pots were found also at the south-east corner of the Hāthī-bāḍā where, too, a little excavation work was done. The earthen pots here were laid bare in two groups at two different places, and were also found filled with either ashes or sand. Curiously enough, the eastern of these groups was here too found in the immediate vicinity of and only two feet below a chunam plastered floor. This was a noteworthy fact. For there were here two instances of a chunam floor being found nearly two feet above earthen pots. Now two questions arise: (1) Why were the floors plastered not only at the south-west and south-east corners of the Hāthī-bāḍā but also in the elliptical structure inside? (2) Why were earthen pots, filled with ashes or sand, deposited? I confess I cannot give any satisfactory replies, but it is possible that the chunam plastering was done to safeguard the place against the depre-

dations of white ants and the pots were laid to keep away damp from the dwelling houses.

The plastered floor unearthed at the south-east corner seems to have been flanked by wallings on two sides at least, showing the existence of a dwelling house here. The floor was nearly 5′ 9″ higher in level than the ground of the Hāthī-bāḍā. The floor and the house are no doubt later than the enclosure and much later than the plastered floor exposed at the south-west corner. It must not, however, be supposed that the two were separated by a very long period, as no doubt the accumulation of débris to the height of 6′ is apt to lead one to suppose, because close beside the floor and the dwelling house near the south-east corner, but slightly above their level, were brought to light two coins of the Śibi tribe. This shows that they were not much posterior to 150 B.C., to which time the coins have been ascribed.

The second place, where I excavated at Nagarī, was a mound in the southern half of the citadel surmounted by a modern shrine of Mahādeva. This was, no doubt, the *stūpa* mound alluded to by Carlleyle. It is true that the illustration he has given of it points rather to the mound locally known as Kuṇyārḍi, two miles south of Nagarī, but, on the other hand, it must be remembered that he distinctly tells us that it was "within the area of the site of the ruined fortress of the ancient city." This description can apply to the Mahādeva temple mound only, and not to Kuṇyārḍi, which is two miles away from the citadel. It is true, again, that the "plain, small, modern roofless shrine" which, he says, was perched on its top, indicates the latter rather than the former mound which is surmounted by a domed, and consequently not a roofless, shrine. Again, the architrave of the Buddhist gateway, which, he tells us, was standing on the mound, is lying on the former, and not on the latter. It appears that Carlleyle had seen both the mounds, but that when he was writing out his account probably five years after he visited Nagarī, he confused them together. But the most decisive marks in the present case are his location of the mound in the citadel and his reference to the architrave, and these unmistakably show that he had the Mahādeva temple mound in view.

Before starting the operations at this place, I made a very careful survey of the mound and was fortunate enough to detect just a trace of a brick walling on the north side. I started excavation here, and as this wall was being cleared, it led to the partial exposure of other walls; when these last were being laid bare, they afforded indications of still more walls so that ere long there was here a regular intricate network of wallings whose purpose I was unable to understand till the extremest walls were exposed. As the outer face of these was decorated with mouldings and no traces of wallings were detected outside them, it convinced me that they were really the extremest walls of a wide brick platform. None of these wallings, it is worthy of note, showed any marks of windows or doors, which they no doubt would have done if they had formed part of dwellings. There can, therefore, be no doubt that these wallings did not represent the remains of any ancient houses, but were intended to form a frame-work for effectively bonding together the moulded walls of the platform,

the intervening spaces in the frame work being filled in with earth. A well-known instance of the construction of such a framework is that furnished by a structure called Pakkī kuṭī excavated by Dr. Vogel at Saheṭ-Maheṭ.[1] An idea of the mouldings which adorned the outer face of the platform can be obtained from Plate XIX. *b*, and its plan understood, from Plate XX. The severity and monotony of the outer moulded wall are relieved by three projections in the centre, one on each of the north, west and south sides, and jutting out 9′ 8″ from the main line of alignment. It will be seen from the plan that the east side was unlike the other sides of the platform, and shows that it and its superstructure faced that direction. The maximum height preserved of its moulded walls is 4′, and is found in the west wall. This seems to be nearly half of the original height of the platform. Though the upper half of its walls has fallen down, it appears from the terracottas picked up from its débris, to have been covered with decorative tiles of at least three types, some of them probably arranged in string courses. One type is represented by what may be styled bird terracottas (Plate XXII. *a*). These consist of moulded bricks, measuring approximately $13'' \times 9'' \times 2\frac{1}{2}''$ each, with the left end raised into a rim $\frac{3}{4}'' \times 2$, and the border decorated with an incised line, and holding in high relief either a swan or a pigeon. The swan is shown either as stretching its neck to the ground, as in the act of feeding, or as cleaning its plumage. The pigeon has been more or less conventionalised, with its crest flowing loose at the back tail elongated into an intricate but artistic scroll, and breast plumage hanging down heavily. The second type is represented by human heads, which here seem to have been placed in pairs, one male and one female (Plate XXI. *b* and *c*). The male is invariably an old face with wonder-struck expression, and the female a young face with either a half smiling or a placid expression. The facial expression and the contour of the head are strikingly naturalistic. The two together have a framing, semi-oval in shape. The specimens found, all except one, face full front. The exception is a female head, which is so turned as to expose only three-fourths of the face. Similar heads forming wall ornamentations but of a later period were recovered by Dr. Spooner during his excavations at Shāh-jī-ki-Dheri, along with floral ornaments, some of which are of lotus design. One kind of these is called by him grinning heads or grotesques, and the other, serious doll-like heads.[2] The third type of decorative tiles consists of bricks, measuring $8'' \times 7\frac{1}{2}'' \times 2\frac{1}{2}''$ and with oblong bottoms and semi-circular tops. They are carved with lotus flowers of various conventional forms (Plate XXII. *b*). These tiles most probably formed a string course. How the others were arranged on the face of the walls is not clear.

The centre of the platform was originally occupied by a superstructure, very little of which has now survived. It is 43′ 6″ square at the base. Immediately below each side of this square is a foundation wall, 6′ thick. The space enclosed by these foundation walls is filled with a network of wallings similar to that of the platform. The moulded walls of the platform as well as those

[1] *Arch. Annual*, 1907-8, p. 109.
[2] *Ibid.*, 1908-9, p. 55 and Fig. 3.

of the frameworks rest on layers of long stones which are oblong and hammer-dressed in the case of the former, but rough and shapeless in the case of the latter. The top level of the platform coincided with the base line of the recesses in the lowermost moulding of the superstructure, because, in the first place, the bricks used in the walls are of an inferior texture and gloss and the joints marked are rough and wide up to the sill level, from where upwards they are of a superior kind and the joints fine. Secondly, the offset referred to is not observable on the east or front side where all the framework walls run straight up to the sill level.

Of the superstructure only the lowermost moulding has been preserved, which is nearly two feet high. Each side seems originally to have been broken up into two recesses, each 6′ from the corner, and measuring approximately 6′×2′×2″. Only one recess, however, is well-preserved, and the singular feature of it is that, although it is a recess, it has a small projection in one corner. No special feature of the superstructure was detected and no finds were here made which could prove the religious character of the building. Small pits were, however, sunk on its top without doing any damage to the Mahādeva shrine which is at present perched on it; and they convinced me that it was one solid mass of well-laid bricks and not of bricks fallen pell-mell. This seems to suggest the idea that the superstructure was a *stūpa*,—an inference which receives some corroboration from the fact that contiguous with the east wall of the platform, at the place marked B in Plate XX, were found remains which looked like those of a miniature *stūpa* 11′ square and that the ruins of another smaller *stūpa* containing ashes were noticeable behind the principal monument and shown at C of the same Plate. But here a difficulty arises. The superstructure, as stated above, is a square, and if it was originally a *stūpa*, it means that it was a square *stūpa* of which no instance has so far been known. It is true that no square *stūpa* has so far been found or unearthed. But attention may in this connection be directed to an edifice represented on a rail bar medallion recovered in the excavations of the Jaina *stūpa* at Mathurā.[1] It is a structure built in horizontal tiers and must be a *stūpa* as indicated by the heavy sausage-shaped garlands. It is not impossible that the superstructure on the platform may be a *stūpa* of similar construction. There was, however, exhumed here absolutely nothing that marked it as a Buddhist or Jaina monument. Is it possible that we have here the remains of a Hindu *stūpa*? For a long time we were so much accustomed to hearing about and seeing Buddhist *stūpas* only, that a *stūpa* pertaining to and worshipped by the Jaina or any religious sect was looked upon as inconceivable. But excavations at Mathurā and the culling of references to it from their scriptures left no doubt that the *stūpa* as an object of worship was not unknown to the ancient Jainas. There is nothing, therefore, *primâ facie* impossible in the ancient Hindus also having constructed *stūpas* and worshipped them. In fact, Dr. Bühler has adduced cogent reasons for supposing that they were used and worshipped by all Hindu

[1] *The Jaina Stūpa and other Antiquities of Mathurā*, Plate LXXII, Fig. 1.

sects that followed the *Jñāna* and *Bhakti-Mārgas*.[1] The only antiquity exhumed on this site which bears the marks of any religion is the *toraṇa*. A description of it will shortly follow, but here it will suffice to state that as its architraves are sculptured with incidents from Śiva's life and its pillars with his door-keepers, it was erected here before the god Śiva. Thus the only significant objects found on this site point to its being devoted to Hindu worship, whereas it is conspicuous for the absence of any antiquities which are characteristically Buddhistic or Jaina. It will not, therefore, be unreasonable to infer that the *stūpa* or funeral monument on this site may belong to a Hindu, possibly Śaiva, sect, if we are right at all in supposing that it existed, on the evidence furnished by the formation of the inner core of the ruined superstructure subsisting on the platform.[2]

As might be expected in the case of such an old monument, additions and alterations were made from time to time. The first period is characterised by the rise of the platform top level by at least 6″. Two new walls, one on each side, were also erected in the east or front part of the platform. But the chief peculiarity of this period is the plaster with which both the *stūpa* and the platform walls were covered. The second period is marked by the introduction of stone work. The ground floor and the platform top were both paved with stone. The original access to the *stūpa*, which seems to have been through two wall projections on the east and nearly 13′ apart, appears at this time to have been provided with a stone entrance, of which only the moonstone, the threshold, and the lintel in two fragments were exhumed. No portions of the jambs came to light. The lintel seems to have been ornamented by the models of the *chaitya* window of the early Gupta style, each containing a Kīrti-mukha. Curiously enough, the *stūpa* appears to have been furnished on the north with a stone water channel which was taken through the inner core of the platform and terminated outside in a *makara* gargoyle. This gargoyle is the only portion of the water channel which is well-dressed and must consequently have been fixed into and exposed to view from the north wall of the platform. The daily ablution waters fell through the *makara* mouth into a small brick cistern from which they were carried westwards to the river side by means of a drain. The drain consisted of bricks, and was covered also with bricks but set on edge.

The laying bare of the stone water channel here makes it doubtful whether the original edifice was really a *stūpa*, for I at any rate am not aware of any *stūpa* being provided with a channel. Such channels have so far been invariably found by me connected with shrines, and hence I tried my very best to find out whether there were any traces of a sanctum of the early Gupta period. But I discovered no signs of it. Of course, as stated above, there is a shrine there

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[1] *Vienna Ori. Jour.*, Vol. IV, p. 328 and ff.; *Ep. Ind.*, Vol. II, p. 313.

[2] Or it may be that we have here the double platform of some wooden shrine which has disappeared. But this conjecture appears to me less probable, because, as already stated, the uniform solid formation of the upper structure and the presence of two smaller *stūpas*, one in front of and the other behind the platform, points to its having been rather a brick *stūpa* than a wooden shrine on a double platform.

at present which is dedicated to Mahādeva. But it is quite a modern erection and was put up about 60 years ago (as I was informed) by a *bairāgī* collecting subscriptions from the Banias of Nagarī and the neighbouring villages. A portion of a water channel projects from its north wall, and hence I at first surmised that it was constructed on the site of an early Gupta shrine. But this was nothing but a surmise. The water channel of the modern shrine is not in the same line with and was therefore in no way connected with the channel described above, which, so far as evidence goes, started from the north wall of the edifice and ended with that of the platform. This whole channel had been buried in earth when I excavated, that of the Mahādeva shrine alone being visible. Hence it is all but certain that the latter must have been brought from somewhere and stuck into the modern shrine for taking away the ablution waters. As no undoubted trace of an early Gupta sanctum was here discovered, there seems to be no escape from regarding the water channel as having been somehow connected with the *stūpa*, supposing, of course, that I am correct in inferring that one stood here.

To the second period of additions characterised by the introduction of stone work, or possibly to a period slightly later, belong the remains of a stone *toraṇa* exhumed in front of the mound. One whole pillar was found though in five fragments, and of the other a few tiny pieces only were recovered. The pillar is oblong and not square in section. About 1′ 10″ at the bottom is rough dressed and was no doubt underground when the pillar stood erect. Excepting the plain surface of 6″ above the line demarcating the rough from the dressed surface the pillar has been carved on all its four sides. Of the less broad sides the outer or north is sculptured with a long undulating line consisting of a series of lotus stalks inserted one into the other and with their petals occupying the panels formed by the undulation. The inner or south side is divided into three compartments by four lotus medallions, and each compartment is decorated with vertical flutes, the central of which is filled with a spiral leaf ornament. The broader sides of the pillar are each broken up into five panels and surmounted by a Kīrtimukha. Each two of the upper four panels are probably intended to represent the front elevation of a two-storeyed mansion of that age, the demarcation of one storey from the other being denoted by a member which looks like an image pedestal and the roof closely resembling the front of that of a Chaitya cave of about the fifth century A.D. and in particular to the pediment of the niches in the second storey of the Viśvakarmā Cave at Ellora. The lowermost panel is equal in height to any two of the upper, and represents only a one-storeyed but tall building. This last is occupied by a male on the east, and a female on the west, side. The male has matted hair. His left hand holds a trident standing vertically on the ground, and his right rests on the knot of his *dupaṭṭā* or shoulder scarf near the waist. He also bears a third eye in the forehead. All these are clear indications of his being an attendant of Śiva. The female in the lowermost panel on the west stands under a tree with the right hand clutching the border of her *dupaṭṭā* and the left upraised and touching a branch of a tree. Her chignon bears a curious resemblance to

that of the present Malayalese woman. The upper panels are each occupied by a pair of lovers standing near trees, the female in one being on the left, and in the other immediately adjacent on the right, of the male. The male is shown with hair curls similar to a barrister's wig, on which he bears a helmet adorned with a horn.

About 17′ 6″ from where the *toraṇa* pillar was unearthed, a big rough stone was found, approximately oblong in shape and measuring 4′ 7″×3′ 2″×1′ 6″. An oblong space, 2′ 4″×1′ 11″ was marked on its top surface by three incised lines along with one edge of the stone, and was hammer-dressed. The stone was so lying that its longer sides were parallel to the moulding lines of the east or front wall of the platform. It was, therefore, I thought, somehow connected with it. But its object I was for a long time unable to apprehend. Suddenly, however, the idea occurred to me that possibly the *toraṇa* pillar rested upon it. So I took the measurements of its lower end, which were 2′ 4″×1′ 9½″, and which no doubt almost coincided with those of the oblong marked on the stone. This was evidently the foundation stone on which the pillar was set up. Close beside this stone were laid bare three pieces of what appeared to be the sides of an image pedestal, each 3′ 4″ high. The height of the stone is 1′ 6″, and that of the rough dressed portion of the pillar 1′ 10″. These give a total of 3′ 4″,—the exact height of the pedestal stones. I have, therefore, no doubt that these last were originally placed round the foundation stone, and the voids between them and the *toraṇa* pillar were tightly packed with fillings so as to make it firm and stable.

The *toraṇa* seems to have had only two architraves. At any rate, fragments of only two were exhumed. Of the lower, only three pieces were found; and although they do not make up one complete architrave, enough has been recovered to show that each broader side was originally divided into nine panels. Only one end has been preserved, and contains, on each side in panel, a flying Vidyādhara bearing a garland. The other panels portray scenes from Śiva's life. One of these is clearly occupied by a nude Bhairava with his vehicle the dog. Another holds Śiva seated on a pedestal and below a tree, like a Buddha or rather a Tīrthaṁkara, with his hands placed one upon the other on the soles of his feet. He bears matted hair and *mundras* in his ears, and is flanked by four devotees, two on each side. The plastic style of the statuary both on the pillar and the architrave has a great resemblance to that noticeable on the sculptures found at Garhwā.[1] The underside of this architrave bears and continues the carving which adorns the inner side of the *toraṇa* pillar. Its upper side is not sculptured at all, as might be expected, and supported two stone blocks separating the lower from the upper architrave, as is clearly indicated by two groups of apertures, each comprising four. These show that each block was 1′ 11″ long and 1′ 4½″ broad. The upper architrave is decorated on each broader side with a repetition of models of the facade of a *chaitya* roof and ends with *makara* mouths. Neither its under nor its upper side is sculptured,

[1] Cunningham, *Arch. Surv. Rep.*, Vol. X, Plates VI and VII.

but the mortices in the latter show that the gateway was crowned with pinnacles, two near the ends and one in the centre. Near the north-east corner of the platform was found the head of a fabulous animal—a horned horse, which may possibly have crowned the *toraṇa* at one end. A rough idea of what the *toraṇa* as a whole was will be obtained from Plate XXIII.[1]

Behind the *stūpa*, excavations were carried right up to the western rampart of the citadel. About 22′ from the central projection of the west wall of the *stūpa* platform were laid bare the remains of what looks a *stūpa* of the same type as the former but of much smaller dimensions, measuring only 10′ 5″×5′ 10″ at the base. Very little of it has been preserved, but what has survived shows that like the bigger one it was solidly built of bricks and with a moonstone in front. Beyond ashes nothing was found in it. As both the *stūpas* are very nearly of the same level, the smaller one seems to have been built at a period not much posterior to that of the larger.

Nearly 25′ to the north of the smaller *stūpa* and contiguous with the brick drain referred to above were brought to light the remains of a long narrow chamber built of bricks (D on Plate XX). In fact, this chamber seems to have fallen into ruins when the drain was laid as it is through these ruins that the way for the drain has been cut. Along its east wall were found seven small stone uprights placed in a row. As human ashes and bones were found here, they appear to have been sepulchral stelæ. A small brick water channel was also exposed in parts, and no doubt carried off the ablution waters of the stelæ.

It has been stated above that in the list of the antiquarian remains of Mewāṛ compiled by the late Sir Alexander Pinhey with the help of Rai Bahadur Gaurishankar Ojha mention is made of two Buddhist *stūpa* mounds near Nagarī. On inquiring of the latter I learnt that one of these was Kuṇyārḍi, 2 miles south of Nagarī, and the other was about one mile and a half north-east of it. The latter had been partially dug into at the top by the Rai Bahadur when he was in the service of the Udaipur State. I examined this mound carefully and was convinced that it was not a Buddhist *stūpa*. There was nothing but *kankar* and gravel at the base of the mound, and the top opened by him revealed here the existence of a brick platform on a bedding of mortar. This was hardly what might be expected in a *stūpa* mound. However, I made up my mind to put my inference to test by doing some digging work and with this object in view, selected the other mound, which was much bigger and unopened and, as stated above, was the one confounded by Carlleyle with the Mahādeva *stūpa* mound. It was on the top of this mound, again, that the pieces of the rail pillar, bar and coping described above were found, which no doubt raised the presumption of an old railing having stood there. The top and the east and west sides of the mound were excavated. Three trenches were also sunk at three different places at the foot of the mound. The digging operations were conducted for four consecutive days. On the top were exposed the remains of a brick platform on a mortar bedding similar to that in the

[1] This appears to be only one *toraṇa* standing in front of the monument, two at the sides and one in the centre. The present one seems to be the one standing on the north side.

other mound. But beyond this absolutely nothing but sand was found here, and no antiquity of any description was brought to light. I have no doubt that these mounds do not represent the ruins of any *stūpas*. The other mound, *viz.*, that to the north-east of Nagarī, is not far from where the Ūbh-dīval stands at present. And as I was surveying the ground round about, five or six more mounds attracted my attention. They were within three-quarters of a mile of the Ūbh-dīval but situated within the boundaries of an adjoining village called Āmalheḍā. This was, no doubt, the place from where Akbar's camp began, which, we are told, extended as far northwards as Pāṇḍolī. Personally I think that the mounds were raised by Akbar's men for mounting battery, not with a view to shell Chitorgaṛh which was impossible, as it was at least ten miles from this place, but for the protection of the camp itself to ward off any surprise attacks at night. The fact that the Nagarī mounds were topped with brick platforms confirms my inference, for these could have been raised to support a battery. About half a mile to the south of the beacon light is found an earthen embankment, the purpose of which nobody at Nagarī was able to explain to me. Not far from the Kuṇyārḍi mound was another similar embankment. In all probability these embankments like the mounds formed part of the scheme of fortification executed by Akbar for the safety of his camp.

D. R. BHANDARKAR.

MAHĀDEVA TEMPLE MOUND.

Terracottas.

(A) Ornamental Bricks.

(1) *Human heads.*

1. Head (ht. $8\frac{7}{8}''$, br. $9\frac{5}{8}''$; thickness $3''$ at upper edge and $1\frac{1}{8}''$ at lower edge) with a quarter oval frame over it on the left, decorated with a lotus design inside and reaching down to $2''$ from the lower edge; face aged, with wonder-struck expression; ear-lobes perforated, eye-balls moved towards the left corner; tip of tongue peeping through the lips; chin double; necklace round the neck; wears a close-fitting cap with the top fastened with a band; two ringlets of hair peeping on the forehead from inside the cap border. Light red clay with dark red slip of which slight indications are left.

2. Head (ht. $8\frac{7}{8}''$; br. $8\frac{3}{4}''$; thickness at upper edge $3\frac{1}{2}''$, at lower $1\frac{3}{8}''$) bordered on the right with a quarter oval frame reaching to $2\frac{7}{8}''$ from the lower edge, and decorated with a lotus design as in (1); face, young and laughing; bears ear-rings, and necklace of cable pattern; two folds of the upper garments showing above necklace; hair parted in the middle, and tied into a top knot, with locks on either side, covering up the ears; nose and left cheek damaged. Light red clay with dark red slip of which traces remain.

3. Head (ht. $8\frac{1}{2}''$; br. $6\frac{1}{8}''$) with lotus frame on the right, as in (2) part of which is broken off; face elderly with wonderstruck expression; ear-lobes pierced; tongue tip peeping through the lips; necklace round the neck as in (1); bears three ornaments, one in the centre just above the forehead and one on either side just above the top of the ear; originally with a close-fitting cap, of which the top is now destroyed. Light red clay, with dark red slip of which traces remain.

4. Head with left lotus frame, as in (1) in two pieces; face with placid, serious expression; bears ear-ring in right ear, hair combed backwards and tied into a top knot; tiny pendant let loose on the forehead by means of a string fastened to the top knot; left ear and portion below neck broken off. Light red clay, with dark red slip.

5. Head with the whole back ground and part of the right side damaged; face with placid expression, with a tinge of smile; bears ear-ring in left ear; hair combed backwards, and tied into a top knot (now lost), with a pendant as in (4).

6. 4 Heads broken in 8, 6, 6 and 3 fragments respectively, with traces of oval frame to the left in the first and to the right in the remaining; face, with placid expression, as in (4); traces of ear-rings in the last three and cable-like necklace in the first two.

(2) *Birds.*

7. Rectangular brick ($12\frac{1}{2}'' \times 8\frac{3}{4}'' \times 2\frac{1}{8}''$), holding in high relief the figure of a swan, facing to the left, lengthening its neck low to the ground as in the act

of feeding; border decorated with incised line; to the left, rim raised $\frac{7}{8}''$ high and $1\frac{5}{8}''$ broad, with edge decorated with incisions.

8. Rectangular brick ($13''\times9''\times2\frac{1}{2}''$) broken in 6 fragments holding in high relief the figure of a swan, gracefully bending its neck and with the beak touching the breast as in the act of cleaning its plumage; border decorated with incised line; to the left, rim raised $\frac{3}{4}''$ high and $1\frac{5}{8}''$ broad, with edge decorated with incisions.

9. Rectangular brick ($14\frac{1}{2}''\times9''\times2\frac{1}{2}''$) broken in four pieces with a fragment at the lower right corner missing; holds in high relief the figure of a pigeon in profile with neck held aloft, crest flowing loose at the back, tail elongated into a conventional scroll and breast plumage hanging loosely and touching the rim; border decorated with incised line; to the left, rim raised as in (8).

10. Brick ($9''\times2\frac{1}{2}''$) with the figure of a pigeon, carved in alto relievo, similar to (9), in the main details, with a slight difference in the treatment of the tail scroll and spotted wings; portion to the left, with the rim destroyed.

11. Brick ($8''\times7\frac{1}{2}''\times2\frac{1}{2}''$) rectangular, with semicircular top; holds, in relief, a four-leaved lotus with an anther ($2''$ in dia.) in the centre.

12. Brick ($7\frac{3}{4}''\times7\frac{3}{4}''\times2\frac{1}{2}''$) similar in shape to (11) holds six-leaved lotus, with a square anther ($2''$ side) in the centre.

13. Brick, similar in shape and size to (12) but broken, holds six-leaved lotus with a central disc ($3''$ dia.) which itself is a lotus consisting of six leaves and an anther.

14. Brick similar to above, and broken; holds eight-leaved lotus with central disc ($3\frac{1}{4}''$ dia.), consisting of a six-leaved lotus and an anther.

15. Brick ($7\frac{3}{4}''\times8''\times2''$) rectangular, with a square circle top; slightly broken; holds six-leaved lotus with an anther and ovary in the centre.

16. Brick, quadrant shaped, (dia. $7\frac{3}{4}''$), perhaps forming one-fourth of a medallion, which consisted of a full blown lotus.

(B) Figurines.

(1) *Human.*

17. Upper half of female figure, (ht. $2\frac{1}{2}''$, br. $2\frac{1}{2}''$) standing, bears ear-rings, necklace and girdle; two streamers at the top, one on either side. Buff clay.

18. Upper half of female figure, (ht. $2\frac{1}{2}''$, br. $2''$) similar to above. Dark red clay.

19. Torso of a female figure, in two pieces; feet broken off; right hand resting on belly and left hanging by the side. Buff clay.

20. Lower half of female (?) figure, (ht. $2\frac{3}{8}''$, br. $2''$) standing, wears loose garment tied near the waist by means of a string; traces of necklace. Buff clay.

21. Torso of a male figure, (ht. $2\frac{1}{2}''$, br. $2\frac{1}{2}''$); standing, below, to the right, tiny figure, seated cross-legged, perhaps Buddha.

(2) *Animals.*

22. Upper half of figure of a monkey; (ht. $1\frac{1}{2}''$) right hand as in the act of eating. Buff red clay, with thin white paint.

23. Elephant ($6\frac{1}{4}''$ long), feet and trunk broken off. Light red clay.

24. Elephant (ht. $1\frac{3}{16}''$) partly broken. Buff clay.

25. Bull (ht. $1\frac{3}{4}''$, length $2''$) with a proportionately big hump. Buff clay.

26. Bull (ht. $1\frac{5}{8}''$, length $2\frac{3}{8}''$) with horns and two of the feet broken off; mouth perforated sidewise. Slightly baked clay.

(C) Pottery.

27. Jar (ht. $4\frac{3}{8}''$) shaped like a modern *hāṇḍā* in Mahārāshṭra. Buff clay.

28. Jar (ht. $3\frac{1}{8}''$) similar to (27). Black clay.

29. Lid of jar (dia. $3\frac{3}{4}''$) with a circular hole in the centre probably for straining ghee. Buff clay.

30. Three pieces of necks of three different Surais. Light red clay with dark red slip and polish.

31. Spout of vessel; (ht. $2\frac{1}{2}''$) curiously shaped. Light red clay with dark red slip.

32. Jar (ht. $1\frac{3}{4}''$, dia. $3\frac{1}{8}''$) with rim broken. Dark clay.

33. Jar (ht. $1\frac{1}{4}''$) with mouth broken. Light red clay.

34. Jar (ht. $2\frac{1}{8}''$) of different shape. Buff clay.

35. Jar (ht. $1\frac{3}{4}''$) of a still of different shape. Buff clay.

36. Tiny lid of jar (dia. $1\frac{1}{8}''$). Buff clay.

37. Two fragments of a vessel with knobs on the outside.

38. Part of hollow pinnacle (ht. $10\frac{1}{2}''$, dia. $6\frac{1}{4}''$) in seven pieces; originally consisting of rimmed cylinder broadening towards the bottom, with a ribbed vessel-shaped top piece.

Stone Objects.

39. Image of Mahishāsuramardinī ($4\frac{3}{4}'' \times 3\frac{5}{8}''$) in 5 fragments; portions at the top and bottom missing; four handed, holds in upper right hand, *triśūla*, which is hurled against the Buffalo demon; in lower right, sword; in lower left, the tail of the demon; upper right hand is missing. Greenish slate stone.

40. Head (ht. $10''$) of a fabulous animal, perhaps a horse with horns; mouth broken off; mane plaited into lattice work. Buff coloured sandstone.

41. Fragment of figure representing a rider; only the right foot and part of trappings of the animal are left; spiral lines. Soft greenish stone.

42. Fragment of figure of a lion (?); only portion of the mane preserved. Sandstone.

Metallic Objects.

43. Iron arrow head ($2\frac{1}{8}''$ long) square pyramid shaped.

44. Similar ($3\frac{3}{8}''$ long).

45. Similar ($5\frac{1}{2}''$ long).

46. Spear head ($6''$ long) with pointed edge.

47. Similar ($7\frac{3}{4}''$ long, and $1\frac{5}{8}''$ broad) with broader blade.

48. Similar ($7\frac{1}{4}''$ long), but shaped differently, and edge thicker.

49. Reel-shaped hollow copper tube ; (ht. 2″, dia. $1\frac{1}{8}$″) plain surface at top and bottom, decorated with incised concentric circles.

50. Similar (ht. $1\frac{1}{4}$″) with upper surface destroyed.

51. Iron bell (ht. $2\frac{1}{2}$″, dia. $2\frac{1}{2}$″) in three pieces.

52. Iron nails of various shapes and sizes.

Beads and Amulets.

53. Round crystal bead (dia. $\frac{1}{4}$″).

54. Flat round cornelian bead (ht. $\frac{1}{8}$″, dia. $\frac{5}{16}$″).

55. Cornelian bead ($\frac{3}{8}$″ long), cut into facets.

56. Cornelian bead ($\frac{3}{8}$″ long), double truncated-cone-shaped. Cut into facets.

57. Globular agate bead (dia. $\frac{3}{8}$″) of light brown colour.

58. Flat oval-shaped glass bead ($\frac{3}{8}$″ long) of dark green colour ; perforated lengthwise.

59. Blue glass bead (dia. $\frac{1}{4}$″).

60. Terracotta bead (dia. $\frac{11}{16}$″), buff-coloured, double-cone-shaped.

61. Terracotta amulet (ht. $1\frac{3}{8}$″) buff-coloured, truncated-cone-shaped ; perforated horizontally near the top.

62. Terracotta amulet (ht. $1\frac{1}{8}$″, dia. $\frac{1}{2}$″) dark coloured cylindrical ; perforated horizontally near the top.

HĀTHĪ-BĀḌĀ.

Terracottas.

(A) *Animal Figurines.*

63. Upper part of figure of monkey (ht. $3\frac{1}{4}$″) ; right hand as in the act of eating, and left raised to shoulder ; eyes represented by two concentric circles in relief. Light red clay.

64. Torso of elephant ($3\frac{1}{2}$″ long). Light red clay.

65. Elephant ($2\frac{1}{2}$″ long) ; trunk and hinder legs broken off. Buff clay.

66. Elephant ($4\frac{3}{4}$″ long) ; trunk and legs broken off. Ochre-coloured clay.

67. Torso of uncertain animal ($4\frac{1}{2}$″ long). Light red clay.

68. Torso of uncertain animal (4″ long). Light red clay.

69. Torso of uncertain animal ($3\frac{1}{2}$″ long). Light red clay.

70. Bull (ht. 1″ ; $1\frac{3}{4}$″ long), mouth and one of the legs broken off. Black clay.

71. Dog barking (ht. $\frac{3}{4}$″ ; $1\frac{1}{4}$″ long). Buff clay.

(B) *Pottery.*

72. Pot (ht. 8″, dia. at top $3\frac{3}{4}$″) with rounded bottom, and broad mouth. Buff-red clay. Found in the group of pots unearthed near the south-east corner of Hāthī-bāḍā.

73. Pot (ht. 6″, dia $3\frac{7}{8}$″) with rounded bottom and broad mouth with brim. Buff clay.

74. Pot (ht. $6\frac{1}{4}$″, dia. $3\frac{1}{2}$″) similar to (73) but no brim. Buff clay.

75. Pot (ht. $6\frac{1}{2}$″, dia. $3\frac{1}{2}$″) with rounded bottom and long neck; wider in the centre. Light red clay.

76. Jar (ht. $7\frac{1}{2}$″, dia. 3″) with flat bottom, and narrow neck; mouth spread out; gradulally widening from neck to bottom; neck partly broken. Buff clay.

77. Pot (ht. $6\frac{1}{2}$″, dia. 4″), broad mouth, bulging out in the centre, tapering towards the bottom. Light red clay. Found in the group of pots unearthed near the south-west corner of Hāthī-bāḍā.

78. Jar (ht. 4″, dia. 2″) with neck broken; flat bottom, bulging centre. Red clay.

79. Jar (ht. $3\frac{1}{2}$″, dia. 2″) with mouth broken; flat bottom centre bulging out more pointedly than in (78). Light red clay.

80. Pot (ht. $3\frac{1}{4}$″, dia. $3\frac{1}{2}$″) with broad mouth and rounded bottom. Red clay.

81. Tiny vase (ht. 3″, dia. $1\frac{3}{8}$″) with mouth partly broken. Buff clay.

82. Bowl (ht. 2″, dia. $2\frac{1}{4}$″) with thick out-turned lip. Buff clay.

83. Lid (ht. $2\frac{1}{2}$″, dia. $4\frac{1}{2}$″) narrow at the bottom but widening towards top; in the centre, hollow (2″ dia.). Light red clay, with thin wash.

84. Lid (ht. 1″, dia. $3\frac{3}{8}$″) similar to (83) in the centre, hollow ($1\frac{1}{4}$″ dia.).

85. Lid (ht. $1\frac{1}{2}$″, dia. 3″). Buff clay.

86. Small lamp or *chirāg* (2″ dia.). Light red clay.

87. Miniature cup (ht. $\frac{3}{4}$″). Buff clay.

88. Finial (ht. 16″), top broken, consisting of several horizontal ribs at the top and centre and a cylinder gradually widening at the bottom.

89. Fragment of a ridge tile (9″ long).

(C) *Seal and Sealing.*

90. Circular terracotta seal die, with handle; (dia. 85″); circular line around the margin; within, inscription, in nail-headed characters (prevalent in Central India about the 5th century A.D.) *Datilasya.*

91. Terracotta sealing (dia. 65″), half-burnt; with symbol.

(D) *Miscellaneous.*

92. Terracotta piece (2″×2″) with four projecting ends.

93. Terracotta piece ($1\frac{3}{4}$″×$2\frac{1}{4}$″) with moulding.

94. Terracotta ball, light red clay.

95. Two rectangular brick tablets; ($4\frac{1}{4}$″×$3\frac{1}{2}$″) one side convex and rough, with deep ripple-like incisions, and the other flat. Used for rubbing and cleaning the feet.

96. Similar tablet ($4\frac{1}{8}$″×$3\frac{1}{4}$″) with both sides flat and rough with ripple-like incisions.

Beads and Amulets.

97. Greenish glass bead ($\frac{3}{4}$″ long) triangular prism shaped.

98. Pale blue glass bead ($\frac{1}{2}$″ long) half orange-shaped.

99. Flat round banded burnt agate bead, (dia. $\frac{1}{2}$″) black with white bands.

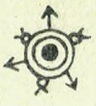
100. Similar (dia. $\frac{7}{16}$″) but greyish white with black bands.

101. Glass bead (ht. $\frac{5}{16}$″, dia. $\frac{5}{8}$″) cylindrical, with slightly concave sides. Pale green with light yellow tint.

102. Terracotta amulet (ht. $1\frac{1}{2}$″) truncated cone shaped, with slight depressions at top and bottom. Perforated sidewise near the top. Buff clay.

D. R. BHANDARKAR.

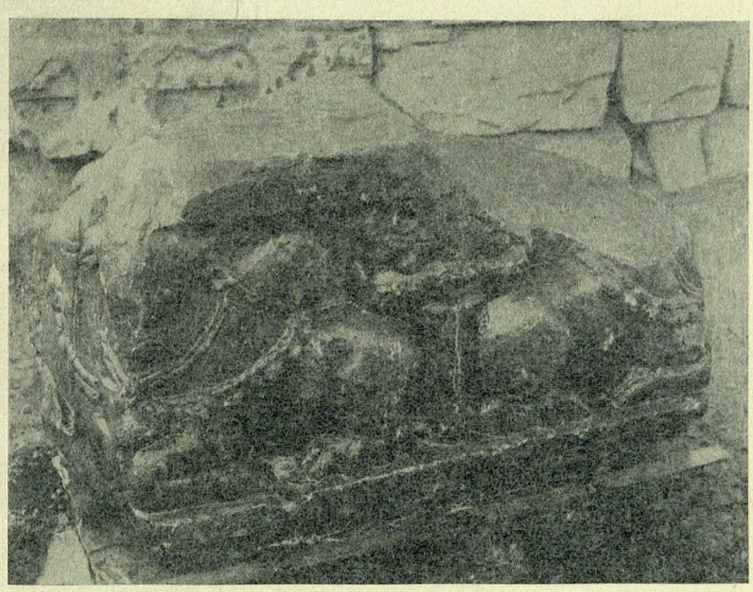
Coins.

No.	Metal and Size.		Obverse.	Reverse.	Remarks.
			Punch-marked.		
1	AE. 6 .	Hāthī-bāḍā .	4 symbols punched over the surface— (1) The Solar Symbol.  (2) Tree in railing.  (3) Another Solar Symbol.  (4) 	2 symbols punched on the surface— (1) "Ujjain Symbol."  (2) Caduceus. 	
2	AE. 7 .	Hāthī-bāḍā (T 2*a*).	Do. .	Do.	
3	AE. 6 .	Hāthī-bāḍā (T U 10).	Do. .	Do.	
4	AE. 5 .	Hāthī-bāḍā (T 2)	Symbols Nos. 1, 3 and 4.	?	
5	AE. 6 .	M Temple .	Traces of symbols, Nos. 1 and 4.	Traces of symbols, Nos. 1 and 2.	
6	AE. 5 .	Do. .	Symbols Nos. 1, 2, 3.	Do.	
7	AE. 6 .	Do. .	Symbols Nos. 1, 2, 3, 4.	Do.	
8	AE. 45 .	Do. .	Traces of symbols 3 and 4.	Do.	
9	AE. 65 .	Do. .	Symbols Nos. 1, 2, 3, 4.	Symbol No. 2 and traces of symbol No. 1.	
10	AE. 5 .	Do. .	Symbol 1 and traces of symbol 4.	?	Thick dumpy piece.
11	AE. 5 .	Do. .	Symbols Nos. 1, 2 and 3.	Symbol No. 1.	
12	AE. 6 .	Purchased .	Symbols Nos. 1 and 2.	Do. .	Irregularly shaped.
13-14	AE. 5 .	Do. .	Traces of symbols 1 and 3.	Traces of symbols 1 and 2.	
15	AE. 85 .	Do. .	Traces of symbols 1, 2, 3 and some others.	Symbol No. 2 and also symbol No. 3 of obv. and symbol denoting 2, fish and some others.	Thin piece.
16	AE. 8 .	Do. .	Traces of symbol No. 3.	Symbol No. 2 and another symbol.	Broken and damaged thin piece.

No.	Metal and Size.		Obverse.	Reverse.	Remarks.
			Local Nagarī coins with inscription.		
17	AE. 7 .	Hāthī-bāḍā .	Part of *svastika* preserved, in centre; around, legend in 2nd century B.C. characters: Majhimik[a]y[a] *Śibija.*	(Worn out).	
18	AE. 7 .	Hāthībāḍā (T 2)	*Svastika* with branch of tree of thunderbolt; around, legend: *Ś(i)b(i)jana.*	Part of the arches of the *chaitya.*	
19	AE. 7 .	Purchased .	Part of arches of a *chaitya,* and *svastika* around, legend: °*(m)i(k)aya (Śi)bijanapa.*	*Chaitya* of many arches (or mountain) and Nandipada symbol.	
20	AE. 75 .	Do. .	*Svastika* with taurines on ends; legend: *Majh(i)m(i)ka.*	?	
21	AE. 8 .	Private .	*Svastika* with taurines on ends and branch of tree. Legend, around: *Śibijanapadasa.*	Three arched *chaitya* with curved line below representing river.	
22	AE. 6 .	Hāthī-bāḍā .	Bust of Kshatrapa to r. as usual; to l. date *161.*	*Chaitya,* etc.; legend: *Rajño Mahākshatrapasa Dāmasenaputrasa rajño Mahākshatrapasa Vijayasenasa.*	Mahakshatrapa Vijayasena.
			Miscellaneous, blank, etc.		
23	AE. 6 .	Temple M .	Blank . . .	Blank . .	Probably a kārshāpaṇa.
24	AE. 45 .	...	...	...	
25	AE. 36 .	Do. . .	?	?	May have been punch-marked

SGPI—S14—90 DGArch.—18-3-20—550.

EXCAVATIONS AT NAGARI.



(a). BULL CAPITAL IN VILLAGE.

(b). ĀMALAKA IN VILLAGE.

(c). KUNYĀRDI, PIECES OF RAILINGS AT THE TOP OF THE MOUND.

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EXCAVATIONS AT NAGARI.

(a) SĀḌŪ MĀTĀ'S BOḶAVṆĀ.

(b) BROKEN SCULPTURE OF REVANTA.

(c) HALF-FINISHED SCULPTURE OF LION.

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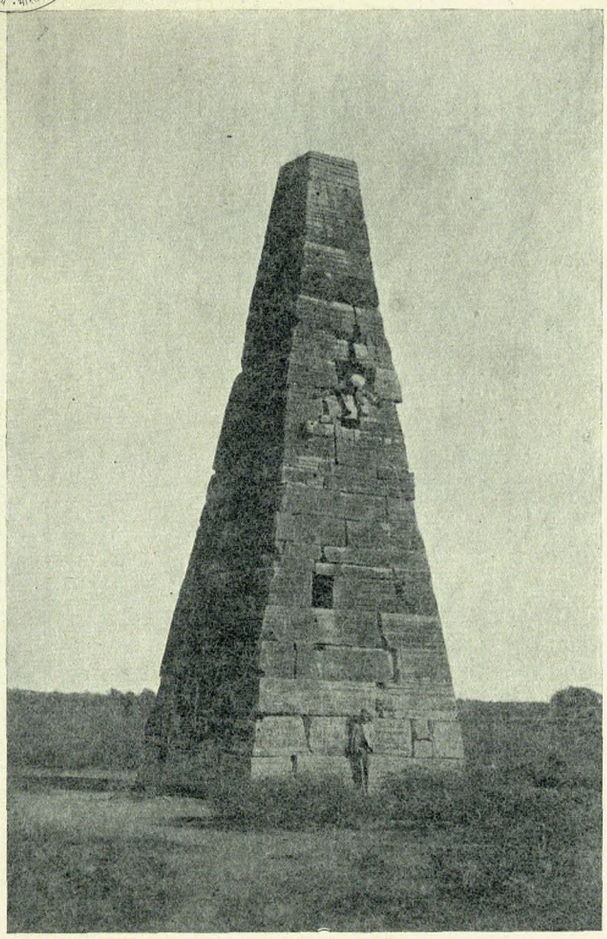
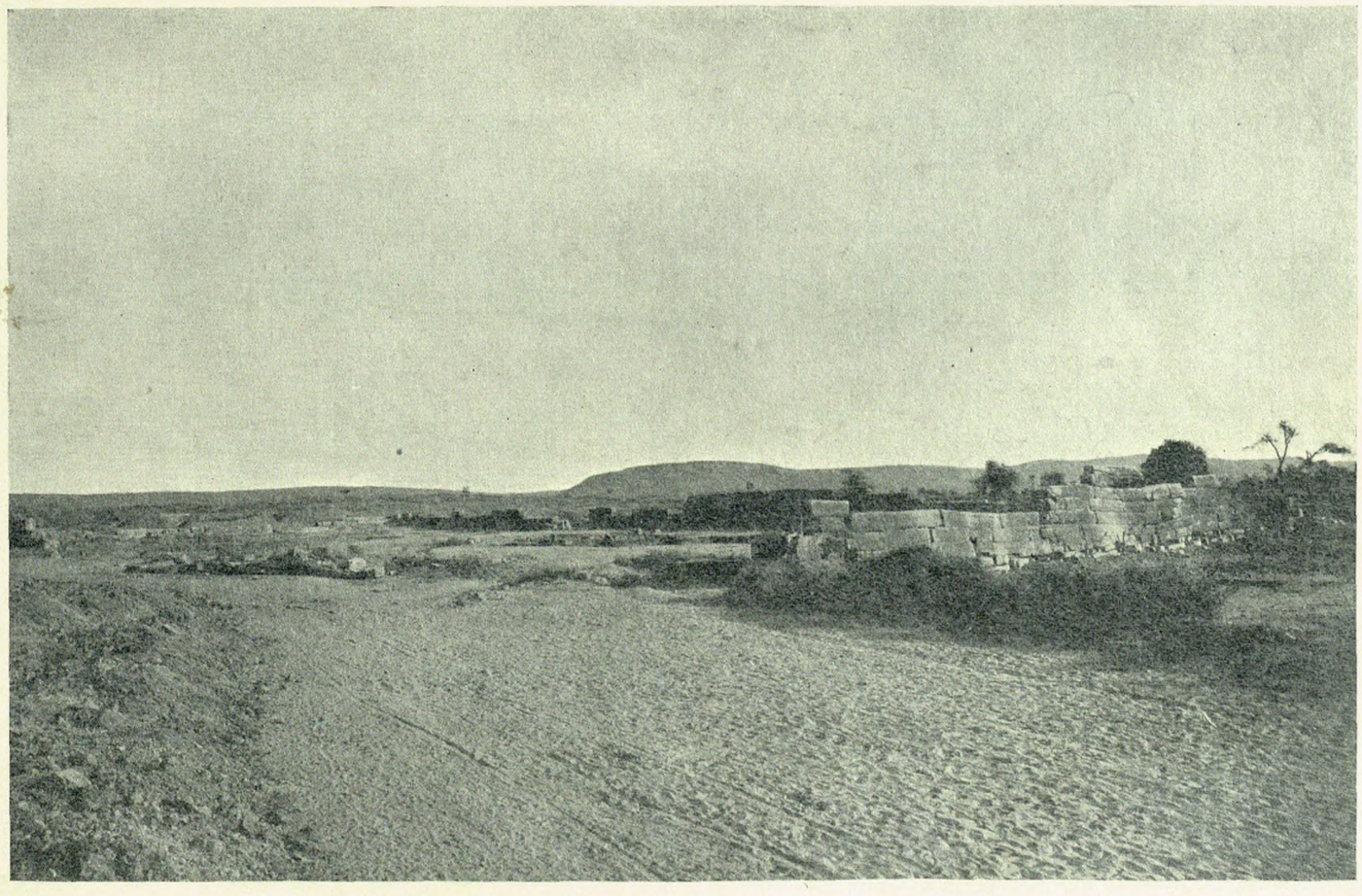
EXCAVATIONS AT NAGARI.



(a) ŪBH-DĪVAL OR AKBAR'S LAMP.

(b) OLD GHĀNĪ.



(c) HĀTHĪ-BĀḌĀ, GENERAL VIEW.

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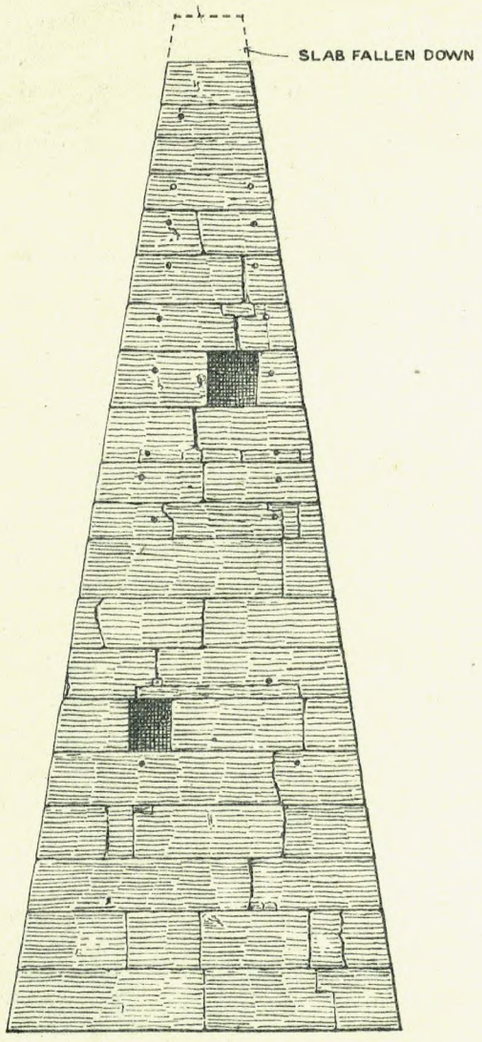
UBH-DIVAL AT NAGARI.

PLATE XVII

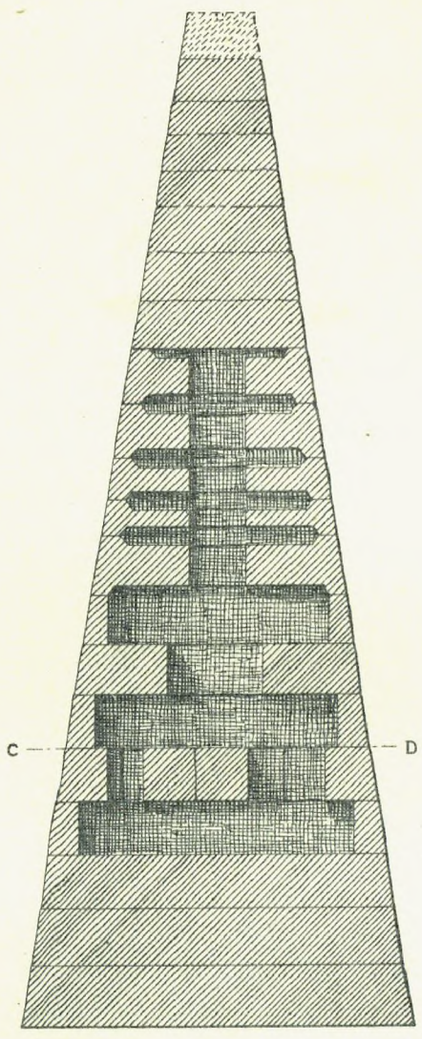
SCALE OF FEET.

12 5 10 15 20

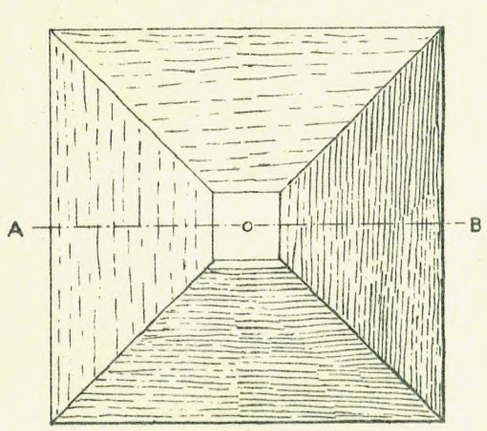
VIEW FROM SOUTH

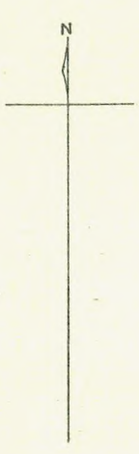


SECTION ON LINE A-B.

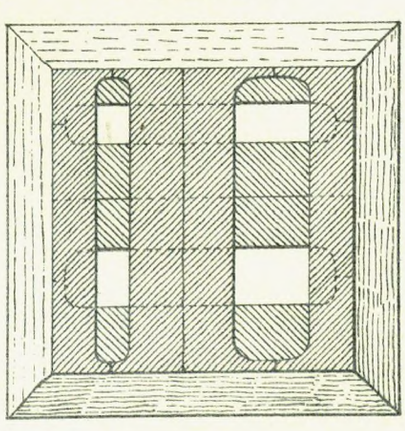


PLAN





PLAN AT C-D.



EXCAVATION AT HATHIWADA NAGARI.

SCALE OF FEET.

10 0 10 20 30 40 50 60 70 80 90 100

N

COMPOUND WALL

DESTROYED

B

B B

B

ENTRANCE

A

B1

B1 B1

B1 B1

A1

A2

B2

PART OF COMPOUND WALL

ELEVATION

SECTION

Present ground level

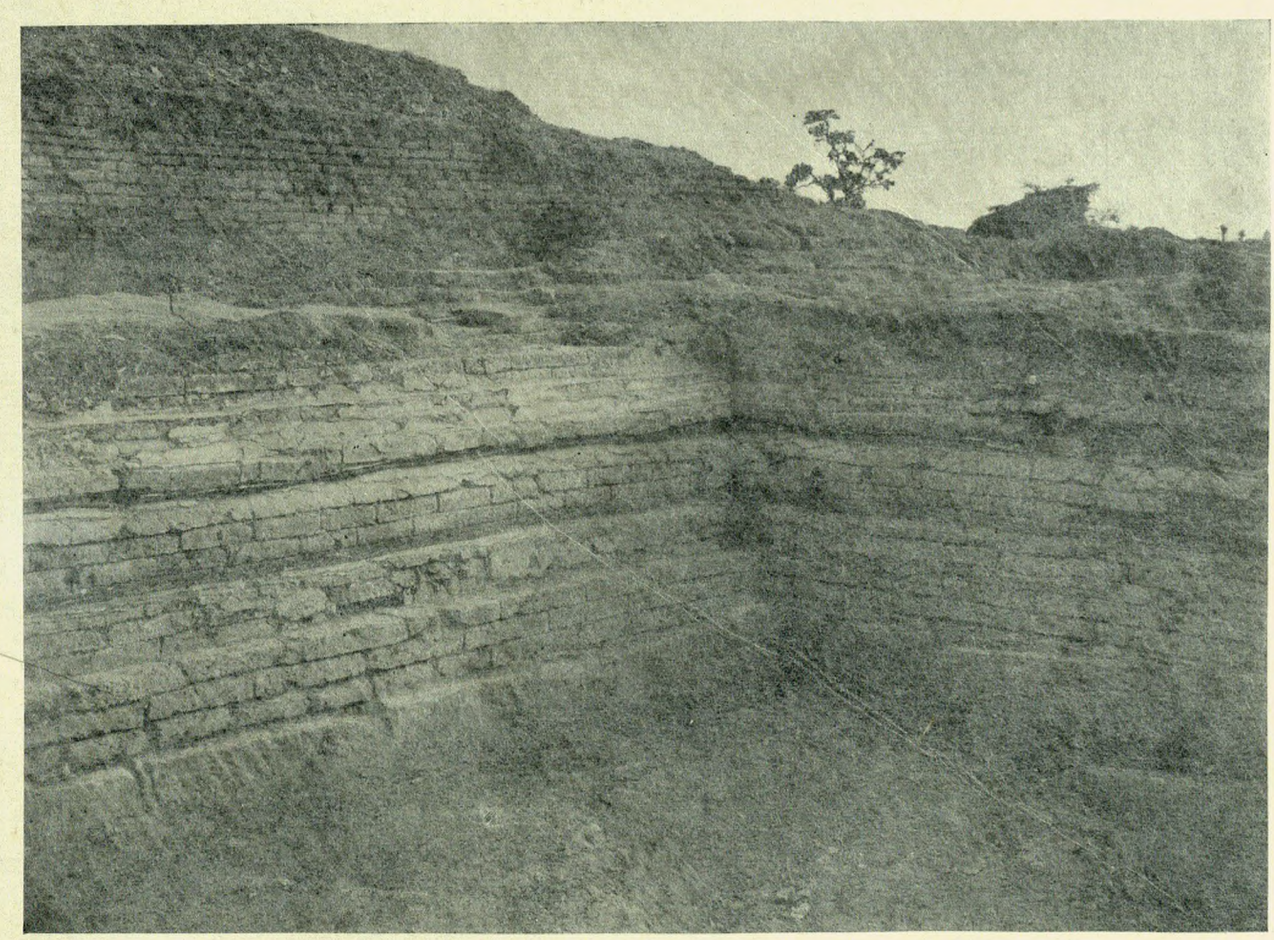
SCALE OF FEET.

12 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

REFERENCES

STONE WALL	
BRICK DO	
TRENCH	
FIND NO	○
EARTHEN WELL	◎
DO POTTERY	A
PLASTER PAVEMENT	B

a. TEMPLE OF MAHĀDEVA, GENERAL VIEW AFTER EXCAVATION.



b. VIEW OF PLATFORM MOULDINGS.

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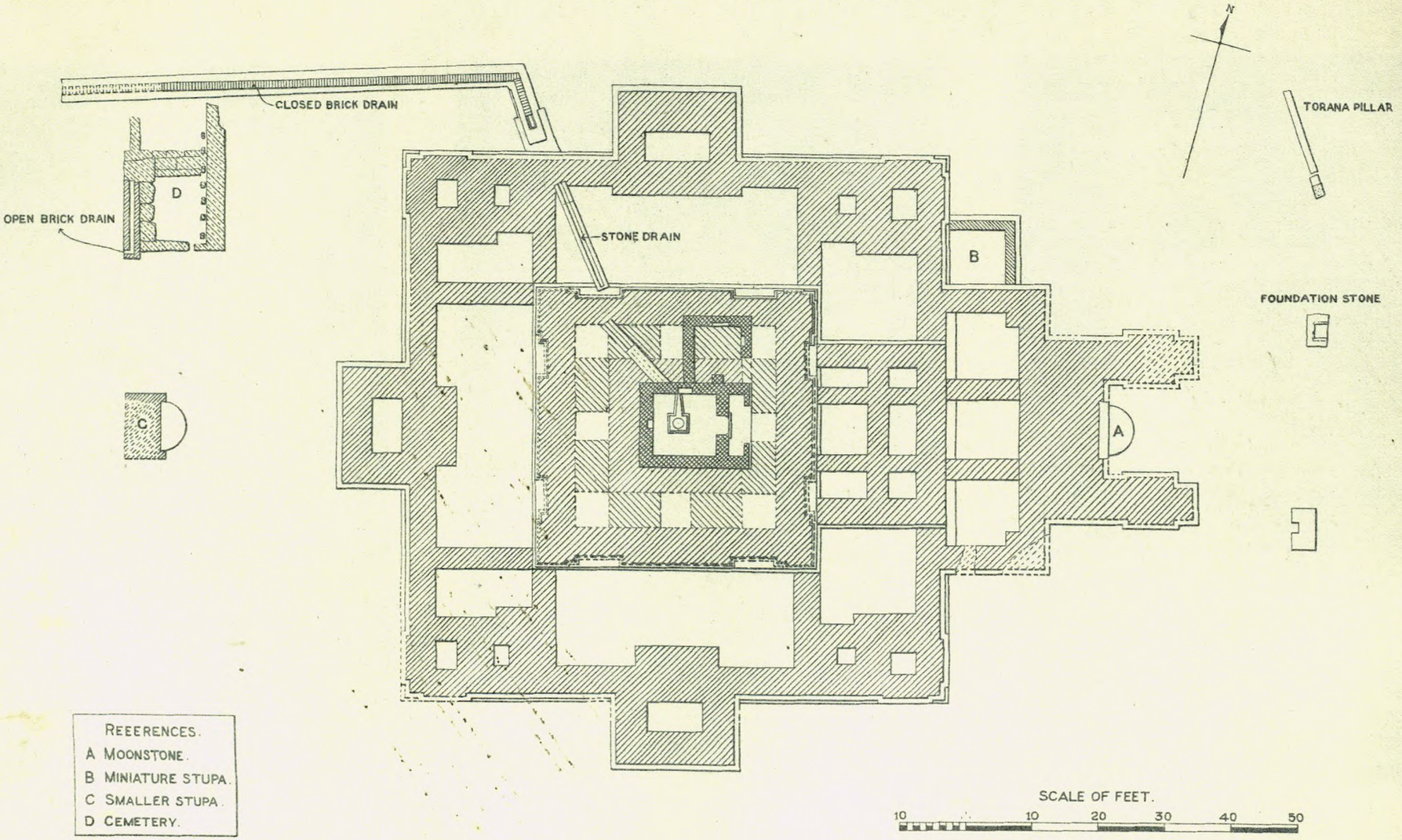
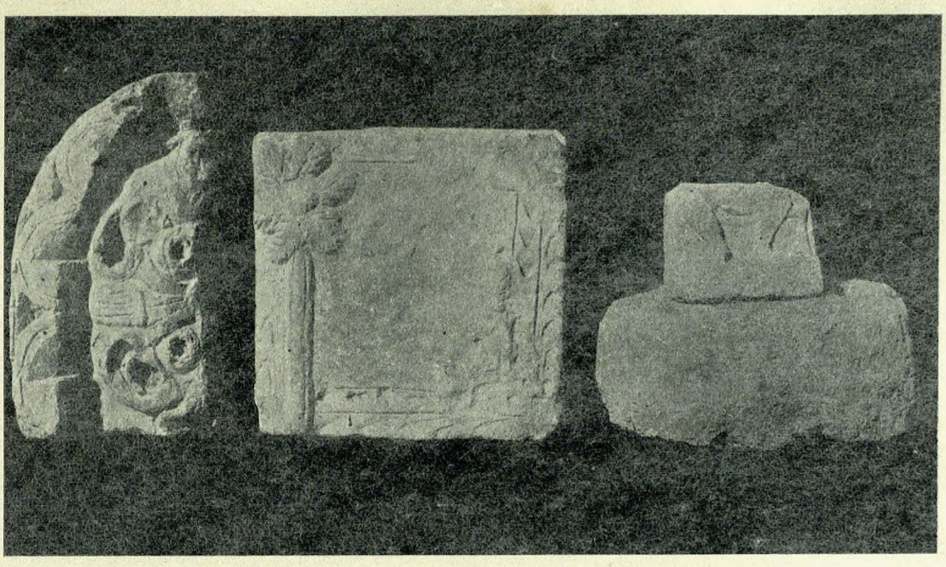
EXCAVATION AT

PLATE XX

MAHADEVA TEMPLE MOUND AT NAGARI.



EXCAVATIONS AT NAGARI.



(a) ORNAMENTAL BRICKS FOUND IN VILLAGE.

(b) BRICKS ORNAMENTED WITH HUMAN HEADS.

(c) BRICKS ORNAMENTED WITH HUMAN HEADS.

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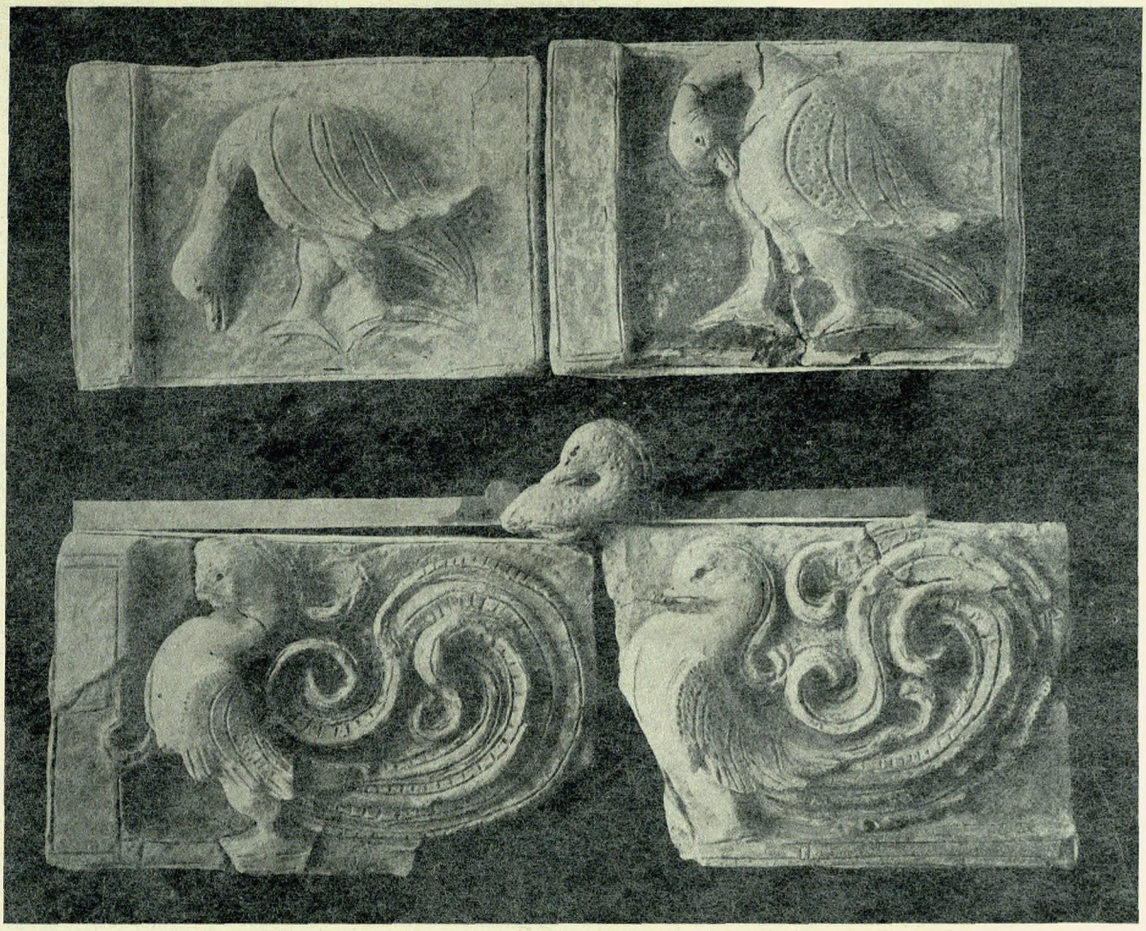
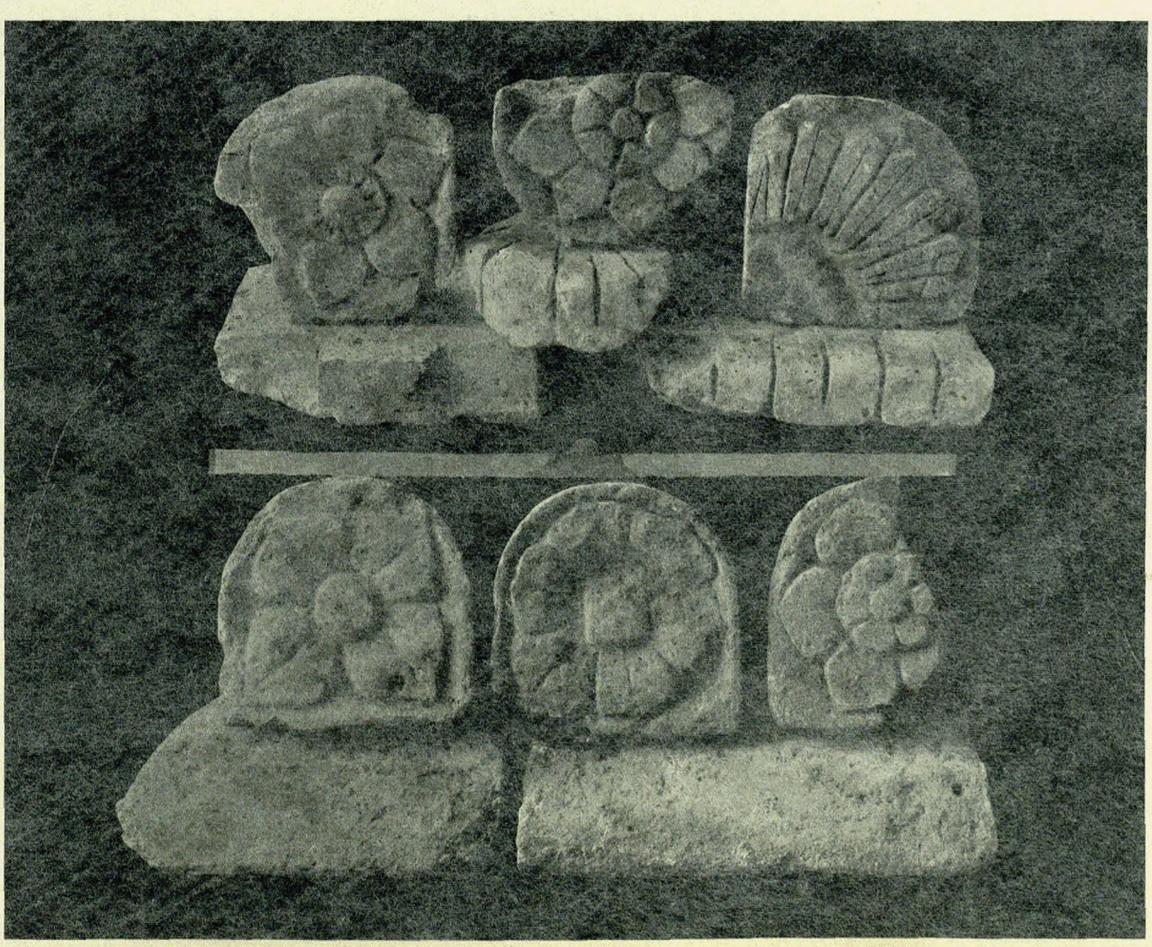


(a) BRICKS ORNAMENTED WITH BIRDS.



(b) BRICKS ORNAMENTED WITH LOTUS FLOWERS.

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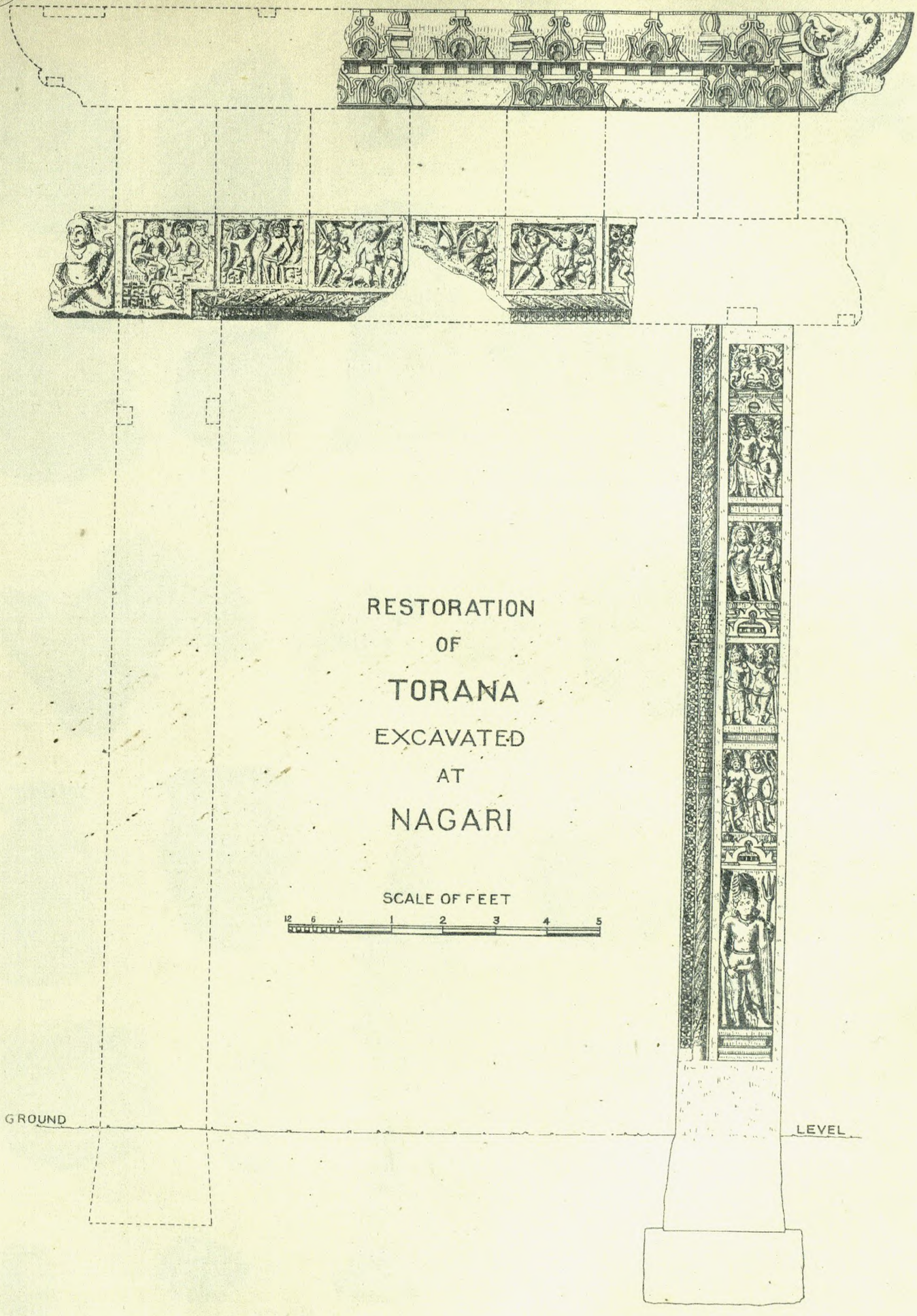

RESTORATION
OF
TORANA
EXCAVATED
AT
NAGARI
SCALE OF FEET
12 6 0 1 2 3 4 5
GROUND
LEVEL

EXCAVATIONS AT NAGARI.


17


21


22

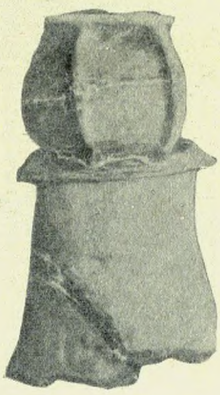

24


25


26


27


28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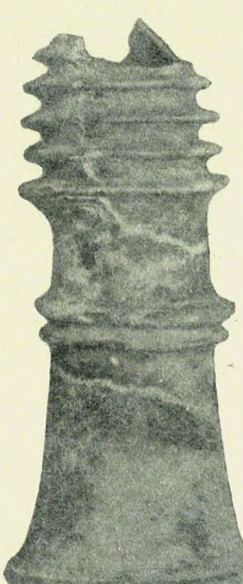
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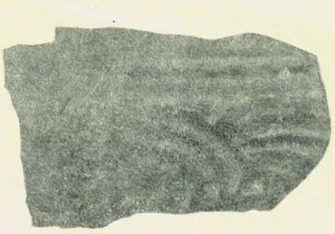
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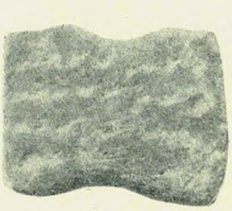
95

TERRACOTTAS.

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ARCHÆOLOGY AND VAISHNAVA TRADITION.

Archæology and religion.

IN one sense the science of archæology may be said to owe its advancement to a desire to test the authenticity of the sacred traditions. The results of explorations in Bible lands have partially justified expectations, and archæology has proved a useful mediator between the Holy Writ and the natural sciences. Texts unearthed from the mounds of the Euphrates valley have revealed the fact that even the Biblical stories of the creation and the deluge are not the deliberate inventions of priests but are based on hoary traditions not without rational basis.

In India also archæological researches have afforded proofs of the antiquity and authenticity of no inconsiderable number of Indian sacred traditions. The Aśoka edicts on the columns of Rumindei and Nigliva and the labelled sculptures on the Bharhut rail prove the antiquity of the legends and traditions relating to Śākyamuni Buddha and his six predecessors. The Brāhmī inscriptions on Jaina sculptures found at Mathurā demonstrate the authenticity of many of the Jaina traditions recorded in the Kalpasūtra of Bhadrabāhu.[1] As compared with these two heterodox creeds the legends and traditions of other Indian sectaries have received very little light from archæological discoveries. Yet monuments that illustrate the history of Vaishṇavism before the rise of Christianity are not wanting. I propose in this memoir to make an attempt to reconstruct the early history of Vaishṇavism on the basis of these monumental records, for, in the words of Foucher, "upon this immutable foundation we can construct inferences more rigorous than upon the moving sand of texts."

I.

Besnagar Garuḍa pillar inscriptions.

The earliest known Vaishṇava monument is the inscribed column at Besnagar near Bhilsa in Central India (Gwalior State). In the votive inscription on this column we are told, "This Garuḍa column (*Garuḍadhvajē*) of Vāsudēva the god

[1] Bühler in *Vienna Oriental Journal*, Vol. I, pp. 165-180; Vol. II, pp. 141-146; Vol. III, pp. 233-240; Vol. IV, pp. 313-331.

of gods (*dēvadēva*) was erected here by Heliodorus, a Bhāgavata, the son of Dion, and an inhabitant of Taxila, who came as Greek ambassador from Mahārāja Antialkidas to King Kāsiputra Bhāgabhadra." Antialkidas is supposed to be one of the earlier members of the line of Eucratides, who came to the throne of Bactria about 171 B.C. after ousting Demetrius.[1] The archaic type of Brāhmī characters used in the inscription of Heliodorus indicates that it was probably engraved some time in the first half of the second century B. C.

A fragment of the shaft of another octagonal Garuḍa column evidently from Besnagar found in a narrow street of Bhilsa and now preserved in the Besnagar Museum bears a Brāhmī inscription in one line on seven out of its eight sides. The occurrence of angular *ga*s side by side with round *ga*s and of angular *ta*s shows that this record must be assigned to about the close of the second century B.C. The inscription, which has been deciphered by Venis with a good deal of skill, reads as follows :—

(1) Gotamaputēna (2) bhāgavate[na]
(3) ..... (4) [*Bhagava*]to prāsā[do]ta-
(5) masa Garuḍadhvaja[kārito] (6) [dvā]dasa-vas-ābhi-
site (7) . . . Bhāgavate ma[2].

Professor Bhandarkar takes *bhāgavatēna* on the second side as the name of the donor.[3] The name of the donor was evidently given on the third side where no trace of it now remains, and Venis appears to be correct in taking *bhāgavatēna* as an adjective qualifying that name.[4] So the epigraph may be thus translated :—

" This Garuḍa column of the excellent temple of the Bhagavat was erected by Gautamī-putra (Gautamī's son)....., a Bhāgavata (Vaishṇava), in the twelfth year after the installation of Mahārāja Bhāgavata."

Professor Bhandarkar no doubt rightly identifies Mahārāja Bhāgavata of this record with the Śuṅga king of the same name, " the last but one of the Śuṅga family mentioned in the Purāṇas," who may be supposed to have been reigning about 100 B.C.

In the *Mahābhārata* (I, 33.16-17) we are told that Garuḍa, in return for boons granted to him by Vishṇu, himself offered a boon to Vishṇu ; so Vishṇu asked Garuḍa to be his vehicle and made him the emblem of his flag saying, " Thou shalt stay above me."[5] So the mention of Garuḍadhvaja in connection with Vāsudēva in the inscription of Heliodorus shows that, when Heliodorus erected his column, the identification of Vāsudēva with Vishṇu as conceived in the epic was an accomplished fact.

Vāsudēva and Arjuna in Pāṇini.

The designation of Vāsudēva as " dévadéva " in the inscription of Heliodorus also enables us to explain an obscure passage of the Mahābhāshya of Patañjali.

---

[1] Rapson, *Ancient India*, Cambridge, 1914, pp. 124 and 134. According to Mr. V. A. Smith Antialkidas was one of the princelings of the Indian borderland whom Eucratides subdued (*E. H. I.*, 3rd Ed., p. 324).

[2] The inscription may be better read from the stone. The impression reproduced in Plate Ia was supplied by Mr. Garde, Superintendent of Archæology, Gwalior State.

[3] *A. S. R.*, 1913-14, Part II, p. 190.

[4] *J. B. B. R. A. S.*, Vol. XXIII, p. 144.

[5] Fausboll's *Indian Mythology according to the Mahābhārata in outline*, London, 1902, p. 80.

Pāṇini in IV. 3. 98 states that, "The affix *vun* is added to the names Vāsudēva and Arjuna in the sense of 'this is his object of devotion (*bhakti*)'". Thus Vāsudēva + *vun*=Vāsudēvaka, means "a devotee of Vāsudēva;" and Arjuna +*vun*=Arjunaka, means "a devotee of Arjuna." But in the next following aphorism Pāṇini says that the affix *vuñ* (not *vun*) is added in the same sense to words denoting *gotra* and Kshatriya. While commenting on IV. 3. 98 Patañjali raises the question, why provide for the addition of the affix *vun* after Vāsudēva while, as denoting a famous Kshatriya, the addition of *vuñ* is provided for in the next sūtra and the addition of either *vun* or *vuñ* to Vāsudēva does not make any difference in form or sound. To this Patañjali replies, "*athavā naishā kshatriyākhyā saṁjñaishā tatrabhavataḥ*, "Or it (Vāsudēva) is not the name of a Kshatriya. It is the designation of the *tatrabhavat*." The meaning of the term *tatrabhavat* here has been the subject of a good deal of controversy. Kielhorn writes, "In either case the word *tatrabhavataḥ*, by which *saṁjñaishā* is followed, does not in the least suggest that the personage denoted by the proper name is a divine being; the word indeed conveys an honorific sense, but would be equally applicable to a human being."[1] Two other eminent authorities, Professor Berriedale Keith[2] and Sir R. G. Bhandarkar[3], are of opinion that *tatrabhavat* in this case, as in Patañjali's commentary on Pāṇini IV. 2. 25, refers to a divine being. Later Indian commentators, like the authors of the Kāśikā, understand Pāṇini to denote a divine being by Vāsudēva (*saṁjñaishā dēvatāviśēshasya*) in IV. 3. 98. Patañjali flourished in the middle of the second century B.C. just about the time when our Greek Vaishṇava Heliodorus erected the Garuḍa pillar at Vidiśā. As Vāsudēva is called *dēvadēva* in this inscription, we may safely conclude that Patañjali by saying that Vāsudēva is the name of *tatrabhavat*, 'the adorable one,' and not of a Kshatriya, refers to this *dēvadēva* 'god of gods,' who had Garuḍa as the emblem on his banner.

If Vāsudēva in Pāṇini's aphorism IV. 3. 98 is a god (*dēvatāviśēsha*) and not a Kshatriya, it follows that the other person named in the *sūtra*, Arjuna, is also a deity and not a Kshatriya. According to Pāṇini's *sūtra* II. 2. 34, the name Arjuna as consisting of fewer vowels than the name Vāsudēva ought to have been placed first (in *sūtra* IV. 3. 98) and we should have the compound *Arjuna-Vāsudēvābhyām* instead of *Vāsudēv-Ārjunābhyām*. The non-observance of this general rule by Pāṇini in IV. 3. 98 is explained by a *vārttika* (4) of Kātyāyana which lays down that the name of the (more) venerable person should be placed first in a co-ordinative compound irrespective of the quantity of vowels.[4] So, as the more venerable of the two, Vāsudēva is named first and Arjuna afterwards. A divine being called Nara is often mentioned with Vishṇu or Nārāyaṇa in the *Mahābhārata*. In the story of the churning of the ocean (Book I) Vishṇu takes away the nectar from the mighty Dānavas accompanied by Nara. In the dreadful battle between the gods and the Asuras that follows, Nārāyaṇa enters the field

[1] *J. R. A. S.*, 1908, p. 503.
[2] *Ibid*, pp. 847-848.
[3] *Ibid*, 1910, pp. 168-170.
[4] *Vyākaraṇa-Mahābhāshya* edited by Kielhorn, Vol. I, p. 436.

with Nara who is armed with a heavenly bow. "Then the divine Nara coming to that dreadful conflict of the Asuras and Gaṇas (the followers of Rudra), reducing to dust the rocks (hurled by the Dānavas) by means of his gold-headed arrows, covered the heavens with the dust." When, after defeating the Asuras, the gods returned to heaven, they made over the vessel of nectar to Nara for careful keeping (*rakshitum*).[1] In Book III, chapters 145 and 156 of the epic, Nara and Nārāyaṇa are represented as two divine sages in whose hermitage at Vadari the five sons of Pāṇḍu lived for some time during their exile. In another chapter (41) of the same book of the epic Arjuna is told by Yama, "Thou wert in thy former life a Ṛishi of immeasurable soul, known as Nara of great might. At the command, O child, of Brahmā, thou hast been born among men." So the association of Arjuna with Vāsudēva in Pāṇini's *sūtra* shows that Vāsudēva and Arjuna were not only recognised as gods at the time of Pāṇini, but also as a divine pair as described in the *Mahābhārata*. As it is admitted that Pāṇini was familiar with a Pāṇḍu epic called *Mahābhārata*, it may be presumed that Vāsudēva and Arjuna already figured as a divine pair in the *Mahābhārata* of the time of Pāṇini.

Antiquity of the worship of the image of Vishnu. Indian Herakles and Krishna-Vishnu.

The Garuḍa pillars of Besnagar not only indicate that Vāsudēva was already identified with Vishṇu as conceived in the *Mahābhārata*, but they also bear witness to the existence of one if not two temples of Vishṇu at Vidiśā at the time of their erection. In the inscription on the fragment of our second pillar it is distinctly called "the Garuḍadhvaja of the excellent temple (*prāsādotama*) of the Bhagavat (Vishṇu)." A temple of Vishṇu must have contained an image or some form of concrete representation of Vishṇu within it. The Garuḍa columns were of course surmounted by images of Garuḍa. The making of the image of Garuḍa, the *vāhana* or carrier of Vishṇu, presupposes the making of the image of Vishṇu.

The inscription on the Besnagar column of Heliodorus not only affords presumptive evidence of the prevalence of the worship of the image of Vishṇu in the early Śuṅga period, but lends indirect support to the statement of Q. Curtius "that an image of Herakles was carried in front of the army of Porus as he advanced against Alexander."[2] The Indian Herakles has been identified by some scholars with Kṛishṇa and by others with Śiva. The reasons for the latter view are thus stated by Mr. Kennedy :—

"The identification of the Indian Herakles is fairly easy. The Greek Herakles figures on the Indo-Scythic coins of Kadphises I, and is replaced by the Indian Śiva on coins of Kadphises II under the name of Oesho, and with various attributes including the club, Śiva figures on coins of Kanishka, Huvishka and Vāsudēva. Mr. D. R. Bhandarkar has shown that the incarnation of Śiva as Lakuliśa, "the Lord who bears the club," goes back to this period. It is held that the name of the people called Śibi in Sanskrit—the Sibai of the Greek writers, who mention them as descendants of the followers of Herakles—marks them as special worshippers of Śiva, the letters *b* and *v* being constantly interchanged. Lastly,

[1] Fausboll, *Indian Mythology* pp. 9-27.

[2] Cunningham's *Coins of Ancient India*, p. vii.

Herakles' daughter, Pandaia, recalls the kingdom of Pandion or Pāṇḍya, a famous kingdom of Southern India, while we infer from the 'Periplus' that Kumārī was especially worshipped at Cape Comorin. Now, the Dravidians of this region are still noted for their devotion to Śiva, and Kumārī is at once his Śakti, his daughter and his wife."[1]

The occurrence of the figure of the Greek Herakles on the coins of Kadphises I and of the Indian Śiva on the coins of Kadphises II can hardly be taken seriously as an argument in favour of the identification of Herakles with Śiva. But the other arguments of Mr. Kennedy deserve detailed examination.

(1) Mr. Kennedy's statement, "under the name Oesho, and with various attributes including the club, Śiva figures on coins of Kanishka, Huvishka and Vāsudēva," is rather misleading. The figure of Śiva, either two-armed or four-armed, is one of the most common features on the reverse of the coins of these Kushān kings. But Śiva with club is very rare and exceptional. Mr. Vincent A. Smith in his *Catalogue of Coins in the Indian Museum, Calcutta*, gives an account of a few specimens of a type of copper coin of Kanishka with two-armed Oesho (Śiva) grasping a spear or a staff in the right hand and with left hand resting on a club.[2] But the absence of the trident, a necessary attribute of Śiva, renders this identification very doubtful. Mr. Whitehead describes one copper coin of Kanishka on the reverse of which "Śiva is without trident, and the name Oesho on right reads upwards."[3] Śiva with club is found on a type of gold coin of Huvishka, of which two specimens are known. Here the deity is figured three-faced and four-armed, standing facing, holding in two right hands thunderbolt (or drum) and water-vessel and in two left hands trident and club.[4] But as the club is not associated with other types of Śiva figured on the ancient coins whether two-armed or four-armed, it cannot be recognised as a necessary attribute of Śiva as conceived in the first and the second centuries B.C., but only an abnormal feature. The earliest representations of Śiva are probably found on some of the coins of the Indo-Parthian king Gondophares where the god is figured as holding a trident in one hand while the other hand is either empty or holds a palm.[5] One of Gondophares's titles on his coin legends, *dēvavrata*, 'devoted to gods,' indicates that he had adopted the Indian worship of the *devas* as distinguished from the Iranian worship of the Ahuras. On the coins of the Kushan king Kadphises II Śiva is figured as two-armed and invariably holding a trident in the right hand, in one type combined with a battle-axe, and the left hand is either empty or holds a gourd. In the *Mahābhārata* the dreadful spear called Pāśupata, the battle-axe (*paraśu*), the bow called Piṇāka and the trident (*triśūla*) are named as the weapons of Śiva.[6] Varāhamihira in the *Vṛihatsaṁhitā* (LVII,

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[1] *J. R. A. S.*, 1907, pp. 967-968.

[2] V. A. Smith's *Catalogue of Coins in the Indian Museum, Calcutta*, p. 75.

[3] Whitehead's *Catalogue of Coins in the Panjab Museum*, Vol. I, p. 192.

[4] *Numismatic Chronicles*, 1892, p. 118; Smith's *Catalogue of Coins in the Indian Museum, Calcutta*, p. 78.

[5] Whitehead's *Catalogue of Coins in the Panjab Museum*, Lahore, Vol. I, p. 151, *J. R. A. S.*, 1903, pp. 285-286.

[6] Fausboll's *Indian Mythology*, pp. 150-151.

43) names the trident and the Piṇāka as the weapons of Śiva and in the Matsya Purāṇa (CCLXI, 23) only the trident is named. In the *Mahābhārata* and in all other texts *gadā* or club is mentioned as an attribute, not of Śiva, but of Vishṇu. Śiva is *śūlin*, 'the holder of the trident,' and *piṇākin*, 'the holder of the bow piṇāka,' while Vishṇu is *śaṅkha-chakra-gadādhara*, 'the holder of conchshell, discus (*sudarśana*) and club,[1] or briefly, *gadādhara*, 'holder of club.' Therefore it is more reasonable to identify the Indian Herakles with Vishṇu than with Śiva.

(2) Professor Bhandarkar and Dr. Fleet are of opinion that the incarnation of Śiva as Lakuliśa, 'the lord who bears the club,' may go as far back as the time of Huvishka. But Greek accounts of the Indian Herakles are derived from the works of writers (the companions of Alexander the Great and Megasthenes) who visited India in the fourth century B.C. and to whom therefore a knowledge of the legend of Śiva as Lakuliśa cannot be reasonably attributed, unless this legend is older than has yet been shown.

(3) How the name *Śibi*—the Sibai of the Greeks—marks the people bearing that name as special worshippers of Śiva is not explained by Mr. Kennedy. The Śibis are said to have derived their name from a king of old called Śibi, son of of Uśīnara, who, according to the *Mahābhārata*, sacrified himself to save a dove from a hawk.[2] According to the Paurāṇik geneology King Śibi had four sons, Vṛishadarbha, Suvira, Kekaya and Madraka.[3] Uśīnara is the name of a people mentioned in the *Aitarēya-Brāhmaṇa*, *Sāṁkhyāyana-Āraṇyaka*[4] and Pāṇini, and Śibi, Kekaya and Madraka are also tribal names. The Paurāṇik genealogies indicate traditional relationship between these tribes or nations who lived in the north-west of India. But there is nothing in the epic or Buddhist legends to show that Śibi was a Sivaite.

(4) The story told by Megasthenes that the Indian Herakles had a daughter named Pandaia who was born in a land called after her Pandaia and was entrusted with the sovereignty of it cannot be connected with Śiva, for Hindu mythology knows no legend about Śiva which may be cited as even a remote parallel. The suggestion of Lassen and Weber that "the reference made by Megasthenes to the Indian Hercules and his daughter Pandaia can be best explained as a misunderstanding of the epic stories of Kṛishṇa and Draupadī, the spouse of the Pāṇḍavas"[5] comes nearer the mark. An even better explanation is afforded by the stories of Kṛishṇa and his sister Subhadrā who was married to Arjuna.[6] In the epic and the Purāṇas the descent of the later Kuru kings including Parīkshit and his son Janamejaya is traced to Abhimanyu, son of Subhadrā and Arjuna.

But another well-known statement of Megasthenes relating to the Indian Herakles furnishes us with decisive evidence for the identification of that deity with Kṛishṇa-Vishṇu. It runs :—

"Herakles was worshipped by the inhabitants of the plains—especially by

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[1] Fausboll's *Indian Mythology*, p. 105.
[2] See also Sivi-Jātaka (499).
[3] *Vāyupurāṇa*, 99, 19-24; *Vishṇupurāṇa*, IV, 18.
[4] Macdonell and Keith's *Vedic Index*.
[5] *Ind. Ant.*, Vol. XXX, p. 281.
[6] *Mahābhārata*, Book I, 221-223.

the Sourasenai, an Indian tribe possessed of two large cities, Methora and Kleisobara (Kṛishṇapura), and who had a navigable river, the Jobares, flowing through the territories."[1]

Methora is recognised as a transliteration of Mathura and Jobares a copyist's error for Jomanes, *i.e.*, the river Jumna or Yamunā. It was at Mathurā, as we shall see (p. 167), that the worship of Kṛishṇa-Vishṇu had its origin. The Bhāgavata Heliodorus who came to Vedisa from Taxila as ambassador of Antialkidas and erected the Garuḍa column either adopted Bhāgavatism (Vaishṇavism) after coming to Vedisa or was a Vaishṇavite before he left his native town. The latter alternative seems to be the more reasonable one, and leads to the inference that Vaishṇavism flourished in the Western Punjab in the first half of the second century B.C. If this assumption is right, and if the Indian Herakles of the Greek writers may be identified with Kṛishṇa-Vishṇu, we may conclude that the image (simulacrum) carried in front of the army of Porus that assembled on the eastern bank of the Jhelum was an image of Vishṇu.[2]

In connexion with the Garuḍa column inscription of Heliodorus there arises this side issue, how could an alien, a Yona or Yavana like Heliodorus, become a Bhāgavata (Vaishṇava)? Early Indian coins and inscriptions reveal to us the names of other alien invaders and immigrants who were also Brahmanised in religion. It has already been stated above (p. 155) that on the coins of the Indo-Parthian king Gondophares the king is called *dēvavrata* and Śiva is represented with trident on the reverse. Śiva is also figured on the coins of Wema Kadphises who calls himself *mahīśvara*, meaning probably the worshipper of Maheśvara or Śiva. The successor of Huvishka has the Brahmanic name Vāsudeva and is represented on the obverse of his coins as making an offering with his right hand over a small altar and holding a long trident in the left hand. The reverse of Vāsudeva's coins bear the figure of Śiva. The Buddhist caves of Nasik and Karle contain inscriptions of Ushavadāta (Ṛishabhadatta) son of Dinika, and son-in-law of the Kshaharāta Kshatrapa Nahapāna, in one of which he calls himself a Śaka (Lüders' List, No. 1135), wherein is given a long list of donations made by him to Brahmans at various places of pilgrimage.[3] Other inscriptions in the caves of Nasik refer to Śakas and Yōnakas (Yavanas) bearing such orthodox names as Agnivarmman, Indrāgnidatta and Vishṇudatta.[4] The Western Kshatrapas of the dynasty of Chashṭana, so many of whom bear names beginning with Rudra, were probably early Brahminised. In his Junāgaḍh inscription Rudradāman, grandson of Chashṭana, boasts "that he twice defeated Sātakarṇi, the lord (*pati*) of Dakshiṇāpatha, but on account of the nearness of their connexion did not destroy him."[5] The ruthless Huna king Mihirakula was

How Heliodorus could become a Vaishṇava.

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[1] Mc'Crindle, *Ancient India as described in Classical Literature*, Westminster, 1901, p. 64, note 3.

[2] M. Foucher writes on this image (simulacrum) of Indian Herakles in *L'Art Greco-Bouddhique du Gandhāra*, Tome II, (Paris, 1918) p. 382: "We have no evident proof that a true statue was brought in procession before the infantry of Porus; but one century later, images of Yakshas and Nāgas attest in Central India an already elaborated iconography of a very anthopomorphic appearance."

[3] Lüders' *List of Brāhmī Inscriptions*, Nos. 1099, 1131-1135.

[4] *Ibid*, Nos. 1137, 1140, 1148.

[5] *Ibid*, No. 965.

evidently a Śaiva. On the reverse of his coins occurs the figure of a bull with crescent above and below the legend *jayatu vṛisha*, "may the bull be victorious." Both bull and crescent are the symbols of Śiva. Kalhana in his *Rājataraṅgiṇī* (I. 306-307) says that Mihirakula founded at *Śrīnagarī* the [shrine of Śiva] *Mihireśvara*, and was a patron of the Gandhāra Brahmans. With Mihirakula we come up to the first quarter of the sixth century A.D.

The proselytizing activities of the Brahmans were not confined to alien invaders and immigrants only, but found a wider field in the islands of the Indian archipelago and in the adjoining parts of the Indo-Chinese Peninsula. Two rather puzzling questions which suggest themselves in this connexion are, how was the admission of aliens to the orthodox Brahmanic fold possible then, and why is it not possible now? To begin with the first question, let us hear what the grammarian Patañjali, a contemporary of Heliodorus, has to say about the status of the Śakas and the Yavanas from the orthodox standpoint; for Patañjali was a great champion of orthodoxy. He begins his *Mahābhāshya* with the statement, "Grammar should be studied in order that we may not turn Mlechchhas."[1] In his commentary on Pāṇini's *sūtra* II. 4. 10 Patañjali classifies the Śakas and the Yavanas as Śūdras who are *aniravasita*, that is to say, who do not permanently pollute the utensils from which they take their food. The utensils from which such Śūdras take their food may be purified by cleaning. Then, as now, the theory is the same:—a Hindu is born and not made. A man may be recognised as a born Hindu when he is born either as a Brahman, or a Kshatriya, or a Vaiśya, or a Śūdra, for, according to Manu, there is no fifth (*nāsti tu pañchamaḥ*). So at a time when the Śakas and the Yavanas were recognised as clean Śūdras, the door of the orthodox fold was open to them as Śūdras, that is, on their acknowledging the supremacy of the Brahmans, and not, like the Kshatriyas of old, disputing the same. Manu goes a step beyond Patañjali and says that alien peoples like the Śakas, Yavanas, Pahlavas, Chīnas, etc., were originally Kshatriyas and have degenerated into Śūdras on account of giving up sacred rites and not seeing or being in touch with the Brahmans (X. 43-44). This and similar other texts from the Mahābhārata are quoted and translated by Muir in his *Original Sanskrit Texts*, Vol. I (2nd Ed.), Chapter V (pp. 480-488), including also legends from the *Vishṇu-Purāṇa* and the *Harivaṁśa* which tell us that when Sagara, a king of the Ikshvāku race, was about to slaughter the Śakas, Yavanas, Kāmbojas, Pāradas, and Pahlavas, they sought the protection of the sage Vasishṭha, through whose intercession Sagara allowed them to escape after destroying their caste (*dharma*) and making them change their costumes. A dialogue from the *Mahābhārata*, Book XII (quoted by Muir) between king Māndhātṛi and the god Indra is very interesting. In this dialogue the king asks the god, what religion (*dharma*) should a king like him prescribe for such folks as the Śakas, Yavanas, Pahlavas, Kāmbojas, etc., and "persons of the Vaiśya and Śūdra castes." Indra says in reply that these Dasyus should perform ceremonies ordained in the Vedas and on proper occasions bestow gifts on the Brahmans. It is to be noted that here the alien barbarians or Dasyus are placed in

[1] *Vyākaraṇa-Mahābhāshya*, edited by Kielhorn, Vol. I, p. 2

the same category as the Vaiśyas and the Śūdras. When such beliefs obtained among the Brahmans it was not difficult for a Śaka or a Yavana immigrant to obtain admittance into the orthodox fold as a Vaiśya or a Śūdra and for an alien ruler to rank even as a Kshatriya.

Why and when did Hindus abandon the practice of admitting aliens to the Hindu society.

The answer to the next question, why and when the Hindus abandoned the practice of admitting foreigners to the Hindu fold, is furnished by a Muhammadan writer, Abu Raiḥān Alberuni, who came to the Punjab after A.D. 1017 in the reign of Sultan Mahmud of Ghazni to study the different branches of the Sanskrit literature and wrote his work on India in the year of Mahmūd's death (A.D. 1030). In Chapter I of his book Alberuni describes "the barriers which separate Muslims and Hindus" and endeavours to trace their roots. The barriers mentioned by Alberuni are three in number; (1) the difference of language; (2) the religious prejudices of the Hindus; and (3) the self-conceit of the Hindus and their depreciation of anything foreign. About the second barrier he writes:—

"They (the Hindus) totally differ from us in religion, as we believe in nothing in which they believe, and *vice versa*..... All their fanaticism is directed against those who do not belong to them—against all foreigners. They call them *mlechchha*, *i.e.*, impure, and forbid having any connexion with them, be it by intermarriage or any other kind of relationship, or by sitting, eating, and drinking with them, because thereby, they think, they would be polluted. They consider as impure anything which touches the fire and the water of a foreigner; and no household can exist without these two elements. Besides, they never desire that a thing which once has been polluted should be purified and thus recovered ... They are not allowed to receive anybody who does not belong to them even if he wished it, or was inclined to their religion."[1]

So it may be noted here that at the time of Alberuni the alien invaders from the west are no longer recognised as *aniravasita* Śūdras, but as impure (*niravasita*) outcastes whose water or fire, to say nothing of utensils used for taking food, are permanently polluted. Alberuni ascribes this change of attitude on the part of the Hindus towards aliens to three different causes. First, to the degradation of the aliens by king Sagara in which legend he seems to find nothing incredible.[2] Secondly:—

"Another circumstance which increased the already existing antagonism between Hindus and foreigners is that the so-called Shamaniyya (Buddhists), though they cordially hate the Brahmans, still are nearer akin to them than to others. In former times, Khurasan, Persis, 'Irak, Mosul, the country up to the frontier of Syria, was Buddhistic, but then Zarathustra went forth from Adharbaijan and preached Magism in Balkh (Baktra). His doctrine came into favour with king Gushtasp..... The succeeding kings made their religion (*i.e.*, Zoroastrianism) the obligatory state-religion for Persis and 'Irak. In consequence, the Buddhists were banished from those countries, and had to emigrate to the countries east of Balkh. There are some Magians up to the present time

[1] Alberuni's *India*, Eng. tr. by Sachau, London, 1888, Vol. I, pp. 19-20.
[2] *Ibid.*, pp. 20-21.

in India, where they are called *Maga*. From that time dates their aversion towards countries of Khurasan."[1]

The only historical interpretation that this confused statement admits of is that the establishment of the Sassanian monarchy (A.D. 226) and the subsequent vigourous revival of Zoroastrianism in the Persian kingdom led to the expulsion of the Buddhists from Khurasan and other countries and thereby caused a revulsion of feeling among the Hindus with regard to the westerners. Whether there ever was any actual banishment of the Buddhists from the Sassanian kingdom we do not know. But the literature of the period in India that followed the establishment of the Sassanian monarchy discloses great veneration for foreign teachers on the part of the Indians. Vātsyāyana in his commentary on Gautama's *Nyāya-darśana*, I, 1, 7, says that authoritative testimony (*āpta-vākya*) may proceed from Ṛishis, Āryas as well as from Mlechchhas. Vātsyāyana's commentary is usually assigned to about the end of the fourth century A.D.[2] Alberuni, while speaking of the self-conceit of the Hindus of his own day, writes :—

"If they had travelled and mixed with other nations, they would soon change their mind, for their ancestors were not as narrow-minded as the present generation. One of their scholars, Varāhamihira, in a passage where he calls on the people to honour the Brahmans, says : "*The Greeks, though impure, must be honoured, since they were trained in sciences and therein excelled others. What, then, are we to say of a Brahmin, if he combines with his purity the height of science?*"[3]

Varāhamihira died in 589 A.D. The door of the Hindu society of those days was open to foreigners. Huns, Gujars, and Ye-tas[4] (Yets or Gats) who poured into the north-western parts of India in the fifth century A.D. were absorbed by the Hindus. So Alberuni's statement that the aversion of the Hindus for westerners dates from the time of the Zoroastrian revival in Persia is not quite correct. But Alberuni himself offers the best explanation of this great change of the Hindu attitude towards foreigners in what he says after his reference to the expulsion of the Buddhists from the Persian kingdom. He writes :—

"But then came Islam; the Persian empire perished, and the repugnance of the Hindus against foreigners increased more and more when the Muslims began to make their inroads into their country; for Muhammad Ibn Elkasim Ibn Elmunnabih entered Sindh from the side of Sijistan (Sakastane) and conquered the cities of Bahmanvā (Brāhmanavāṭa) and Mulasthāna (Multan), the former of which he called Al-mansura, the latter Al-mamura. He entered India proper, and penetrated even as far as Kanauj, marched through the country of Gandhāra, and on his way back, through the confines of Kashmir, sometimes

[1] *Ibid*, p. 21.

[2] M. M. Satis Chandra Vidyabhushana traces the influence of Aristotle on Akshapāda, the author of the *Nyāya-sūtras* commented on by Vātsyāyana and on other writers on Nyāya (logic). *J. R. A. S.*, 1918 pp. 469-488.

[3] Alberuni's *India*, I, p. 23 and II, p. 263. The stanza of the *Bṛihatsaṁhitā* (II, 15) quoted here is thus translated by Kern; "The Greeks (*Yavanāḥ*), indeed, are foreigners (*mlechchāh*), but with them this science is in a flourishing state. Hence they are honoured as though they were Ṛishis; how much more than a twice-born man well-versed in astrology." *J. R. A. S.*, 1870, p. 441.

[4] Watters, *On Yuan Chwang*, I, p. 200.

fighting sword in hand, sometimes gaining his ends by treaties, leaving to the people their ancient belief, except in the case of those who wanted to become Muslims. All these events planted a deeply rooted hatred in their hearts."[1]

The Arab invasion did something more far-reaching than mere planting "a deeply rooted hatred" for aliens in the hearts of the Hindus. It led to a revolutionary change of the Hindu angle of vision. Hindus could no longer recognise in the new invaders from the west the representatives of those Śakas, Yavanas and Pahlavas, who, according to their sacred books, were originally Kshatriyas but had degenerated into Śūdras merely from not enjoying the opportunity of *seeing* Brahmans. The new Yavanas came, they saw Brahmans, but instead of rushing to the feet of the latter to pray for the restoration of their lost Kshatriyahood, summoned them to accept the Koran. The coming of the Muslims caused bitter disappointment and disillusionment both to the Brahmans and to the Śramaṇas who were otherwise indifferent to political changes and fortunes of war. The Muslim desecraters of the temples could not of course be recognised as *niravasita* or clean. Muhammad Ibn Alkasim "himself hung a piece of cow's flesh" on the neck of the famous Sun-god of Multan "as a sign of mockery." "When the Karmatians occupied Multan, Jalam Ibn Shaiban, the usurper, broke the idol into pieces and killed its priest."[2]

The cultured and tolerant Arabs are the actors in the first act of the great drama of the Muslim conquest of Hindustan. In the second act were concerned a different type of Muslims, the ruthless and fanatical Turks. Alberuni is an eye-witness of the tragedy. I shall conclude this long digression with this acute and impartial observer's account of those events and their consequences :—

"Now in the following times no Muslim conqueror passed beyond the frontier of Kabul and the river Sindh until the days of the Turks, when they seized the power in Ghazna under the Samani dynasty, and the supreme power fell to the lot of Nasir-uddaula Sabuktagin. This prince chose the holy war as his calling, and therefore called himself Al-ghazi (*i.e.*, warring on the road of Allah). In the interest of his successors he constructed, in order to weaken the Indian frontier, those roads on which afterwards his son Yamin-uddaula Mahmud marched into India during a period of thirty years and more. God be merciful to both father and son! Mahmud utterly ruined the prosperity of the country, and performed there wonderful exploits, by which the Hindus became like atoms of dust scattered in all directions, and like a tale of old in the mouth of the people. Their scattered remains cherish, of course, the most inveterate aversion towards all Muslims. This is the reason why Hindu sciences have retired far away from those parts of the country conquered by us, and have fled to places which our hands cannot yet reach, to Kashmir, Benares and other places. And there the antagonism between them and all foreigners received more and more nourishment both from political and religious sources."[3]

Makara-dhvaja of Besnagar.

Now to return to ancient Vidiśā; besides the two inscribed Garuḍa columns there are the remains of another Vaishnavite archæological document at Besnagar.

[1] Alberuni's *India*, I, p. 21.

[2] *Ibid*, p. 116.

[3] Alberuni's, *India* p. 22.

These are the capital of a column and a *makara* which originally surmounted the capital now lying by it a few yards off the column of Heliodorus. The *makara* and the capital are thus described by Professor Bhandarkar :—[1]

"Near the second fan-palm were lying and are still lying two sculptures, which cannot be chronologically far removed from Khām Bābā (*i.e.*, the column of Heliodorus) itself. One of these is a rail capital.[2] The bell, which forms the lowermost part, is 2′ $2\frac{3}{4}$″ in height. The upper half of the bell is very much battered and injured. Above is a cable necking, which divided the bell from the abacus. The latter is $9\frac{1}{4}$″ high, and is circular in shape. It is divided into two compartments, the lower of which is occupied by the bead and reel ornament, and the upper with honeysuckle patterns alternating with crocodiles. On the abacus is a rail moulding 2′ $3\frac{1}{4}$″ square and 1′ $\frac{1}{2}$″ high, and above it comes another member in the form of an *āmalaka*. It is 1′ $1\frac{3}{8}$″ high thus bringing the total height of the whole capital to 4′ 10″, excluding the tenon at the top, which is $7\frac{1}{2}$″ long, $5\frac{1}{4}$″ broad, and 6″ high. This tenon seems to have been fitted into the mortise of the soffit of the *makara* pinnacle, the other sculpture lying beside it.[3] The mortise is 9″ long, $6\frac{1}{4}$″ broad, and 8″ deep. This no doubt appears to be a little too large for the tenon of the rail-capital, and militates, according to Mr. Lake, against the above supposition. But in early Indian architecture the mortise holes were frequently much larger than the tenons, and Sir John Marshall assures me that he has met with many similar instances at Sanchi. This crocodile again bears such a close resemblance to the similar animals figured on the edge of the abacus of the rail capital, that their connexion can scarcely be seriously called in question. I, therefore, quite agree with Cunningham in holding that it was the pinnacle of this capital. The greatest height of the *makara* is 2′ $7\frac{1}{2}$″ ; but the tail is broken, and if we judge by the proportions of these animals on the rail capital its original height must have been about two feet more. Cunningham says :—"There is a mysterious hole at a short distance behind the eye which has puzzled me very much. Perhaps a horn or a fin, which the sculptor has forgotten, was inserted here as an after-thought." There is not one hole, but two holes, one behind each eye, and it seems more likely that they served as mortises for holding the tenons of the crowning piece."

What Professor Bhandarkar means by "the crowning piece" is not clear. But there is a singular consensus of opinion among such eminent archæologists as Cunningham, Sir John Marshall and Professor Bhandarkar himself regarding the *makara* being the pinnacle of the capital. So we have to recognise in the *makara* and the capital the remnants of a *Makaradhvaja* or a "column with crocodile symbol." In Sanskrit literature Krishṇa's son Pradyumna, identified with the god of love, is called *makaradhvaja* or *makarakētana*, 'one with the crocodile as his symbol.' In some of the sculptures of the Greco-Buddhist school of Gandhāra one of Māra's daughter is seen holding a staff with a *Makara* on it, Foucher's *L'Art Gréco-Bouddhique du Gandhāra*, Tome II. Premier Fascicule,

[1] *A. S. R.*, 1913-14, Part II, pp. 189-190

[2] *Ibid*, Pl. LIV, *a*.

[3] *A. S. R.*, 1913-14, Part II, Pl. LIV, *b*.

Figures 400 and 401, facing p. 192), and in Sanskrit Buddhist works like *Mahāvastu* and *Lalitavistara* Māra is frequently called *Krishṇa-bandhu*, "Krishṇa's kinsman." We shall see presently that the Pāñcharātras or Bhāgavatas worshipped Pradyumna as the third of the four *vyūhas*, and in their philosophy he was recognised as the personification of *manas* or mind. As a *Garuḍadhvaja* presupposes a temple of Vāsudēva, may we not assume that a *makaradhvaja* in an ancient centre of Vaishṇavism like Vedisa dating from the time of our *garuḍadhvajas* presupposes the existence of a temple of Pradyumna or an image of Pradyumna in the temple of Vāsudeva? The documents dealt with in the next section show that the first two *vyūhas*, Vāsudēva and Saṁkarshaṇa, were worshipped together in the same period.

II.

Ghasundi stone-slab and Nānāghāt cave inscriptions.

Next to the Garuḍa pillar of Heliodorus in point of time is the Ghasundi stone slab inscription. The slab was found "on the right hand side of the door or entrance leading down to a tank in the village of Ghasundi about 4 miles N. E. of Nagari" in the Udaypur State, Rajputana.[1] The inscription is engraved in Brāhmī characters of the second century B.C. *Bha*s with a long straight right-hand vertical line in place of two short lines forming an angle, as in the inscription of Heliodorus, and roundish *ga*, indicate that the Ghasundi inscription is later in date than the inscription of Heliodorus, while the occurrence of archaic screw-like *ra*s shows that the distance of time is not long. This inscription in corrupt Sanskrit runs:—

1. [Bhāgava] [tē]na Gājāyanēna Pārāśarīputrēṇa śa..
2. ... jinā bhagavabhyāṁ Saṁkarshaṇa-Vāsudēvābhyāṁ..
3. ... bhyāṁ pūjā-śilāprākāro Nārāyaṇavāṭē kā[ritaḥ]

Translation.

"A stone enclosure of worship for Bhagavats Saṁkarshaṇa and Vāsudēva.... has been erected within the enclosure of Nārāyaṇa by the Bhāgavata Gājāyana, son of Pārāśarī...."

Nārāyaṇavāṭa or the enclosure of Nārāyaṇa denotes the compound of a temple or place of worship of Nārāyaṇa. *Pūjāśilāprākāra* for Bhagavats Saṁkarshaṇa and Vāsudēva evidently denotes a smaller stone enclosure round either the images or other cult objects representing Saṁkarshaṇa and Vāsudēva within the *Nārāyaṇavāṭa*. As Vāsudēva was already identified with Nārāyaṇa or Vishṇu the place presumably came to be known as Nārāyaṇavāṭa from the presence of the cult object representing Vāsudēva within it. The *pūjāśilāprākara* was probably something analogous to the railing round a stūpa or a holy tree.

Saṁkarshaṇa and Vāsudēva, "the descendants of the moon (*Chaṁda*= *Chandra*) are invoked together with Dhaṁma (*Dharma*), Ida (*Indra*) and the guardians of the four cardinal points, Yama, Varuna (Varuṇa), Kubēra and Vāsava in the beginning of the long Nānāghāṭ cave inscription[2] which may be

[1] *J. A. S. B.*, Vol. LVI, Pt. I, pp. 77-78, and Plate V*a*. Lüders' *List*, No. 6.

[2] Lüders' *List*, No. 1112.

assigned to the end of the second century B.C.[1] In Saṁkarshaṇa and Vāsudēva named side by side in these two epigraphs, we recognise two of the four *Vyūhas* which, according to the Nārāyaṇīya section of the *Mahābhārata*, Book XII, and Śaṅkara's commentary on the Vēdānta-Sūtras II, 2. 42, were worshipped by the Pāñcharātras or Bhāgavatas. These Vyūhas are, Vāsudēva or the highest self, Saṁkarshaṇa or the individual soul, Pradyumna or the mind (*manas*), and Aniruddha or the principle of egoity (*ahaṁkāra*). It was further held by the Pāñcharātras that Saṁkarshaṇa or individual soul originated from Vāsudēva, Pradyumna or *manas* from Saṁkarshaṇa, and Aniruddha or *ahaṁkāra* from Pradyumna. A more orthodox view of the doctrine of the Vyūhas supported by both Śaṅkara and Rāmānuja is that the highest Brahman called Vāsudēva abides in a fourfold form, or reveals itself by dividing itself fourfold as the four Vyūhas. In all available expositions of the Pāñcharātra system Vāsudēva is mentioned first and is followed by Saṁkarshaṇa. But in both of our inscriptions the order is changed; Saṁkarshaṇa is named first and Vāsudēva comes as the second. This is in agreement with the epic and Paurāṇik legends wherein Saṁkarshaṇa is represented as the elder step-brother of Kṛishṇa-Vāsudēva. But this aspect of the epigraphical evidence has escaped the notice of Sir Ramakrishna Bhandarkar and Dr. Otto Schrader. The former traces the second (Saṁkarshaṇa), third and fourth Vyūhas to the three of the Prakṛitis of Vāsudēva as the Supreme being in the Bhagavadgītā VII, 4-5.[2] Dr. Schrader writes, "The original worship, proved by archæology and the Buddhist scripture, of only Vāsudēva and Baladeva-Saṁkarshaṇa can signify nothing else, in our opinion, than that by the original Pāñcharātrins Krishṇa was worshipped as the transcendent Highest God, and his brother, the 'God of strength,' as His immanent aspect appearing as the world, this dogma of the double aspect of God being simply the Pāñcharātra solution of the old, old Indian problem of a God becoming the world without sharing its imperfections."[3] No such philosophical ideas can be credited to the author of the Nānāghaṭ Cave inscription who invokes Saṁkarshaṇa and Vāsudēva along with some other divinities of the Brāhmanic pantheon and indicates their difference from the other divinities named by calling them descendants of Chandra or belonging to the lunar Yādava line. The mention of Saṁkarshaṇa first and Vasudēva afterwards in two records of such two distant places as Ghasundi in Rajputana and Nāṇāghāṭ in the Deccan shows that in those days Saṁkarshaṇa was popularly recognised as a divinity equalling Vāsudēva in rank. Kauṭilya in his *Arthaśāstra* says:—

The Pāñcharātra cult of the Vyūhas.

"Spies disguised as ascetics with shaved head or braided hair and pretending to be the worshippers of god Saṁkarshaṇa, may mix their sacrificial beverage with the juice of the *madana* plant (and give to the cowherds) and carry off the cattle."[4]

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[1] *Memoirs A. S. I.*, No 1.

[2] *Vaishṇavism Śaivism* etc., pp. 12-13; for criticism of this theory by the present writer see *The Indo-Aryan Races*, Part I, pp. 97-98.

[3] *Introduction to the Pāñcharātra and the Ahirbudhnya Saṁhitā*, Madras, 1916, pp. 144-145.

[4] Shamsastry's English translation, p. 485.

This passage incidentally bears witness to the existence of a special order of ascetics devoted to Saṁkarshaṇa and, taken together with the Ghasundi and Nānāghaṭ inscriptions, indicates that the Pāñcharātra or Bhāgavata religion originated in the worship of the Yādava (Vṛishṇi) brothers Saṁkarshaṇa and Vāsudēva as hero-gods of equal rank. Saṁkarshaṇa came to be consigned to a secondary place when the worship of Vāsudēva as *dēvadēva*, 'god of gods' superseded the worship of the Yādava hero-gods. That the worship of Vāsudēva as 'god of gods' was prevalent even before these two epigraphs were engraved is evident, as we have already seen, from the Besnagar pillar inscription of Heliodorus. The existence of two different varieties of Vāsudēvism side by side, the worship of Vāsudēva as 'the god of gods' and also as a god second to Saṁkarshaṇa, in the second century B.C., indicates that the basic cult originated in a much remoter antiquity. The second of these two varieties of Vāsudēvism is undoubtedly the older of the two. Now the question is, how did these cults originate? Garbe's answer to this question is ingenious and elaborate. He writes :— Origin of Vaishnavism.

"It may be assumed as probable that Krishṇa was originally the leader of the warrior and pastoral tribe of non-Brahman race, and that he lived long before the Buddha. He became the eponymous hero of his people, not only because of his prowess in war, but also probably because he was the founder of the religion of his race—a religion independent of the Vedic tradition and monotheistic, in which a special stress was laid on *ethical* requirements. The adherents of this religion were called 'Bhāgavatas,' adopting other names later on. As the form of Krishṇa within the race to which he belonged was advanced from the position of a demi-god to that of god (identified especially with the god of the Bhāgavatas) Brāhmanism claimed as its own this popular and powerful representation of the Deity, and transformed it into an incarnation of Vishṇu. In this way Brāhmanism succeeded in gaining over the entire community of the Bhāgavatas, and the latter (a still existing sect) were merged in Brāhmanism. The Bhagavadgītā was originally a text-book of this sect, and in the course of time has won a position of such significance for the whole of Brahman India that in recent years educated Hindus have put it forward as a rival to the New Testament."[1]

In this statement we have a kernel of truth with much that is not quite accurate. According to Brahmanic, Bauddha and Jaina traditions Krishṇa-Vāsudēva was the chief of a warrior tribe, the Yādavas (Vṛishṇis and Andhakas), who were Brahmanist Kshatriyas and in the epic period represented the Rigvēdic Yadus. But at Mathurā and at Dvārakā (in the Kāṭhiāwār peninsula) the Vṛishṇis and the Andhakas lived amidst Ābhīras and Saurāshṭras who are said to have been outside the Brahmanic pale. It may, therefore, be presumed that from the very outset Vāsudēvism might have had two distinct phases, one Brahmanic professed by orthodox Brahmanist tribes and castes and the other un-Brahmanic professed by the Ābhīras and the Saurāshṭras. The present writer

[1] *Encyclopædia of Religion and Ethics*, Vol. 2, pp. 535-536.

has elsewhere collected and discussed texts that condemn a phase of Vāsudēvism called Bhāgavata or Pāñcharātra as un-Vedic.[1] The un-Vedic or un-Brahmanic Pāñcharātra evidently grew out of the primitive worship of Saṁkarshaṇa, Vāsudēva and other Vṛishṇi chiefs such as Vāsudēva's son Pradyumna and his grandson Aniruddha as hero-gods by the barbarian Ābhīras and Saurāshṭras. The religion of the Bhagavadgītā, on the other hand, represents the orthodox phase of Vāsudēvism in its fully developed form. If we may assume any basis of fact in the epic legends and traditions, we must believe that the worship of Vāsudēva as the founder of the religion of the Bhagavadgītā and Anugītā originated among the Vṛishṇis, Andhakas and Kurus and was handed down by them to the Śūrasenas. According to the *Mahābhārata* the venerable Bhīshma, the mightiest and the most chivalrous of the Kurus, was its first champion, and the five sons of Pāṇḍu its foremost adherents. The story of the Indian Herakles and his daughter Pandaia told by Megasthenes, as we have seen above (p. 6) indicates that as early as the fourth century B.C. the connexion of Krishṇa-Vishṇu with the Pāṇḍavas was an article of popular faith. The obscure and damaged Mora stone slab inscription of the time of the Mahākshatrapa Rājuvula furnishes evidence of the prevalence of this faith before the beginning of the Christian era. From the few letters still legible on the slab and from Cunningham's facsimile (*A. S. R.*, Vol. XX, Pl. V, No. 4) Dr. Vogel thus reads the first two lines[2]:—

Mora stone-slab inscription.

1. Mahak(sha)t(rapasa Rājuvulasa putra).....
2. Bhagavatā Vri(sh)ṇē(na pamcha Vīrānāṁ pratimā.....

Dr. Vogel writes elsewhere[3] "Apart from the mention of the son of Rājuvula the only certain point with regard to this inscription is that in the second line it refers to 'images of the five heroes' (*pamcha Vīrāṇāṁ pratimā*). The words are distinct on Cunningham's facsimile ..... It seems quite plausible that these 'five heroes' were the five Pāṇḍava brothers whose exploits are extolled in the Mahābhārata." But the reading *bhagavatā Vṛi(sh)ṇē(na)* is open to objection. As pointed out by Vogel, all letters after the *ha* of *maha* in line 1 and after *vṛi* in line 2 are either partially or wholly damaged on the slab now in the Mathura Museum of Archæology. It will be seen in a facsimile of the inscription published in the *Memoirs A. S. I.*, No. I, Plate VI, No. 5, that in line 2 after *vṛi* the outline of *sh* and the subscript *ṇ* are clear and so the conjunct may be read as *shṇe*. But after *shṇe* there is no sign of *na*. So it seems more reasonable to read the name as *Vṛishṇe(ḥ)* instead of *Vṛishṇēna*. The letter that follows *bhagava* may also be read as *to*, for the vowel sign above *t* extends a little to the left as well. In a votive inscription the instrumental case indicates the donor. But a donor could not very well call himself *Bhagavat*, and nowhere else is he found to do so. So, for *Bhagavatā Vṛishṇēna* in line 2 we should read *Bhagavato Vṛishneḥ* and understand the line as referring not only to the images of the five Pāṇḍavas but also to an image of the Blessed or Divine Vṛishṇi, that is, of Kṛishṇa-Vāsudēva, who belonged to the Vṛishṇi branch of

[1] *The Indo-Aryan Races*, Pt. I., Chapter III.
[2] *Catalogue of the Archæological Museum at Mathura* p. 184.
[3] *A. S. R.*, 1911-12, Pt. II, p. 127.

the Yādava tribe.[1] Mora is a village 7 miles west of the Mathurā city. The stone slab on which this inscription is engraved measures 11′ 2″ by 2′ 11″. It is probably one of the pavement slabs of a big temple in which the images of Krishṇa and the five Paṇḍava brothers were enshrined.

From a passage of Megasthenes quoted above (p. 6) it will be seen that in those days Herakles (Kṛishṇa-Vishṇu) was specially worshipped by the Sourasenai of Methora (Mathurā). The Sourasenai are the Śūrasēnas of the Brahmanic and Buddhist sacred books. Manu (II. 19) includes the country of the Śūrasēnakas together with Kurukshētra and the lands of the Matsyas and the Pañchālas within Brahmarshidēśa or the country of the Brahmanical sages. The Śūrasēnas are not named in the Vedic literature; but in the Purāṇas they are connected with the Yādavas. The orthodox Brahmanic Vāsudēvism was probably handed on to the Śūrasēnas by the Kurus and the Yādavas. The *Bhagavadgītā* is the text-book of this religion. The framework of the *Bhagavadgītā*, the association of Vāsudēva and Arjuna as a divine pair, is, as we have already seen, as old as Pāṇini and Megasthenes, so it may be as old as Buddhism or even older, for the antiquity of Buddhist traditions is certified by nothing older than the edicts of Aśoka. The background, again, of the picture within the frame, the philosophy of the *Bhagavadgītā* called the epic Sāṁkhya, is held by Deussen[2] and Hermann Oldenberg[3] as the precursor of Buddhism. Now let us turn to the chief element of the religion of the *Bhagavadgītā*—the path. We are not here concerned with the other elements of the religion of the *Bhagavadgītā* or the date of the composition of the work as we have it. The path taught by Vāsudēva to Arjuna is the *karma-yoga* (path of work) of the *yogins* (III. 3; V. 2-6; XVIII. 3-7) and the goal is Brahmanirvāṇam (II. 72; V. 24-25). This *karma-yoga* or "the path of work" involves the performance of rites and duties enjoined in the Vedas as a householder without attachment to the worldly pleasures and pain and the dedication of the fruits of the 'works' (karma) to Vāsudēva, and is contrasted with the *jñānayoga* or 'the path of knowledge' of the Sāṁkhyas (III. 3; V. 4-5) which involves the renunciation of the world and works and wandering as a mendicant in search of the knowledge of self. In this connexion the question arises, does the author of the *Bhagavadgītā*, by giving preference to *yoga* or *karma-yoga* as distinguished from *jñānayoga* involving *saṁnyāsa* (renunciation), discourages *saṁnyāsa*? Śaṅkara's answer to this question in effect is;—Vāsudēva in the *Bhagavadgītā* disapproves of the view of the Sāṁkhya extremists who hold that all should renounce the world whether they are fit for such renunciation or not; *karma* or the performance of the secular duties and sacred rites is obligatory on average ignorant persons like Arjuna; so Vāsudēva does not discourage *saṁnyāsa* on the part of those who have risen above the world by means of knowledge (*na tu jñānanishṭhān vyutthāyinaḥ saṁnyāsinohapekshyaḥ*), for final emancipation is not possible without *saṁnyāsa* in the end (Śaṅkara's *bhāshya*

The antiquity of orthodox Vaishnavism—*Karma-yoga*, of the *Bhagavadgītā*.

[1] In the *Bhagavadgītā* X. Kṛishṇa is made to say *Vṛishṇināṁ Vāsudēvosmi*, 'I am Vāsudēva among the Vṛishṇis.

[2] *Outlines of the Indian Philosophy*, Berlin, 1907, p. 36.

[3] *J. R. A. S.*, 1918, p. 321.

on XVIII. 3 and II, 11 and 21). But in his introductory remarks to the commentary on II. 11 and to chapter III, Śaṅkara refers to earlier commentators (*kechit*), and particularly to the general introduction (*sambandha-grantha*) of an earlier commentator, called *vṛittikāra* by Ānandagiri in his sub-commentary, who held quite an opposite view of the trend of the teachings of the *Bhagavadgītā*. Śaṅkara quotes :—

"In that connexion some say "Final emancipation is not attainable by the pursuit of the knowledge of self only after renouncing all works. Then what should be done? That final emancipation is attainable by means of (the pursuit of) knowledge along with (the performance of) Agnihotra and other rites enjoined in the Veda and Smṛiti is the incontrovertible meaning of the entire Gītā."[1]

This view of the ancient *Vṛittikāra* is called "the doctrine of the combination of (the pursuit of) knowledge (of self) and of (the performance of) work" (*jñāna-karma-samuchchaya-vāda*). Śaṅkara has no difficulty in refuting this doctrine by stating that it is inconsistent with the division of a man's life into four stages, in the fourth stage of which (the order of the *yati* or *bhikshu*) renunciation of all works is obligatory. The unnamed *vṛittikāra* whose work has been superseded by the *bhāshya* of Śaṅkara undoubtedly preserved an older tradition regarding the character of the religion of the *Bhagavadgītā*. The incompatibility of this religion with the scheme of the four *āśramas* (stages of life) can only be explained by the supposition that it came into being before the promulgation or adoption of the scheme of the four *āśramas* by the orthodox Brahmanists. The *āśramadharma* or "the duties of the (four) orders" is fully recognised in other parts of the *Mahābhārata*, so the *karma-yoga* of the *Bhagavadgītā* is older than the *Mahābhārata* as a whole. The scheme of the four orders (*āśramas*) is also expounded in the earliest extant Dharmasūtras, those of Gautama and Āpastamba, assigned by Bühler to the fifth and the third centuries B. C. respectively. The four *āśramas* are not named in the older Upanishads such as the *Bṛihadāraṇyaka* and the *Chhāndōgya*. In these works we come across two different types of seekers of the knowledge of Brahman; the first type is represented by the Brahman Yājñavalkya who renounces the world for that purpose; the second type is represented by the Kshatriya king Janaka of Videha who performs sacrifices, gives gifts, governs his kingdoms while seeking the knowledge of Brahman for final emancipation. The *karma-yoga* of the *Bhagavadgītā* was evidently the religion of such royal sages as Janaka of the Videhas, Aśvapati of the Kekayas, Ajātaśatru of the Kāśis, and Pravāhana of the Pañchālas named in the Upanishads, who regularly perform Vedic rites that are intended to secure life in paradise, but aim at something different,—union with Brahman through knowledge of self. It is clearly stated in the *Bhagavadgītā* III. 20: "Janaka and others reached the goal (*saṁsiddhimāsthita*) by works. You should perform (works) in order to prevent people from going astray (*lōkasaṁgrahameva*)." So it may be assumed that this *karma-yoga* originated within the orthodox fold side by side

[1] *tatra kechidāhuḥ,—sarva-karma-saṁnyāsapūrvvakāt ātmajñānanishṭhāmātrādeva kevalāt kaivalyaṁ na prāpyate eva, evaṁ kiṁ tarhi? agnihotrādi śrauta-smārtā-karmasahitāt jñānāt kaivalyaprāptiriti sarvāsu Gītāsu nischitortha iti (II. 10.)*

with the *jñāna-yoga* of the older Upanishads, and the scheme of the four *āśramas* was formulated in the Brahmanic schools later on to reconcile the two. The *karma-yoga* of the *Bhagavadgītā* was essentially a creation of Kshatriya orthodoxy and was originally confined to that community. Says Vāsudēva in the *Bhagavadgītā*, IV. 1-2, "This imperishable (*karma*) *yoga* I explained to Vivasvat; Vivasvat communicated it to Manu; and Manu to Ikshvāku. Thus handed down in succession it was known to the royal sages (*rājarshayaḥ*). That *yoga*, O thou that burn your enemies (with the heat of your prowess), that *yoga* is now lost owing to the lapse of a long period of time." Vivasvat or the Sun-god and Manu called Vaivasvata or the son of Vivasvat are the mythical progenitors of the ancient Kshatriya race of India, and Ikshvāku is one of the ancient Kshatriya kings. When the doctrine of transmigration found general acceptance and the Vedic sacrifices and penances were thought insufficient for procuring release from the cycle of re-births, *jñāna-yoga* with *saṁnyāsa* for reaching the goal arose among the Brahmans, and the *karma-yoga* taught in the *Bhagavadgītā* arose among the practical and worldly-minded Kshatriyas. Probably it was Vāsudēva who elaborated and propagated it. Under the name of Kṛishṇa-Dēvakīputra he finds mention in the *Chhāndogya-Upanishad* (III. 17·6) as a distinguished pupil of a distinguished teacher, Ghora Āṅgirasa. In such matters we can expect no better evidence than tradition and tradition points to such a conclusion.

III.

New Mathura inscription of the time of the great satrap Sōḍāsa.

Our last document throwing light on another phase of the early history of Vaishnavism is a fragmentary stone inscription of the time of the Mahākṣhatrapa Śōḍāsa that relates to the great place (*Mahāsthāna*) of Bhagavat Vāsudēva evidently at Mathurā. It is incised on the side of a carved door jamb of red sandstone (Plate XXV) now in the Mathurā Museum of Archæology (8′ by 8″ by 1′ 3″). The inscription probably consisted of twelve lines, of which the first 5 lines containing the name of the donor are defaced; and each line consisted of 9 to 11 *aksharas* (letters) of which four to five *aksharas* are missing. From a close examination of the stone it appears to me that the epigraph was originally incised on a square pillar each side of which measured about 1′ 4″ and which was afterwards cut lengthwise through the inscribed side into two halves and turned into carved door jambs (Plate XXVI). For there is no other way of explaining the occurrence of this fragmentary inscription on that side of a door jamb that is built up with the wall. According to Rai Bahadur Pandit Rādhā Kṛishṇa, Honorary Curator of the Mathurā Museum of Archæology, this stone was dug out of an old well in the Mathurā (Muttra) Cantonments in 1913. The inscription is briefly noticed in the *Annual Progress Report of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, for the year ending 31st March, 1917*, p. 10. I am now enabled to edit it through the kindness of Dr. D. B. Spooner, Officiating Director-General of Archæology in India, and Rai Bahadur Daya Ram Sahni, Officiating Superintendent of Hindu and Buddhist Monuments, Northern Circle.

The characters of this fragment resemble the characters of the other known inscriptions of the time of the great Satrap Śōḍāsa,—the Mora inscription (Lüders' List, No. 14), the Mathurā Jaina inscription on sculptured stone-slab of the year 72 (Lüders' List, No. 59), and the Mathurā Jail mound stone inscription (*Ep. Ind.*, Vol. IX, p. 247). The test letters *ya* consisting of nearly a semicircle bisected by a short vertical line and *na* with straight base-line indicate that the inscriptions of the time of Śōḍāsa must be assigned to an earlier age than those of the time of Kanishka. Though scholars differ widely relating to the date of Kanishka, no one has assigned Śōḍāsa to a later epoch than the first quarter of the first century A.D.[1] The language of our fragment resembles the sort of Sanskrit used in the Mathurā Jail mound stone inscription.

Transcript.

6. vasunā Bhagava.....
7. vasya Mahāsthāna.....
8. laṁ tōraṇaṁ vē.....
9. shṭhāpitō prītō[bha].....
10. dēvaḥ svāmi[sya].....
11. pasya Śōḍā[sa].....
12. samvartayatam.

Remarks.

In line 10 *svāmisya* is quite clear and so is *Śōḍāsa* in line 11. From the published Mathurā inscriptions of the time of Śōḍāsa referred to above we know that the word that must have intervened between *svāmisya* and *Śōḍāsa*[*sya*] is *mahākshatrapasya* of which *-pasya* occurs in the beginning of line 11. So *Mahākshatra* should be restored at the end of line 10. This indicates that 4 to 5 letters occurred in each line of the missing portion of the inscription, and the restoration of these missing letters of the other lines may also be attempted. The *sya* of *vasya* in the beginning of line 7 is evidently the genetive termination of the name of a deity qualified by *bhagava* and so *to* should be restored after *bhagava*. The *va* of *vasya* indicates that the name of the deity must have ended in *dēva* and so by restoring *dē* at the end of line 7 we obtain *bhagavato.. dēvasya* with an intervening space for two *aksharas* belonging to the name of the deity. The two *aksharas* that fit in here best are *vā su* and we may restore the name as (*Vāsudē*)*vasya*. *Vā su* should also be restored before *devaḥ* with which the following line opens, for in line 9 *prīto* was evidently followed by *bhavatu* the first *akshara* of which word, *bha*, is still discernible on the stone. The find place of the stone (Mathurā) renders the restoration of the name of the Bhagavat of the inscription as Vāsudēva unavoidable. If it may be assumed that the monument to which this inscribed red sandstone pillar originally belonged stood at Mathurā—and the occurrence of the name of the Mahakshatrapa Śōḍāsa strengthens this assumption—the Bhagavat whose 'mahāsthāna' is at Mathurā can be no other than Vāsudēva. *Prati* must be restored at the end of line 8

[1] *Memoirs A. S. I.*, No. 1.